

**WOODBURY COUNTY BOARD OF SUPERVISORS AGENDA ITEM(S) REQUEST FORM**

Date: 4/18/24

Weekly Agenda Date: 4/23/24 4:45

ELECTED OFFICIAL / DEPARTMENT HEAD / CITIZEN: Daniel Priestley

**WORDING FOR AGENDA ITEM:**

A) Receive Zoning Commission report and recommendation for Zoning Ordinance Text Amendments for Utility-Scale Solar Energy Systems (US-SES) Conditional Use from their 3/25/24 meeting. B) Public hearing to consider Zoning Ordinance Text Amendments for Utility-Scale Solar Energy Systems (US-SES) Conditional Use in the General Industrial (GI) Zoning District, including to add a new Section 5.08, amend the table of contents, and renumber the ordinance page numbers to accommodate the addition of the new section. C) Approve the 1st Reading of the Ordinance.

**ACTION REQUIRED:**

Approve Ordinance

Approve Resolution

Approve Motion

Public Hearing

Other: Informational

Attachments

**EXECUTIVE SUMMARY:**

A recommendation from the Woodbury County Zoning Commission from March 25, 2024 to address the regulation of Utility-Scale Solar Energy Systems (US-SES) in the unincorporated areas of Woodbury County with proposed Zoning Ordinance Text Amendments for the addition of a new section to the Woodbury County Zoning Ordinance entitled "Section 5.08: Utility-Scale Solar Energy Systems (US-SES) Conditional Use." This new section includes regulations for the conditional use permitting of US-SES in the General Industrial (GI) Zoning District. Other amendments include additions to the Table of Contents and adjustments to page number locations throughout the Zoning Ordinance.

**BACKGROUND:**

Over five months ago, the Zoning Commission began an intricate process to address the direction given to them by the Board of Supervisors (BoS) on August 8, 2023 and again on September 25, 2023 for a new proposed utility-scale solar ordinance. After eight public meetings including two works sessions, and six public hearings of collecting comments from Woodbury County residents and other stakeholders, the Zoning Commission has approved a recommendation to the BoS to address the permitting requirements for Utility-Scale Solar Energy Systems (US-SES) in the unincorporated areas of Woodbury County at the March 25, 2024 meeting. The recommendation was approved with a 4-1 vote.

The Commission recommends for US-SES to continue to be regulated with a conditional use permit application within General Industrial (GI) Zoning District only. The recommendation includes a process that involves the Zoning Commission, Board of Adjustment, and the Board of Supervisors. The Commissioners are tasked to review the conditional use permit application, the Board of Adjustment would consider the application for possible approval, and the Board of Supervisors would consider the building permit application(s) and associated agreements. The recommendation contains additional requirements including a road use agreement, a public drainage system protection agreement, an operation and maintenance plan, decommissioning, soil erosion and sediment control, emergency response, enforcement and other requirements governing the application process including a one (1) mile public notification area.

For further context regarding the Commission's proceedings, access to meeting information including agendas, backup materials, minutes, and audio are available through the Woodbury County website at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/). The Commission met for either a public hearing or work session on the following dates: September 11, 2023, September 25, 2023, October 16, 2023 (Work Session), October 23, 2023, November 27, 2023, January 17, 2024 (Work Session), January 22, 2024, and March 25, 2024.

Please refer to the draft copy of the Zoning Commission minutes from March 25, 2023 for further details about the Commission's recommendation.

**FINANCIAL IMPACT:**

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**IF THERE IS A CONTRACT INVOLVED IN THE AGENDA ITEM, HAS THE CONTRACT BEEN SUBMITTED AT LEAST ONE WEEK PRIOR AND ANSWERED WITH A REVIEW BY THE COUNTY ATTORNEY'S OFFICE?**

Yes  No

**RECOMMENDATION:**

Receive the Zoning Commission's recommendation from their March 25, 2024 meeting.

Open and close the public hearing (Set Time - 4:45 PM)

Conduct and approve the first reading of the Ordinance.

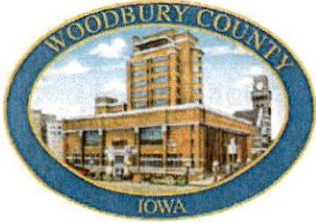
The 2nd and 3rd public hearings and readings of the Ordinance have been scheduled for Tuesday, April 30, 2024 at 4:50 PM and Tuesday, May 7, 2024 at 4:45 PM.

**ACTION REQUIRED / PROPOSED MOTION:**

A) Receive Zoning Commission report and recommendation for Zoning Ordinance Text Amendments for Utility-Scale Solar Energy Systems (US-SES) Conditional Use from their 3/25/24 meeting.

B) Public hearing to consider Zoning Ordinance Text Amendments for Utility-Scale Solar Energy Systems (US-SES) Conditional Use in the General Industrial (GI) Zoning District, including to add a new Section 5.08, amend the table of contents, and renumber the ordinance page numbers to accommodate the addition of the new section.

C) Approve the 1st Reading of the Ordinance.



WOODBURY COUNTY  
ZONING COMMISSION

WOODBURY COUNTY COURTHOUSE  
620 DOUGLAS STREET  
SIOUX CITY, IA 51101

Woodbury County Board of Supervisors  
620 Douglas Street  
Sioux City, Iowa 51101

RE: Zoning Commission Utility-Scale Solar Energy System (US-SES) Zoning Ordinance Text Amendment Recommendation

Dear Board of Supervisors:


Over five months ago, we began an intricate process to address the direction given to us by the Board of Supervisors (BoS) on August 8, 2023 and again on September 25, 2023 for a new proposed utility-scale solar ordinance. After eight public meetings including two works sessions, and six public hearings of collecting comments from Woodbury County residents and other stakeholders, we can now report that the Zoning Commission has approved a recommendation to the BoS to address the permitting requirements for Utility-Scale Solar Energy Systems (US-SES) in the unincorporated areas of Woodbury County at the March 25, 2024 meeting. The recommendation was approved with a 4-1 vote.

The Commission recommends for US-SES to continue to be regulated with a conditional use permit application within General Industrial (GI) Zoning District only. The recommendation includes a process that involves the Zoning Commission, Board of Adjustment, and the Board of Supervisors. The Commissioners are tasked to review the conditional use permit application, the Board of Adjustment would consider the application for possible approval, and the Board of Supervisors would consider the building permit application(s). Our recommendation contains additional requirements including a road use agreement, a public drainage system protection agreement, an operation and maintenance plan, decommissioning, soil erosion and sediment control, emergency response, enforcement and other requirements governing the application process including a one (1) mile public notification area.

For further context regarding our proceedings, access to our meeting information including agendas, backup materials, minutes, and audio are available through the Woodbury County website at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/). The Commission met for either a public hearing or work session on the following dates: September 11, 2023, September 25, 2023, October 16, 2023 (Work Session), October 23, 2023, November 27, 2023, January 17, 2024 (Work Session), January 22, 2024, and March 25, 2024.

Please refer to the draft copy of the Zoning Commission minutes from March 25, 2024 for further details about the Commission's recommendation.

Dated this 8 day of April, 2024

  
Christine Zellmer Zant, Chair  
Woodbury County Zoning Commission

WOODBURY COUNTY, IOWA

ORDINANCE NO. \_\_\_\_

AN ORDINANCE AMENDING THE TEXT OF THE WOODBURY COUNTY ZONING ORDINANCE TO AMEND PORTIONS OF: THE TABLE OF CONTENTS; TO ADD A NEW SECTION ENTITLED SECTION 5.08: UTILITY-SCALE SOLAR ENERGY SYSTEMS (US-SES) CONDITIONAL USE; AND TO INCLUDE THE RENUMBERING OF PAGE NUMBERS.

**WHEREAS**, WOODBURY COUNTY, IOWA DESIRES TO REGULATE ALL UTILITY-SCALE SOLAR ENERGY SYSTEMS WITHIN THE UNINCORPORATED AREAS OF WOODBURY COUNTY, IOWA; AND

**WHEREAS**, THE WOODBURY COUNTY BOARD OF SUPERVISORS DESIRES TO REGULATE THE CONSTRUCTION, INSTALLATION, AND OPERATION OF UTILITY-SCALE ENERGY SYSTEMS IN A MANNER THAT PROMOTES ECONOMIC DEVELOPMENT, PROTECTS PROPERTY VALUES, AND ENSURES THE PROTECTION OF THE HEALTH, SAFETY AND WELFARE OF ALL INHABITANTS OF WOODBURY COUNTY WHILE ALSO AVOIDING ADVERSE AND DETRIMENTAL IMPACTS TO RURAL RESIDENTS, THEIR ECONOMIES, UNSIGHTLINESS ON AGRICULTURAL LANDS, CONSERVATION LANDS AND OTHER SENSITIVE LANDS; AND

**WHEREAS**, IN ADDITION TO HOME RULE AUTHORITY, THE WOODBURY COUNTY BOARD OF SUPERVISORS IS EMPOWERED TO REGULATE THE ORDERLY DEVELOPMENT AND PROPER USE OF SOLAR ENERGY BY ESTABLISHING CERTAIN PROCEDURES FOR OBTAINING ACCESS TO SOLAR ENERGY UNDER CERTAIN PROVISIONS OF IOWA CODE CHAPTER 564A; AND

**WHEREAS**, THE WOODBURY COUNTY BOARD OF SUPERVISORS HAS TAKEN INTO CONSIDERATION THE THOUGHTS, BELIEFS, SUGGESTIONS AND VIEWS OF WOODBURY COUNTY CITIZENS AND RESIDENTS IN THE DEVELOPMENT OF THIS ORDINANCE.

**NOW**, THEREFORE, BE IT ENACTED BY THE BOARD OF SUPERVISORS OF WOODBURY COUNTY, IOWA THAT THE BELOW ZONING ORDINANCE LANGUAGE AMENDMENTS BE MADE:

**Amendment #1 –**

In the Table of Contents, on page iii: To add "Section 5.08: Utility-Scale Solar Energy Systems (US-SES) Conditional Use" under the Article 5, Supplemental Requirements category ..... 83.

In the Table of Contents, on page iii: To repeal and replace "Section 6.01: Construction of Terms ..... 83" with "Section 6.01: Construction of Terms ..... 97".

In the Table of Contents, on page iii: To repeal and replace "Section 6.02: Definitions ..... 83" with "Section 6.02: Definitions ..... 97".

**Amendment #2 –**

Following the addition of Section 5.08: Utility-Scale Solar Energy Systems (US-SES) Conditional Use, to appropriately renumber the subsequent page numbers for ARTICLE 6. DEFINITIONS, Section 6.01: Construction of Terms, and Section 6.02: Definitions.

To repeal and replace the start page of "Article 6. Definitions" from page 83 to page 97.

To repeal and replace the start page of "Section 6.01: Construction of Terms" from page 83 to page 97.

To repeal and replace the start page of "Section 6.02: Definitions" from page 83 to page 97.

**Amendment #3 –**

Beginning on page 83, to add the following section to be known as Section 5.08: Utility-Scale Solar Energy Systems (US-SES) Conditional Use.

**Section 5.08: Utility-Scale Solar Energy Systems (US-SES) Conditional Use**

1. **Statement of Intent.** The purpose of this Section is to regulate the construction, installation, and operation of Utility-Scale Solar Energy Systems (US-SES) in Woodbury County, in a manner that promotes economic development, protects property values, and ensures the protection of health, safety, and welfare while also avoiding adverse impacts to important areas such as agricultural lands, conservation lands, and other sensitive lands.

If this Section conflicts with any other provision of the Woodbury County Zoning Ordinance, this Section shall control.

2. **Definitions.** For use in this Section, certain terms or words used herein shall be interpreted or defined as follows:
  - A. **Applicant.** The person or entity submitting the application under this Section, which is normally expected to be the owner or operator of a US-SES, or the owner of the US-SES development.
  - B. **Conditional Use Permit (CUP).** A use that is allowed in conformance with the regulations of the zoning district in which it is located, if and only if, approved by the Board of Adjustment as provided in subsection 2.02-9.

A CUP issued by the Woodbury County Board of Adjustment is required before associated building permit(s) can be issued in unincorporated Woodbury County.

- C. **Concentrating Solar Power Systems.** A system that generates solar power by using mirrors, lenses, or similar reflecting surfaces to concentrate sunlight collected over large areas onto smaller focal areas. Concentrating solar power systems are prohibited.
- D. **Feeder Circuits/Lines.** A power line or network of lines used as a collection system that carries energy produced by a solar energy system to an interconnection point like a substation. Feeder circuits are most often placed underground.
- E. **Glare/Glint.** Light reflected off of a surface.
- F. **Ground-Mounted System.** A system where a rack(s) of panels is mounted on concrete posts or poles anchored in the ground and are wired or plumbed to an adjacent home or structure.
- G. **Interconnection.** Link between a generator of electricity and the electric grid. Interconnection typically requires connection via infrastructure such as power lines and a substation, as well as a legal agreement for the project to be connected to the grid.
- H. **Module.** An individual unit comprised of multiple photovoltaic (PV) cells, with multiple modules used in a solar energy system.
- I. **Mounting.** The method of anchoring solar energy system modules to the ground or a building.
- J. **Non-Participating Landowner.** A landowner who has not signed a binding agreement with the Applicant/Developer/Owner of the US-SES project.
- K. **Occupied Residence.** A building designed for, and occupied on a regular basis (50% or more of the year, and is currently occupied or has been occupied in the last two years) as an abode.
- L. **Operator.** The entity or individual that operates a US-SES.
- M. **Owner.** The entity or entities with an equity interest in the US-SES, including their respective successors and assigns. Owner does not mean the landowner from whom a lease, easement, or other property right is acquired for locating the US-SES unless the landowner has an equity interest in the US-SES.

- N. **Participating Landowner.** A landowner under lease, easement or other binding property agreement with the applicant, developer, or owner of the US-SES.
- O. **Photovoltaic (PV) Cells.** Semiconductors which generate electricity whenever light strikes them; generally grouped on panels.
- P. **Project Area.** The geographic area encompassing all components of a US-SES project, including border fencing.
- Q. **Property Line.** The legal boundary between separately owned real estate parcels, and between privately owned parcels and public owned land or public right of way.
- R. **Setback.** The minimum distance from a certain object, structure or point to the edge of any part or component of the US-SES.
- S. **Solar Array.** Equipment used for private or utility scale solar energy systems. Can be mounted on primary or accessory structures, on a racking system affixed to the ground, or integrated as a mechanical or structural component of a structure.
- T. **Solar Collector.** A device, structure or part of a device or structure for which the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical, or electrical energy.
- U. **Solar Easement.** An easement created to protect a solar project from encroachment by adjacent properties which would shade panels. See Iowa Code 564A.
- V. **Solar Energy.** Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.
- W. **Solar Energy Systems, Private.** An energy system that converts solar energy to usable thermal, mechanical, chemical, or electrical energy primarily for immediate onsite use that already has an existing principal use on the same parcel. Solar Energy Systems, Private shall be allowed only as a non-utility scale accessory use to a permitted principal use. Surplus energy sold back to a utility must comply with all applicable laws including but not limited to Section 199, Chapter 15.11(5) of Iowa Administrative Code, and all requirements of the Iowa Utilities Board. Systems can be mounted on primary or accessory structures, on a racking system affixed to the ground, or integrated as a mechanical or structural component of a structure.

- X. **Solar Energy Systems, Utility Scale (US-SES).** An energy system, commonly referred to as a “solar farm”, which converts solar energy to useable thermal, mechanical, chemical, or electrical energy primarily for transmission through the electrical grid for offsite use or wholesale and/or retail sale. Systems can be mounted on primary or accessory structures, on a racking system affixed to the ground, or integrated as a mechanical or structural component of a structure. Utility scale solar energy systems do not include concentrating solar power (CSP) systems.
  - Y. **Solar Panel.** 1) A grouping of photovoltaic cells used to generate electricity directly from sunlight. A grouping of these panels is called an array. 2) A panel circulating water or other liquid through tubes to collect, transfer and store the sun’s heat for domestic hot water and building heat.
  - Z. **Solar Storage Battery.** A device that stores energy from the sun and makes it available in an electrical form.
  - AA. **Solar Storage Unit.** A component of a solar energy device that is used to store solar-generated electricity or heat for later use.
  - BB. **Substation.** A facility that converts electricity produced by a generator like a solar energy system to a higher voltage, allowing for interconnection to high-voltage transmission lines.
  - CC. **System Height.** The height of a solar energy system, usually referring to ground mounted systems. Total system height is the measurement from the ground to the top of the mounting or modules associated with a system.
  - DD. **Transmission lines.** Power lines used to carry electricity from collection systems or substations over long distances.
3. **Applicability.** Section 5.08 applies to US-SES within unincorporated Woodbury County. It shall be unlawful to construct, erect, install, alter, locate, or operate any US-SES within unincorporated Woodbury County, without first obtaining a Conditional Use Permit from the Woodbury County Board of Adjustment.

At all times, US-SES shall comply with the terms of the Conditional Use Permit, the agreements and plans associated with the Conditional Use Permit, and the Woodbury County Zoning Ordinance.

4. **Conditional Use Permit (CUP).** US-SES shall require a Conditional Use Permit within the General Industrial (GI) Zoning District. US-SES is prohibited in all other Zoning Districts in Woodbury County. This use shall be subject to the procedures and standards included in this Ordinance. Concentrating solar power systems are prohibited.



5. **Application Materials.** In addition to all submittal requirements of a conditional use application, the application for a US-SES installation shall include the following information on the site plan or in narrative form, supplied by the utility scale installation owner, operator or contractor installing the structures:
- A. The name and address of the applicant, as well as the proposed owners or operators of the project, including the contact information (name, address, telephone and email) of their authorized representatives. The application shall designate the entity who requests the Conditional Use Permit.
  - B. A certified abstractor listing of the names and mailing addresses of all owners of real property lying within one (1) mile from the subject property shall be provided with the application.
  - C. Legal descriptions of all properties, leased and/or owned, identified to be part of the project area.
  - D. Location and size of existing and proposed structures.
  - E. Location and layout of vehicle parking, loading and queuing areas, street accesses, and driveways.
  - F. Number, location and spacing of solar panels/arrays.
  - G. Planned location of underground or overhead electric lines.
  - H. Project development timeline which indicates how the applicant will inform adjacent property owners and interested stakeholders in the community.
  - I. Pre-construction survey of nearby roads that may be impacted by construction of the facility.
  - J. Flood hazard area designations
  - K. Interconnection Agreement.
  - L. Operation and Maintenance Plan.
  - M. Decommissioning Plan.
  - N. Soil Erosion and Sediment Control Plan
  - O. Setback analysis showing the minimum setback requirements, or any agreed on greater setback provisions, are met by the project.

P. Emergency Response Plan

Q. Such other information as the Zoning Director may require to determine compliance with the provisions of this Ordinance.

6. **Requirements.** US-SES are subject to the following requirements:

A. No application for a US-SES Conditional Use Permit shall be granted without first submitting all required information and documentation, and paying all associated fees to the County.

B. **Setbacks.** The Zoning District Dimensional Standards of Section 3.04 shall apply.

C. **Height.** A solar panel shall be no less than two (2) feet (Twenty-Four inches) off the ground. A solar panel shall not exceed twenty (20) feet in height above grade at maximum tilt of the solar panel(s).

D. **Screening.** Project shall provide vegetative screening for all residences within 200 feet of the project boundaries.

(1) Applicant shall submit a screening plan for each residence within 200 feet of the project boundaries.

(2) Screening may be waived by the owner of a residence. Waiver must be in writing and recorded.

(3) Screening may be waived by the Board of Adjustment upon submission of a viewshed study from the applicant demonstrating that the project is not within the viewshed of the dwelling due to topography, existing vegetation, or other factors. The point of reference used in the viewshed study shall be as close to the dwelling as possible.

(4) Any vegetative screening within the project boundaries shall be maintained throughout the life of the project by the project owner. Any screening on the dwelling property shall be maintained by the project owner for no less than twelve months.

(5) Deciduous trees shall have a minimum caliper of 1.5" when planted, shall be at least six (6) feet tall within three (3) years of installation, and shall have a minimum mature height of twelve (12) feet.

(6) Screening plans shall use no less than two varieties of tree.

- E. **Utility connections.** Reasonable efforts shall be made to place all utility connections from the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions or requirements.
  - F. **Glare minimization.** All solar panels must be constructed to minimize glare or reflection onto adjacent properties and adjacent roadways and must not interfere with traffic, including air traffic, or create a safety hazard.
  - G. **Appurtenant structures.** All appurtenant structures shall be subject to bulk and height regulations of structures in the underlying zoning district.
  - H. **Floodplain considerations.** Utility scale solar installations are considered to be maximum damage potential structures and facilities for purposes of the floodplain district regulations.
  - I. **Fencing/security.** A security fence must be installed along all exterior sides of the utility scale solar installation and be equipped with a minimum of one gate and locking mechanism on the primary access side. Security fences, gates and warning signs must be maintained in good condition until the US-SES installation is dismantled and removed from the site.
  - J. **Compliance with local, state and federal regulations.** US-SES installations shall comply with applicable local, state and federal regulations.
  - K. **Submittal Requirements.** In addition to the requirements in Section 2.02.9, the applicant shall submit all required materials contained in this Section at the time of the application for a Conditional Use Permit.
7. **Permitting Process.** In addition to the items required for a conditional use permit application in subsection 2.02-9. C, the process for a US-SES conditional use permit shall include the following:
- A. Application for approval of a permit to construct a US-SES shall be submitted to the Zoning Director on a permit application form provided by the Zoning Director and must include any additional information determined by the Zoning Director as necessary to demonstrate compliance with all applicable codes and requirements, along with the application fee, as established by resolution of the Board of Supervisors.
  - B. As conditions for approval, the following agreements must be executed with Woodbury County:
    - (1) Decommissioning, Abandonment, Financial Security, and Site Restoration Plan

- (2) Woodbury County Road Use and Repair Agreement
- (3) Woodbury County Public Drainage System Protection Agreement

C. Distribution. The Zoning Director shall distribute copies of the application materials to the Planning and Zoning Commission and to the appropriate County departments, and public utilities for comment.

D. Staff Review. The appropriate county departments shall review the application and prepare reports of their findings and comments to the Planning and Zoning Commission prior to the review.

- (1) To assure conformance with the goals and objectives of the county's comprehensive plan, the Zoning Director may make recommendations for conditions for approval including use restrictions required to preserve and improve the peace, safety, health, welfare, comfort, and convenience of the future residents of the subdivision and neighboring properties.

E. All US-SES permit applications shall require review by the Woodbury County Planning and Zoning Commission and approval by the Woodbury County Board of Adjustment following the standards and procedures for Conditional Uses as outlined in Section 2.02-9 of the Woodbury County Zoning Ordinance and shall follow the same schedule for submitting applications.

F. Expiration. A Conditional Use Permit issued by the Board of Adjustment for a US-SES shall expire at the end of one (1) year from issuance if a US-SES building permit has not been obtained from the Board of Supervisors as provided in subsection 5.08-8. After expiration, a new US-SES conditional use permit application would have to be filed and approved prior to application for a US-SES building permit.

8. **US-SES Building Permit Requirement.** In addition to the requirements of the Conditional Use Permit, each US-SES project must obtain an approved US-SES Building Permit from the Board of Supervisors prior to the start of any construction. An approved US-SES Building Permit shall be valid for one (1) year from the date of its issuance. The Zoning Department will supply a US-SES Building Permit application form to be used by any person or entity seeking to construct a US-SES project. The application shall contain:

- A. The name and address of the applicant, as well as the proposed owners or operators of the project, including the contact information (name, address, telephone and email) of their authorized representatives. The application shall designate the entity who will be the permit holder of the US-SES Building Permit.

- B. A Final Development Plan for the project, which shall contain aerial images of the entire proposed project area, showing the proposed location of the solar arrays, private access roads, feeder lines, substations and all other components of the project. The Plan shall show property lines and setback distances, as well as all public roads and public drainage district facilities (i.e. – ditches and underground tiles) in the project area. The Plan shall also identify any wind turbines, communication antennae, and airports (including private airstrips) located within five (5) miles of the project area; city boundaries within two (2) miles; and all lakes, permanent water courses and Public Conservation Areas within three (3) miles of the project area boundaries. In providing the above information, the Plan shall use a GPS coordinate system that is compatible with the County's geographical information and data systems. The Plan shall also include a mailing address for the owner of each communication antenna identified.
- C. Project details, including the name of the project, the final number of arrays, generating capacity, and all the requirements of the Conditional Use Permit application as included in this Section.
- D. Approval. Approval of the US-SES building permit by the Board of Supervisors shall be based upon findings that the proposed use of the site and the proposed location and dimensions of the structure(s) on the subject parcel(s) of real property comply with the zoning provisions of this ordinance, the conditions of the Conditional Use Permit and that no longer than one year has passed since the issuance of the Conditional Use Permit. The Board of Supervisors must also ensure that agreements and plans as outlined in this Section are in place as part of the building permit issuance process.
- E. Denial. If a building permit application is denied, the application shall be returned to the applicant with a written explanation of the reasons for the denial.
- F. Expiration. A building permit shall expire and become void if the construction or change in use of the property has not commenced within one year after issuance. If necessary, additional one-year renewals may be approved at the sole discretion of the Board of Supervisors.

## **9. Woodbury County Road Use and Repair Agreement**

- A. **Roads.** Applicants shall adhere to the Woodbury County Road Use and Repair Agreement, and in doing so, shall identify all roads to be used for the purpose of transporting solar components, substation parts, cement, and/or equipment for construction, operation or maintenance of the solar installation and obtain applicable weight and size permits from the impacted road authority prior to construction.

- B. **Existing Road Conditions.** Applicants shall conduct a pre-construction survey, in coordination with the impacted local road authorities to determine existing conditions of roads identified pursuant to Section 6.1. The survey shall include photographs or video and written documentation of the condition of the identified road facilities. The applicant is responsible for on-going road maintenance and dust control measures identified by the County Engineer during all phases of construction.

#### **10. Woodbury County Public Drainage System Protection Agreement**

- A. Applicants shall adhere to the Woodbury County Public Drainage System Protection Agreement, and in doing so, shall be responsible for immediate repair of damage to public drainage systems stemming from construction, operation or maintenance of the US-SES (where required).

#### **11. Operation and Maintenance Plan.** The applicant shall submit a plan for the operation and maintenance of the solar installation including all necessary services, frequency of service, preventative maintenance measures, and monitoring. The operation and maintenance plan should include at a minimum:

- A. Preventative maintenance practices and schedules for all on-site equipment including but not limited to: inverters, panels, equipment pads, tracking systems, transformers, access entrances, internal roads, gates, fencing, security systems, stormwater management installations.
- B. Annual reporting and verification to the Zoning Director on the status or changes to ongoing service schedule.
- C. Schedule of all other monthly, annual, or semiannual reporting requirements for other submittals including: agricultural impact mitigation plan, decommissioning plan, and vegetation management plan.
- D. Noise. No operating solar energy equipment shall produce noise exceeding any of the following limitations, with the exception of initial construction and routine maintenance. Adequate setbacks and effective noise mitigating equipment shall be used to comply with these limitations:
  - (1) An hourly average noise level of fifty-five (55) dBA during the day (between sunrise and sunset), and an hourly average noise level of fifty (50) dBA at night (between sunset and sunrise), as measured at the occupied dwelling of any adjacent property containing an existing residential structure. If the ambient sound pressure level exceeds 55 dBA during the day or 50 dBA at night, the standard shall be the ambient Leq (equivalent continuous sound pressure level) plus 5 dBA.

- (2) A baseline noise evaluation shall be completed by a board certified professional by the Institute of Noise Control Engineering (INCE), or an appropriately licensed Professional Engineer (PE) prior to construction of the proposed solar site.
  - (3) A post-construction noise evaluation shall be performed by a third-party board certified professional by the Institute of Noise Control Engineering (INCE), or an appropriately licensed Professional Engineer (PE) following commencement of commercial operation of the project to verify compliance with the County's standards.
  - (4) The owner(s) of adjacent properties within 500 feet may voluntarily agree, by written and recorded waiver, to a higher noise level.
- E. Issue resolution protocols. Contact information for responsible party to address issues that may arise (damaged equipment causing excessive noise, etc.).
  - F. Disposal/recycling plan for damaged or obsolete facility equipment or hazardous waste. No storage of inoperable or obsolete equipment shall be allowed to remain on-site. Site operator shall be responsible for the cleanup of debris related to storm damage.
  - G. Cleaning chemicals and solvents. During operation of the proposed installation, all chemicals or solvents used to clean photovoltaic panels should be low in volatile organic compounds and the operator should use recyclable or biodegradable products to the extent possible. Any on-site storage of chemicals or solvents shall be referenced.
  - H. Maintenance, repair, or replacement of facility. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to emergency response officials. Any retrofit, replacement or refurbishment of equipment shall adhere to all applicable local, state and federal requirements.
  - I. Repowering. Proposals to replace more than twenty five percent (25%) of the panels in a facility within a twelve (12) month period will be required to submit a new Conditional Use Permit application based on the requirements in this ordinance for review and approval. A repowering event does not include replacement of panels in previously approved locations due to weather damage, equipment failure, or a force majeure event.

- (1) The plan shall include updated information for some or all of the reports and plans required by this section, as determined necessary by the Zoning Director.
- (2) The Board of Adjustment shall review and approve, conditionally approve, or deny the repowering plan as per the requirements of Sections 2.02.9 and 5.08.

**12. Decommissioning, Abandonment, Financial Security, and Site Restoration Plan.**

A. The application must include a decommissioning plan that describes the following:

- (1) The anticipated life of the utility scale solar installation.
- (2) The anticipated manner in which the project will be decommissioned, including plans to recycle components and dispose of any hazardous materials.
- (3) The anticipated site restoration activities.
- (4) The estimated decommissioning costs in current dollars.
- (5) The method for ensuring that funds will be available for decommissioning and restoration of the site.

B. Decommissioning cost considerations. The applicant shall provide the estimated cost of decommissioning, excluding the salvage value, should be presented from both the solar applicant and from an independent third-party engineer, at the recommendation of the Woodbury County Engineer, at the expense of the applicant.

- (1) Removal of any hazardous materials at the facility, as determined by a Toxic Characteristic Leaching Procedure (TCLP) or other similar test approved by Woodbury County and as described in the facility's Operations and Maintenance Plan. TCLP testing shall be performed prior to any ground disturbance at the project site.
- (2) Salvage value shall not be included in the cost estimate.
- (3) The estimated decommissioning cost must be updated every 5 years of the project using the same process as the initial decommissioning cost process.

C. Site restoration activities. Restoration activities shall include, but not be limited to, the following:



- (1) Removal of all components and equipment.
- (2) Soil in project area shall be decompacted and seeded with a cover crop, unless otherwise specified in the approved vegetation plan and/or agricultural impact mitigation plan.
- (3) For any part of the energy project on leased property, the plan may incorporate agreements with the landowner regarding leaving access roads, fences, gates or repurposed buildings in place or regarding restoration of agricultural crops or forest resource land. Any use of remaining structures must be in conformance with the regulations in effect at that time.

D. Performance agreement and proof of financial surety. At the time of permitting, the applicant, facility owner, or site operator shall provide a Performance Agreement and accompanying financial surety instrument to cover the cost of decommissioning in accordance with the following:

- (1) Decommissioning funds shall be required in an amount of 125% of the most recent estimated decommissioning total cost paid for by the project owner/developer. The decommissioning funds shall remain in place until one (1) year after the last day of decommissioning unless sooner released by the Woodbury County Board of Supervisors
- (2) Decommissioning funds shall be maintained in the form of a performance bond, surety bond, escrow account, bank letter of credit, stable parent company guarantee, or other form of financial assurance as approved by the Woodbury County Board of Supervisors. Any financial document evidencing the maintenance of the decommissioning funds shall include provisions for releasing the funds to the County or a contractor hired by the County in the event decommissioning is not timely completed as outlined herein.
- (3) Prior to any ground disturbance, grading or construction activity on the site, one-hundred twenty-five percent (125%) of total estimated decommissioning costs shall be provided by any of the means listed above.
- (4) Financial surety shall be maintained for the life of the project.
- (5) Proof of recertification of the financial surety instrument must be submitted to the County annually. The county shall be notified immediately if the financial security instrument is cancelled, lapses, or otherwise is no longer in effect.

- (6) Every five (5) years, the facility owner or operator shall retain an independent Licensed Iowa Engineer approved by the County to re-estimate the total cost of decommissioning and attest that the value of the financial surety instrument is appropriate. This report shall be filed with the County and shall incorporate any new industry information learned since the last cost determination.
- (7) The required amount of the decommissioning fund shall match the re-estimated cost of decommissioning. Within ninety (90) days of filing the re-estimation report with the County, the facility owner or operator shall cause the fund balance of the financial surety instrument to be adjusted to ensure that it matches 125% of the re-estimated decommissioning cost.

E. Commencement of site decommissioning. Decommissioning of the site shall commence at the time identified in the project decommissioning plan or performance agreement, or when the facility is determined to have been abandoned.

- (1) Decommissioning shall be completed in accordance with the approved decommissioning plan.
- (2) The landowner or tenant shall notify the Zoning Director both when the project is discontinued and when decommissioning is complete.
- (3) Third-party verification, as well as County verification of completed decommissioning will be required before the financial surety may be released.
- (4) The facility will be considered abandoned or out of commission in the following circumstances:
  1. Upon termination or expiration of the solar farm leases/easements; or
  2. After one year without production, storage of energy, or use as a backup facility; or
  3. Failure to comply with the terms of the Conditional Use Permit after written notice of infractions from the County and a period of no less than 90 days to allow the operator to bring the US-SES into compliance.
  4. Exceptions could be made for:
    - a. A force majeure event that has occurred or is occurring, which will prevent the facility from resuming

operation within 12 months.

- b. If the facility is in the process of being repowered.
- c. The project is pending completion of construction of the facility due to a backlog of cases or service requests in the MISO queue.
- d. A situation in which the project owner can provide evidence to the Woodbury County Board of Supervisors, that the facility's period of continuous inactivity is due to circumstances beyond the project owners control and that the facility has not been abandoned.
- e. Appeal of the notice of abandonment from the county within a set time of the project owner's receipt of the notice in which the project owner explains the reasons for operational difficulty and provides a timeframe for corrective action that the county deems reasonable.

13. **Soil Erosion and Sediment Control Plan.** A grading plan shall be submitted and shall include all proposed changes to the landscape of the site (e.g., clearing, grading, topographic changes, tree removal, etc.). The plan shall be accompanied with the following documentation:

A. Erosion and Sediment Control

- (1) The applicant agrees to conduct all roadwork and other site development work in compliance with a national pollutant discharge elimination system (NPDES) permit as required by the state department of natural resources and comply with requirements as detailed by local jurisdictional authorities during the plan submittal. If subject to NPDES requirements, the applicant must submit the permit for review and comment, and an erosion and sediment control plan before beginning construction. The plan must include both general 'best management practices' for temporary erosion and sediment control both during and after construction and permanent drainage and erosion control measures to prevent damage to local roads or adjacent areas and to prevent sediment-laden run-off into waterways.

B. Stormwater Management Plan

- (1) For the purposes of pollutant removal, stormwater rate and runoff management, flood reduction and associated impacts, the applicant shall provide a detailed analysis of pre- and post-

development stormwater runoff rates for review by local jurisdictional authorities.

#### **14. Emergency Response Plan**

- A. The applicant shall submit an emergency response plan prior to any ground disturbance at the project site detailing the planned response actions that will be taken by the solar facility operator, including any battery energy storage systems in the event of an emergency situation. These actions are intended to minimize health risks to personnel and people in the surrounding community, as well as minimize adverse impacts to the environment.
- (1) The plan shall include, but is not limited to, a detailed narrative of response procedures and the facility representatives responsible for management of the following plausible contingencies that could occur at the facility: natural disaster/severe weather, fire, security incident, capacity/transmission, environmental, chemical, pipeline (if applicable), and medical. It shall include procedures for a site evacuation, designated egress routes and emergency staging areas.
  - (2) The plan shall include a standalone section detailing the emergency response protocols specific to battery energy storage areas (if applicable).
  - (3) The plan shall be developed in coordination with local first responders, Woodbury County Emergency Management & Siouxland District Health personnel.

#### **15. Future Operators**

- A. Future operators, successors, assignees, or heirs of an US-SES are subject to all conditions of the Conditional Use Permit, its associated agreements and plans, and this Ordinance. The holder of a US-SES Conditional Use Permit shall notify the County at least 90 days prior of the intent to sell or transfer or change operators of the US-SES.

#### **16. Enforcement**

##### **A. Violations**

- (1) It shall be unlawful to locate, erect, construct, reconstruct, alter, repair, convert, or maintain any building, land, or structure, or use any land, building or sign in violation of any regulation in, or any provisions of, this Section, or any amendment or supplement

thereto, lawfully adopted by the County Board of Supervisors; or to fail to comply with any requirement or condition imposed by the Board of Adjustment.

- (2) Any person, firm or corporation found to be in violation of any provision of this Section shall be served written notice by the Zoning Director or designee stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. Such person shall, within the period of time stated in the notice, take all necessary action to correct the violation and shall permanently cease such violation.
- (3) Each day during which the violation continues shall be a separate violation.
- (4) A Notice of Violation may be served as a first attempt to gain compliance. If compliance is not met with the sending of a Notice of Violation then a Citation shall be served on the property owner. The offender shall be provided a reasonable time, (not to exceed) thirty (30) days in which to correct the violation. A violation which occurs for a short period of time is observed and there is no other reasonable means for ensuring compliance, be served a citation immediately upon observation of a violation.
- (5) If the violation is not corrected, Woodbury County may seek such remedies, civil or criminal as are authorized by law.

#### **17. Penalty**

- A. The Zoning Director or designee may assess the maximum civil penalty per day for each violation allowed upon each violation, as outlined in the Woodbury County Zoning Ordinance that continues to exist.
- B. Remedies
  - (1) If work is being done in violation of any provision of this Section and continues beyond the date of notice and the work is not being done to correct a violation, an immediate stop-work order shall be issued by the Zoning Director. Such order shall be given to the owner of the property, the authorized agent(s), or the person or persons in charge of the activity on the property and shall be posted upon the property. The stop work order shall state the conditions under which work may be resumed.
  - (2) Violations by an individual or property owner will prohibit any additional permits for that property or other properties to be

issued unless said permits will remedy abatement of the violation. Stop work orders will be placed on any work on other property in which the violator is operating or owns.

- (3) If the Zoning Director determines that a violation is an immediate threat to public safety or welfare and the property owner or operator has failed to take corrective action within the time period stated in the notice provided, Woodbury County may take such remedial action as is necessary to protect the public safety or welfare. Such remedial action may include entering the property where a violation is present, correcting the violation, and placing a lien on the property to secure payment and reimbursement of any and all expenses incurred by Woodbury County to correct such violation.
- (4) Woodbury County may seek other such remedies, civil or criminal as are authorized by law.

### **Severability**

Should any section or provisions of this Ordinance be declared by the courts to be invalid or unconstitutional, such decision shall not affect the validity of the Ordinance as a whole, or any part thereof other than the part so declared to be invalid or unconstitutional.

### **Effective Date**

This Ordinance shall be in effect after its final passage, approval, and publication as provided by law.

Passed and adopted by the Woodbury County, Iowa Board of Supervisors on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**THE WOODBURY COUNTY, IOWA BOARD OF SUPERVISORS**

\_\_\_\_\_  
Matthew Ung, Chairman

\_\_\_\_\_  
Daniel Bittinger II, Vice-Chairman

\_\_\_\_\_  
Mark Nelson

Attest:

\_\_\_\_\_  
Keith Radig

\_\_\_\_\_  
Patrick F. Gill, Woodbury County Auditor

\_\_\_\_\_  
Jeremy Taylor

Adoption Timeline:

Date of Public Hearing and First Reading \_\_\_\_\_

Date of Public Hearing and Second Reading \_\_\_\_\_

Date of Public Hearing and Third Reading \_\_\_\_\_

Date of Adoption \_\_\_\_\_

Published/Effective Date \_\_\_\_\_

**Minutes - Woodbury County Zoning Commission – March 25, 2024**

The Zoning Commission (ZC) meeting convened on the 25th of March, at 5:00 PM in the Board of Supervisors' meeting room in the Basement of the Woodbury County Courthouse, 620 Douglas Street, Sioux City, IA. The meeting was also made available via teleconference.

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**Meeting Audio:**

For specific content of this meeting, refer to the recorded video on the Woodbury County Zoning Commission "Committee Page" on the Woodbury County website:

- County Website Link:
  - o [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/)
- YouTube Direct Link:
  - o <https://www.youtube.com/watch?v=rplVdwtKgFM>

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ZC Members Present:  
County Staff Present:  
Public Present:

Chris Zant, Barb Parker, Jeff Hanson, Corey Meister, Tom Bride  
Dan Priestley, Dawn Norton  
Dan Bittinger, Daniel Hair, Peter Widman, Rand Fisher, Corinne  
Erickson, Christopher Widman, Rebekah Moerer  
Tom Treharrie

Telephone:

**Call to Order:**

Chair Chris Zellmer Zant formally called the meeting to order at 5:00 p.m. All members present.

**Public Comment on Matters Not on the Agenda:**

None

**Approval Of Minutes: 2/26/24**

Motion by Meister to approve the minutes from February 26, 2024: Second by Parker. Bride abstained. Approved 4-0.

**Public Hearing (Action Item) for Proposed Woodbury County Comprehensive Plan 2040:**

Priestley read summary of the draft comprehensive plan into the record. The purpose of the comprehensive plan is to establish a recommendation to the Board of Supervisors pursuant to Iowa Code Chapter 335.5. The plan is intended to serve as an advisory document that outlines the county's vision. The purpose of the comprehensive plan is to provide a current inventory of community services and resources and a thoughtful statement of the community's vision and goals for the future. The plan includes analysis of the following planning topics: Housing, Economic Development, Transportation, Public Infrastructure and Utilities, Community Facilities and Services, Land Use and Natural Resources, and Disaster Response, Recovery and Resiliency. In December of 2020, the Board of Supervisors entered into an agreement with SIMPCO for development of the plan. The project was funded partially by Cares Act money.

Corinne Erickson spoke on behalf of SIMPCO's work on the project by providing an overview including a historical account of the process. SIMPCO solicited public and stakeholder comments through open house events and surveys, with continuous opportunity for public comment. There have been approximately 450 responses to the survey. In 2021, a steering committee was developed, including several county officials, and overall met five times to establish rules and objectives for the plan.

Daniel Hair stated he was disappointed with the Land Use and Natural Resources section of the plan. He has communicated with residents through the Woodbury County Fair and Facebook regarding landowner rights. He believes the statement regarding Land Use and Natural Resources – Plan for Creation and Use of Alternative and Renewable Energy Sources in Woodbury County, especially the bullet point that includes - Continuously update policies that regulate renewable energy infrastructure to ensure that it does not present safety hazard and to minimize disruption to surround land uses – is too vague. Daniel presented a document for Commissioner review. Motion by Bride to receive. Second by Hanson. Carried: 5-0. Hair stated that throughout the public meetings residents voiced their desire for utility solar to only be acceptable in industrial areas, not agricultural areas. He suggested the following changes – Utility scale alternative and renewable energy sources should be placed in industrial zoned areas in order to minimize adverse impacts to agricultural and residential living. 1. Preserve



agricultural land for agriculture purposes. 2. Recognize alternative and renewable projects should remain in industrial zoned lands. 3. Respect the beauty of Loess Hills and natural landscapes and the great value of our rural resident's quality of life. 4. Utility Scale alternative and renewable projects should be viewed as industrial activities. 5. Preserve our agriculture land for future generations and protect our conservation areas for hunting, hiking, camping, fishing, and recreation use. He suggested wording supporting landowners individual choice to implement personal or private use of renewable energy infrastructure.

Bride asked Hair to clarify statement. Hair wants to emphasize industrial activity and private use be more defined and separated.

Corrine Ericksen from SIMOC verified the request to be separation between industrial scale and smaller, private scale use. The language could be fine tuned to reference the difference and leave room for future development.

Meister referenced the difference between the general summary of the plan versus the details as presented in the full plan and ordinances for further specifics.

Peter Widman stated there needs to be protection for the future from green energy.

Hanson motioned to close public hearing. Second by Meister. Carried: 5-0.

Hanson made a motion to amend the comprehensive plan as presented to include a statement under the renewable energy infrastructure that states support landowners individual choices to implement renewable energy infrastructure for personal and private use and to recommend the comprehensive plan to the Board of Supervisors. Second by Bride. Carried 5-0.

**Public Hearing (Action Item) for Proposed Zoning Ordinance Text Amendments To The Floodplain Management Ordinance Section 5.03 Of The Woodbury County Zoning Ordinance:**

Priestley read the summary into record. A proposal to amend the text of the Woodbury County Zoning Ordinance to repeal and replace portions of Section 5.03: Floodplain Management Ordinance. The proposal is to repeal and replace the following sections. **Amendment #1** - On page 59, to repeal and replace **Section 5.03.1 AA** with the following: AA. New Factory-Built Home Park Or Subdivision - A factory-built home park or subdivision for which the construction of facilities for servicing the lots on which the factory-built homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of the first floodplain management regulations adopted by the community.; **Amendment #2** - On page 62, to repeal and replace **Section 5.03.3 B** with the following: B. Establishment of Official Floodplain Zoning Map. The Flood Insurance Rate Map (FIRM) for Woodbury County and Incorporated Areas, dated 7-17-2024, which was prepared as part of the Flood Insurance Study for Woodbury County, is (are) hereby adopted by reference and declared to be the Official Floodplain Zoning Map. The Woodbury County Flood Insurance Study is hereby adopted by reference and is made a part of this ordinance for the purpose of administering floodplain management regulations.; **Amendment #3** - On page 72, to repeal and replace **Section 5.03.10 B(4)** with the following: (4) In cases where the variance involves a lower level of flood protection for structures than what is ordinarily required by this Ordinance, the applicant shall be notified in writing over the signature of the Administrator that: (i) the issuance of a variance will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage and (ii) such construction increases risks to life and property.; **Amendment #4** - On page 73, to repeal and replace **Section 5.03.10 C(2)** with the following: (2) Decisions. The Board shall arrive at a decision on an Appeal or Variance within a reasonable time. In passing upon an Appeal, the Board may, so long as such action is in conformity with the provisions of this ordinance, reverse or affirm, wholly or in part, or modify the order, requirement, decision, or determination appealed from, and it shall make its decision, in writing, setting forth the findings of fact and the reasons for its decision. In granting a Variance, the Board shall consider such factors as contained in this section and all other relevant sections of this ordinance and may prescribe such conditions as contained in 5.03-10 C(2)(b). Priestly explained that the amendments are to prepare for the new floodplain maps that will take effect on July 17, 2024, as directed by FEMA and IDNR. No public comment was received. Motion to close public hearing: Bride. Second by Parker. Carried: 5-0. A motion by Hanson to recommend approval to the Board of Supervisors of the amendments to Section 5.03 of the Woodbury County Zoning Ordinance. Second by Parker. Carried: 5-0.

**Public Hearing (Action Item) for Proposed Utility-Scale Solar Energy Systems Zoning Ordinance Amendment(s):**

Priestley summarized the zoning ordinance text amendment including amendments to the table of contents; to add a new section entitled Section 5.08: Utility-Scale Solar Energy Systems (US-SES) Conditional Use; and to include the renumbering of page numbers. The draft ordinance was brought back to the Zoning Commission as a result of the direction from the Commission at the January 22<sup>nd</sup> meeting after review by the County Attorney's office and staff. The US-SES ordinance amendment is meant to regulate the permitting and use of such systems in the General Industrial (GI) Zoning District. The Zoning Commission would be responsible for the review of US-SES conditional use permit (CUP) requests. The Board of Adjustment would be responsible for the consideration of approval of the US-SES CUP requests, and the Board of Supervisors would oversee the building permit process. After the review, the notable changes were to the decommissioning plan and the definition section.

Priestley stated that the office received comments from the public. Priestley asked for the consideration of a motion to receive an email received after packet was complete from Robert Wilson, Range Land Energy Management. Motion to receive: Meister. Second: Parker. Carried: 5-0. *Received Materials Available in the Appendix.*

Priestley asked for the consideration of a motion to receive a letter received after the packet was complete from Mayor Robert Scott, City of Sioux City. Motion to receive by Meister. Second by Parker. Carried: 5-0. *Received Materials Available in the Appendix.*

Rand Fisher, Center for Infrastructure and Economic Development, spoke on the benefits of renewable energy and the current restriction of allowing industrial solar only in General Industrial Zoning Districts. Fisher indicated that valuable existing infrastructure in that area would not be needed for industrial solar. Industrial solar in agricultural areas, if limited to certain areas, would be a more feasible approach. Fisher provided informational handouts to be received by the Commissioners. Motion to receive by Bride. Second by Hanson. Carried: 5-0. *Received Materials Available in the Appendix.*

Chris Madsen, City of Sioux City offered concerns with placement of utility solar within the corporate boundaries of the City and allowing utility solar in the Southbridge Industrial Park, which would not utilize the installed infrastructure that could be used for future development.

Daniel Hair stated industrial solar should only be allowed in industrial areas. Other areas of the state do not compare to Woodbury County.

Peter Widman stated we should not allow the mayor of the City of Sioux City to dictate what we do with land inside the County.

Tom Treiner, Nexstar Energy, spoke by telephone stating there should be another look at utility solar in agricultural areas with a conditional use permit process. Projects are voluntary to landowners, screening and buffering would address some issues. He thinks there are many landowners that support utility solar in agricultural areas, as seen by comments to the comprehensive plan, but some are hesitant to speak in support because it's a contentious issue.

Christopher Widman states no other location than industrial should be considered, pointed out only businesses, not residents, have spoken out in support tonight.

Parker motioned to close public hearing. Second by Bride. Carried: 5-0.

Priestley emphasized this ordinance is similar to what has been in place since 2008 but adds additional features and specifications. He cited MidAmerican's solar project that went through the conditional use permit process in the General Industrial (GI) Zoning District. Priestley pointed out that the Zoning Commission is responsible for reviewing the application and the Board of Adjustment is responsible for the consideration of the CUP application for approval. Additionally, the Board of Supervisors would be responsible for the consideration of the building permits.

Bride asked Priestley if there was any activity that would trigger extraterritorial review from the City of Sioux City. Priestley indicated that the city would be notified as a landowner under the typical process if they fall within the notification territory. However, the county will notify the city as a stakeholder and ask for comment regardless in the future. The certified abstractor listing notification area is one (1) mile under this proposal. The only extraterritorial review authority the city has is through the subdivision process.

Bride asked if there was anything in ordinance pertaining to setbacks that would prevent a solar project in an industrial area being placed near to conservation area. Priestley indicated that he is not aware of any provision in the zoning ordinance that would place a restriction or buffer between conservation areas and projects such as solar. The conservation board would be a stakeholder that would be asked to make comments on future projects.

Bride indicated that the zoning district setbacks along with the conditional use permit process could handle separation issues.

Hanson stated he would be against utility solar in industrial areas because there are only a small number of areas, and infrastructure has been placed and wouldn't be utilized with solar. Hansen stated under regulated standards he would support an overlay district which would allow placement in other zoning districts and landowners would have the opportunity of use property rights to place Utility Solar in agricultural areas.

Zellmer Zant stated there hasn't been a setback requirement on conditional use permits in industrial areas since 2008. She is concerned about setback that restricts useable General Industrial areas; public comment should be heard.

Meister agrees that the GI areas are restricted with setbacks.

Parker asked if the setbacks should be taken out of the requirements.

Bride agrees setbacks could prevent areas from developing and conditional use application allows each area to be looked at. Don't want to limit industrial areas.

Priestley stated setback zoning dimensional standards are in place for structures relative to property lines. The conditional use process would allow for stakeholder and public comment regarding placement. This draft is a process for Zoning Commission, Board of Adjustment and Board of Supervisors.

Zellmer Zant commented this language has been seen throughout other meetings, other counties and our County Attorney's Office.

Bride offered to include language that setbacks currently in zoning districts apply and not expanding other, such as conservation area setbacks, and others.

Motion by Bride to recommend the ordinance to the Board of Supervisors excluding the setbacks that are within it and just reverting to the General Industrial setbacks and to strike the definitions for the public conservation area and to remove Section J and definition R, and all definitions pertaining to the chart (occupied residences, cemeteries, public right-of-way, public drainage district right-of-way, and airports). Second by Parker. Carried 4-1.

**No public comment on matters not on the agenda:**

**Staff Update:**

Priestley mentioned upcoming CoZO conference to be hosted by Woodbury County in May.

**No Commissioner Comment of Inquiry:**

**Daniel Priestley**

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**From:** Daniel Priestley  
**Sent:** Monday, March 25, 2024 11:27 AM  
**To:** Robert Wilson  
**Subject:** RE: Email from the Woodbury County Website

Mr. Wilson,

Your message has been received. I will ask the Zoning Commission to consider receiving your email and attachment into the record at tonight's Zoning Commission meeting.

Respectfully,

-----  
Daniel J. Priestley, MPA  
Woodbury County Zoning Coordinator  
620 Douglas Street #609  
Sioux City, IA 51101

Phone: 712-279-6609  
Fax: 712-279-6530  
Website: [WoodburyCountyIowa.gov](http://WoodburyCountyIowa.gov)

**RECEIVED FROM ROBERT WILSON, 3-25-24**

**From:** Robert Wilson <[r.wilson@rangeland-energy.com](mailto:r.wilson@rangeland-energy.com)>  
**Sent:** Saturday, March 23, 2024 9:51 AM  
**To:** Daniel Priestley <[dpriestley@woodburycountyiowa.gov](mailto:dpriestley@woodburycountyiowa.gov)>  
**Subject:** RE: Email from the Woodbury County Website

**CAUTION:** This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.

Hey Dan, is there any way to request that the attached is included to Monday's packet for the record?

Unfortunately, due to flight schedules from where we're located, nothing quite works for us to make the meeting in person on Monday, but we'll be calling in. We have some major concerns that we'd like to discuss with the Commission, and I'm not sure the best venue to do that.

Robert Wilson – Managing Member  
E: [r.wilson@rangeland-energy.com](mailto:r.wilson@rangeland-energy.com)  
C: 435-901-9236



**From:** Daniel Priestley <dpriestley@woodburycountyiowa.gov>  
**Sent:** Thursday, February 1, 2024 3:27 PM  
**To:** Robert Wilson <r.wilson@rangeland-energy.com>  
**Subject:** RE: Email from the Woodbury County Website

Mr. Wilson,

Your message has been received. I am available to answer questions you might have about the Woodbury County Zoning Commission's recent recommendation. As referenced in your message, the comprehensive plan adoption process will likely commence this spring at dates to be announced. The comp plan requires a Zoning Commission recommendation and the approval of the Board of Supervisors. Information regarding the activities of the Commission can be obtained on the Woodbury County website at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/). I am available to speak with you tomorrow if you have questions. The phone number is 712-279-6609.

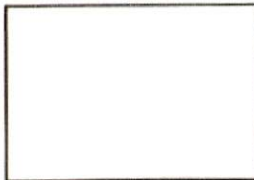
Respectfully,

-----  
**Daniel J. Priestley, MPA - Zoning Coordinator**  
**Woodbury County Community & Economic Development**  
620 Douglas Street, 6<sup>th</sup> Floor  
Sioux City, IA 51101  
Office: (712) 279-6609  
Fax: (712) 279-6530  
Email: [dpriestley@woodburycountyiowa.gov](mailto:dpriestley@woodburycountyiowa.gov)  
Web: [www.WoodburyCountyCED.com](http://www.WoodburyCountyCED.com)

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**From:** Woodbury County Website <[no-reply@woodburycountyiowa.gov](mailto:no-reply@woodburycountyiowa.gov)>  
**Sent:** Wednesday, January 31, 2024 2:37 PM  
**To:** Daniel Priestley <[dpriestley@woodburycountyiowa.gov](mailto:dpriestley@woodburycountyiowa.gov)>  
**Subject:** Email from the Woodbury County Website

**CAUTION:** This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. If you are asked for your username and password, please call WCICC and **DO NOT ENTER** any data.



**Email from the Woodbury County Website**

**Name:** Robert Wilson

**Email:** [r.wilson@rangeland-energy.com](mailto:r.wilson@rangeland-energy.com)

**Comments:**

Hey Dan,<br />

<br />

I'd like to introduce myself and our company. We're the developer that is working with Leo Jochum and his family as well as other individuals that chose to participate in our solar project. I attended last weeks meeting and think it'd be good for us to discuss our project, the process, and what facilities like ours typically look like during operations. I'd also like to answer any questions you or the commission has for us, to better inform you as discussions around the 2040 comprehensive plan progress.

**RECEIVED FROM ROBERT WILSON, 3-25-24**



RECEIVED FROM ROBERT WILSON, 3-25-24

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2025 RELEASE UNDER E.O. 14176

## U.S. Treasury Department's Coal Closure Energy Community Designation



Woodbury County Census Tracts designated as Energy Communities:

- 19193003302 – State Tract 33.02
- 19193003200 – State Tract 32
- 19193003100 – State Tract 31
- 19193003500 – State Tract 35

★ Retired Thermal Units – George Neal

Energy Communities were designated in 2023 to encourage economic growth, tax revenue and job creation in areas impacted by retired thermal generators, coal mining operations, and high fossil fuel employment.

With extensive experience in large-scale development, Rangeland expertly sources greenfield opportunities across the country. **We believe that by establishing a CUP process to allow for utility-scale solar development in AP districts, Woodbury County can utilize existing federal incentives and local energy infrastructure to create long-term tax revenue and source private capital from the renewable energy industry.** A CUP Process with common-sense and informed **guidelines approved on a case-by-case basis** can allow for future development of renewable energy projects while mitigating any adverse affects to landowners that choose not to participate.

RECEIVED FROM ROBERT WILSON, 3-25-24



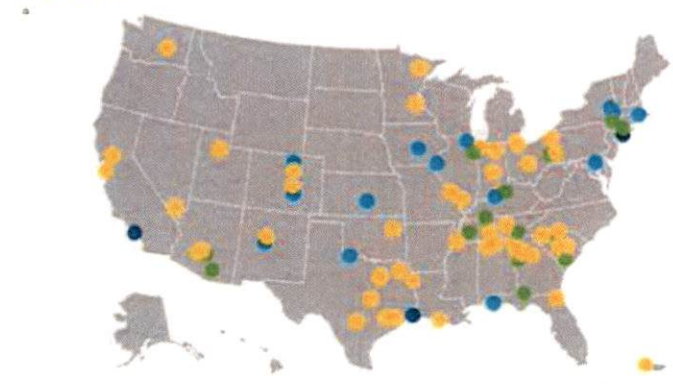
RECEIVED FROM ROBERT WILSON, 3-25-24

## 2023 Inflation Reduction Act Domestic Content Tax Credit

### New Manufacturing Facility Announcements

Shows the 17 new manufacturing facility announcements by the DOE IRIS

Legend: ● Announced ● Under Construction ● Operational



Source: DOE IRIS. Data as of 3/25/24. For more information, visit <https://www.doe.gov/energy-efficiency/energy-savings-program/energy-efficiency-research-and-innovation-program/energy-efficiency-research-and-innovation-program>

Under the Inflation Reduction Act, projects receive an additional 10% investment tax credit when the following attributes are met:

- Prevailing Wage & Apprenticeship Requirements - **high paying jobs, career growth and creation for rural communities with apprenticeship programs**
- Steel and Iron Requirements: products that are primarily steel and iron must be **100% produced in the United States**
- Manufactured Product Requirements: all components that are "manufactured products" are produced in the United States. This includes components **such as solar panels, transformers, trackers, etc.**

**By utilizing components that are produced in the United States, utility-scale solar farms are more economically competitive after achieving the Domestic Content Investment Tax Credit.** Further, utilizing steel, modules, and transformers produced in the United States mitigates supply chain risk while creating jobs and domestic innovation.

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## 2023 Inflation Reduction Act

Domestic Content Tax Credit

**First Solar to Build \$1.1 Billion US Manufacturing Facility** First Solar Inc. is investing up to \$1.1 billion to construct its fifth manufacturing facility in the USA, further expanding America's capacity to produce its own photovoltaic (PV) solar modules.

**Qcells will manufacture every part of a silicon solar panel in the United States** Qcells has announced it plans to invest more than \$2.5 billion to establish a complete solar supply chain in the United States. In addition to its existing two solar module assembly facilities in Dalton, Georgia, the company will build a new factory in the state that will manufacture 3.3 GW of silicon ingots, wafers, cells and more finished panels.

**PVH to open 6 GW U.S. solar tracker manufacturing site** PV Hardware expects the plant to be operational in 2023. This is the first in a wave of solar supply chain onshoring in the wake of the Inflation Reduction Act.

**Not only are projects more competitive after utilizing domestic content and meeting prevailing wage and apprenticeship requirements, but utilizing steel and components that are manufactured in the United States has become an industry "best practice" because of the value added with job creation and domestic supply chain reliability.**

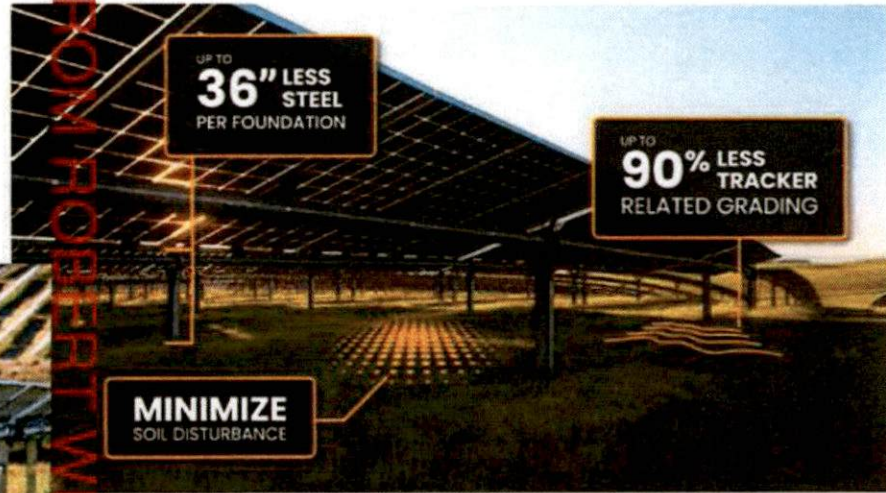


RECEIVED FROM ROBERT WILSON, 3-25-24

https://www.pv.com/press-releases/2023/03/25/first-solar-announces-new-us-manufacturing-facility

**System height and attributes:**

Modern solar energy systems are between 8'-12' max height depending on the angle of modules. **No concrete** is poured to secure our I-beams upon which modules and trackers are mounted. Minimal gravel roads would be used for typical maintenance and vegetation control.



Source: Nexttracker: <https://nexttracker.com/horizon-xtr/>

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AVICLAMP ENERGY MANAGEMENT

**Other common facilities in AP districts:**

Modern solar energy systems are similar in height to center-pivot irrigation systems common in AP districts...



... and shorter than most modern crop sprayers.

RECEIVED FROM ROBERT WILSON, 3-25-24

RECEIVED FROM ROBERT WILSON, 3-25-24

### What is "industrial"?



Woodbury County Ordinance:

#### 7. LI Limited Industrial Zoning District

- A. Purpose and Intent. The purpose of the Limited Industrial Zoning District is to provide for the orderly development of heavy commercial, warehousing and limited industrial uses. Appropriate sites for the LI Zoning District should have excellent infrastructure especially transportation access via highways.

#### 8. GI General Industrial Zoning District

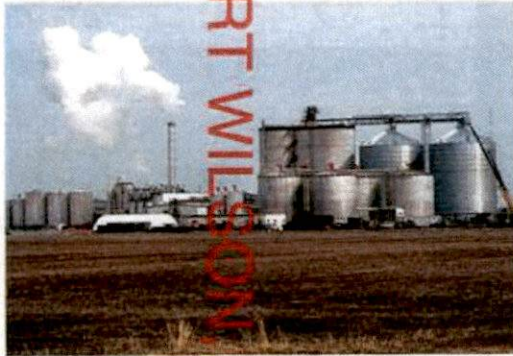
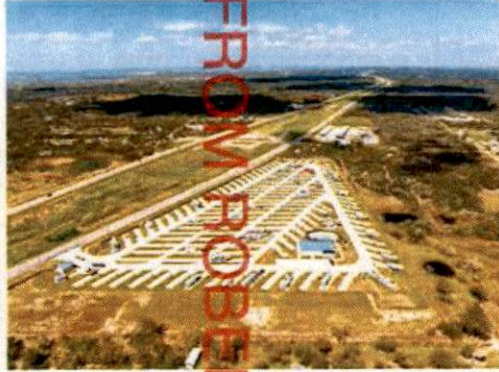
- A. Purpose and Intent. The purpose of the GI, General Industrial Zoning District is to provide for the orderly development of heavy commercial and industrial uses. Appropriate sites for the GI Zoning District should have excellent infrastructure including transportation access via highways, railroad, airports, or barge, sanitary sewerage, water service, and power supply.



WATER AND SEWERAGE DEPARTMENT

### What is "industrial"?

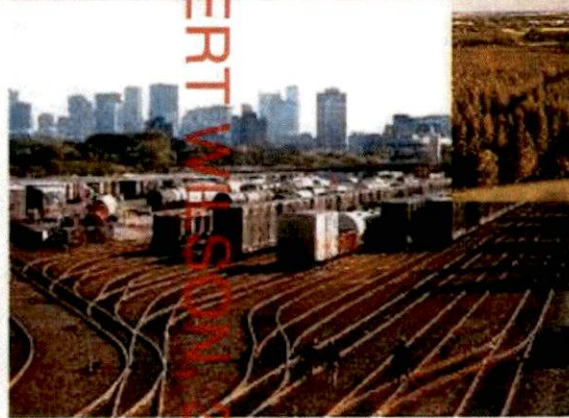
Other "Conditional" uses permitted in Woodbury County AP Districts: Racetracks, RV Parks, Laboratories, Crackers, Landfills...



RECEIVED FROM ROBERT WILSON 3-25-24

## What is "industrial"?

Other "Conditional" uses permitted in Woodbury County AP Districts: Airports, sanitation facilities, railyards, wind turbines....

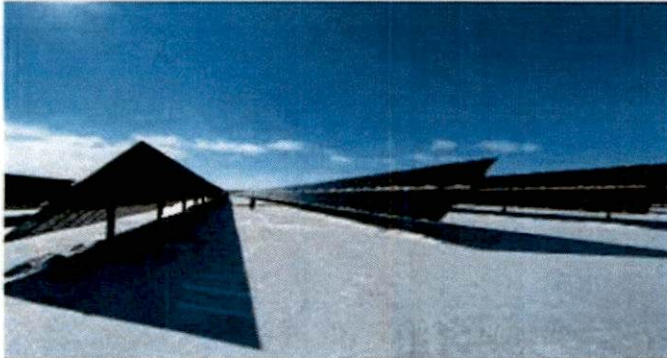


RANGELAND ENERGY MANAGEMENT

RECEIVED FROM ROBERT WILSON 3-25-24

### Utility-scale Solar Parks:

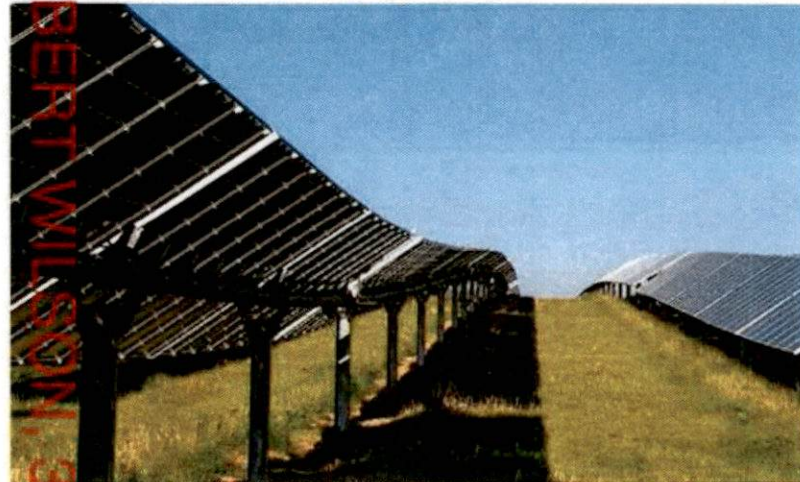
- No expansion of municipal water, sewer or electrical services required
- No installation of new paved roads required
- No emissions, waste, or noise during operations



Due to the low impact that our projects have on air quality, noise, and viewshed in areas suitable for PV development, we feel that they are better qualified for a conditional use permit in AP districts than many of the other conditional uses currently allowed in AP districts.

No Emissions  
No Noise  
No Traffic

During Operations



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RECEIVED FROM PROFFIT WILSON 3-25-24

## LAND USE & NATURAL RESOURCES

### Goals

- **Support sustainable agricultural practices.**
  - Ensure compliance with Iowa state code provisions for agriculturally-zoned property.
  - Promote the use of agricultural best management practices to reduce soil and fertilizer runoff, protect water quality, and manage animal waste.
  - Encourage participation in federal incentive programs that pay farmers and ranchers for the implementation of conservation best practices.
  - Consider the use of sliding scale zoning to prevent the fragmentation of large tracts of farmland.
  - Advocate for the preservation of agriculture in urban fringe areas not identified in the future land use map for urban growth.
  - Connect small and mid-sized farm businesses with succession planning resources and technical assistance.
  - Create a roundtable of farmers and local agricultural businesses to voice concerns and needed resources to maintain sustainable business operations.
  - Advocate for the adoption of local food purchasing policies that support public and institutional procurement from small and mid-sized local farmers.
- **Preserve environmentally sensitive lands.**
  - Consider the manner in which environmentally sensitive lands are developed, including wetlands, floodplains, prime agriculture, wildlife habitat, and open space for recreation.
  - Encourage communication and cooperation between environmental advocates and landowners related to development of sensitive lands.
  - Strengthen erosion control policies and grade and excavation limitations for development in the Loess Hills.
  - Encourage landowner participation in federal conservation easement programs that provide financial incentives for safeguarding natural resources on their property.
  - Continue adding to the county's network of parks, trails, and campgrounds.
  - Coordinate across jurisdictions to address litter and the dumping of waste.

- **Limit urban sprawl and maintain the rural character of Woodbury County.**
  - Prioritize the rehabilitation of existing housing stock and infill development before building on previously undeveloped land.
  - Consider the lifetime costs of new infrastructure development.
  - Limit interstate development to interchanges or to within city jurisdictions to preserve agricultural land and maintain scenic views of the Loess Hills.
  - Discourage leap-frog development outside of incorporated cities and limit density in unincorporated areas.
  - Guide future development of non-agricultural uses to a compact pattern by efficient and economical expansion of public infrastructure.
- **Empower landowners to be a partner in combating ecologically and economically harmful invasive and noxious species.**
  - Educate the public about effective identification, control, and disposal of invasive species.
  - Distribute information about proper disposal of woody debris and brush from private property, and how to hand a woody debris that has been impacted by invasive species such as the Emerald Ash Borer.
- **Reduce contaminants in surface water runoff.**

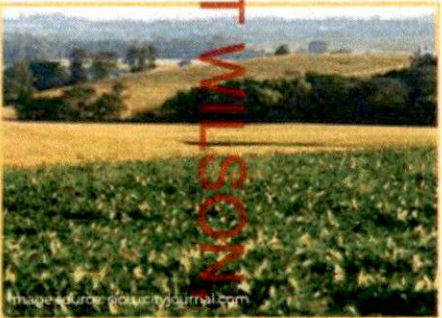


Image courtesy of woodburyjournal.com

- Provide resources for farmers to adopt best management practices.
- Provide resources for farmers to adopt BMPs such as no-till methods and cover crops, to reduce nutrient loads entering waterways as non-point source pollution. Refer to the Iowa Nutrient Reduction Strategy, and programs of the USDA's National Resources Conservation Service for farmers in need of assistance.
- Continue sensible salting policies.
- Educate residents and business owners of proper lawn fertilizer and chemical use.
- Limit the density of properties requiring individual septic systems, maintain stringent standards for system inspections, and provide resources for homeowners to assist in maintaining these systems.
- **Safeguard groundwater by identifying and limiting sources of pollution.**
  - Encourage landowners to take advantage of the Iowa DNR's wellhead protection program that provides cost-sharing and assistance for sealing unused wells, and planting nitrate-remediating plants near active wellheads.
- **Identify potential sources of air quality hazards in Woodbury County.**
  - Maintain a network of low-cost air quality monitors throughout the rural county.
- **Maintain safe distances between industrial land use activities and residential, commercial, and institutional land uses.**
  - Ensure that no residential communities are impacted or harmed by off-site industrial activities, such as trucking routes or railyard air hazards.
- **Plan for the creation and use of alternative and renewable energy sources in Woodbury County.**
  - Support landowners' individual choices to implement renewable energy infrastructure.
  - Continuously update policies that regulate renewable energy infrastructure to ensure that it does not present safety hazards and to minimize disruptions to surrounding land uses.
  - Seek federal and state funding for the expansion of electric vehicle charging infrastructure.

RECEIVED FROM ROBERT WILSON 3-25-24

### Economic Benefit of Comparable Projects

| Project                   | County          | Technology & MWac   | Docket #      |
|---------------------------|-----------------|---------------------|---------------|
| Big Dave Solar            | Howard/Mitchell | PV 500 MWac         | GCU-2019-0001 |
| Coggon                    | Linn            | PV 100 MWac         | GCU-2021-0001 |
| Creston                   | Union           | PV+Storage 75 MWac  | GCU-2022-0003 |
| Duane Arnold Solar        | Linn            | PV 50 MWac          | GCU-2021-0002 |
| Duane Arnold Solar II     | Linn            | PV 150 MWac         | GCU-2021-0005 |
| Goldfinch                 | Washington      | PV 200 MWac         | GCU-2022-0002 |
| Grand Junction            | Greene          | PV+Storage 150 MWac | GCU-2022-0001 |
| Hatchling                 | Clinton         | PV 50 MWac          | GCU-2021-0006 |
| Hawkeys                   | Clinton         | PV 200 MWac         | GCU-2021-0005 |
| Holiday Creek Solar       | Weaste          | PV 100 MWac         | GCU-2020-0001 |
| Wappelo Solar             | Louisa          | PV 100 MWac         | GCU-2019-0001 |
| Weaver                    | Lee             | PV 150 MWac         | GCU-2022-0003 |
| Worthwise Solar Farm East | Worth           | PV 140 MWac         | GCU-2019-0004 |
| Worthwise Solar Farm West | Worth           | PV 500 MWac         | GCU-2019-0007 |

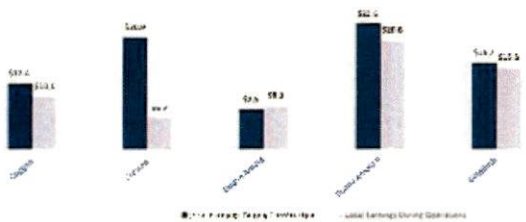


Restricting the CUP process to solely General Industrial zoning districts limits the ability of county officials to assess the potential positive impacts of utility-scale solar development that would otherwise be proposed under a broader CUP application. **By allowing for a CUP process for utility-scale solar development in AP districts, Woodbury County can assess long-term tax revenue and job creation on a case-by-case basis. A CUP Process** would also allow county officials to designate setback requirements and viewshed buffers, negotiate road-use agreements, and establish requirements for projects that alleviate the concerns of non-participating landowners. All while allowing participating landowners to see long-term lease revenue that doesn't fluctuate with commodity prices or adverse weather events – a stated component of the Land Use Goals in SIMPCO's 2040 Comprehensive Plan.

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### Economic Benefit of Comparable Projects

Local Earnings Impact (\$mm)



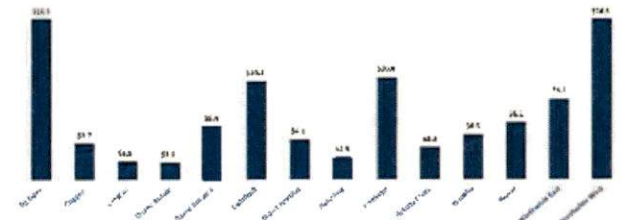
- 6 projects provided studies showing net local earnings impact and they showed an average of \$26.5mm in local earnings during construction and an average \$11.1 mm over the projects' lifetime operations
- Generally speaking, larger projects show greater local earnings impact

The ability for projects to propose job-creation, tax revenue projections, and community benefits packages to Woodbury County is preconditioned by a CUP process being permitting on lands in addition to GI districts. If projects can't demonstrate a net-benefit to the county in the CUP process, they can always be denied.

Parcels utilized in utility-scale PV projects contribute nearly 10x real and personal property tax revenue after the facility is in operation when compared to assessed taxes on agriculture parcels.

General Industrial parcels could contribute greater tax revenue to the county when developed by mixed-use or industrial developers by way of sales tax, fuel tax, etc. In addition, GI parcels are generally priced much greater, making PV development cost-prohibitive.

Property Tax Revenue (\$mm)



- The 14 projects projected an average of \$6.7mm in property tax revenue total generated over their lifetime (30-40 years) to all the local entities involved
- This averages to approximately \$236k per year in property tax revenue
- There is significant variance in the amount of property tax estimates, most of which is likely due to different project sizes and project profitability as well as local property tax rates

RECEIVED FROM ROBERT WILSON, 3-25-24

Appendix



Dear Dan Priestley,

I am writing on behalf of the City of Sioux City. The City of Sioux City opposes the proposed utility-scale solar energy system Zoning Ordinance Amendment dated March 21, 2024.

The City of Sioux City's concern is the lack of a required setback from City corporate boundaries. The City of Sioux City would support the creation of a protected area of two (2) miles from a City's corporate boundary. These protected areas would be similar to the recently approved requirements for wind turbines located in Woodbury County. The City of Sioux City also supports solar energy systems as an accessory use to industrial development.

The City of Sioux City has reviewed the draft Woodbury County Comprehensive Plan 2024, and agree with a number of the findings in the plan. Goal T5.7 states:

*Support efficient development of commercial and industrial operations in the Southbridge Interchange region.*

The City of Sioux City and Woodbury County have been working extensively to promote the Southbridge Industrial Park. The City and County have partnered to construct a new interchange that would increase access and marketability of the Southbridge area. The City is concerned that large Utility-Scale Solar Energy Systems would hamper these efforts and create an obstacle to further industrial development in the area.

The City of Sioux City supports the efforts of Woodbury County to provide renewable energy sources. However, the proposal would have a substantial negative impact on the potential growth of the City of Sioux City's industrial areas. Therefore, I urge you to consider a revised version of the proposal that includes the protected area from a City's corporate boundary. If City Staff can be of any assistance as you work on the proposal, please feel free to contact us.

Sincerely,

  
Robert E. Scott  
Mayor

RECEIVED FROM RAND FISHER, 3-25-24



# CENTER

for Infrastructure & Economic  
Development

RECEIVED FROM RAND FISHER, 3-25-24

**Renewable Energy Policy  
Resource for Local Leaders**

[www.centerforlocalpolicy.org](http://www.centerforlocalpolicy.org)

**Remarks and Input from Jonjon Infrastructure and Economic Development (*The Center*) at the  
Woodbury County Planning and Zoning Solar Ordinance Hearing March 25, 2024**

Good evening! Rand Fisher, 15237 Woodcrest Drive, Clive, Iowa. I'm speaking this evening in my role as Director of The Center for Infrastructure and Economic Development. I will leave behind additional information and contact data that will more fully introduce the mission of our organization and its focus on local preparation, planning, and policies for facilitating renewable energy. When done thoughtfully, we believe renewable energy provides financial and quality of life improvements; creates good jobs; provides farmers and landowners income diversification and security; attracts new businesses and industries; and returns millions of dollars to local government and the regional economy.

At *The Center*, we have been following your work and deliberations. Like you, we know *good policy* is essential to *good projects*. Balancing individual choices, land owner rights, and necessary community protections isn't easy. Your commitment to citizen input, as well as policy research and discovery has been truly commendable.

**RECEIVED FROM RAND FISHER, 3-25-24**

That said, this evening we're here to clearly express our concern over the current status of your ordinance restricting conditional use application and authority for utility scale solar, singularly to industrial zoned property. Industrial property typically provides for sewer, water, natural gas, multi-modal transportation, and other, often expensive infrastructure demanding services. In stark contrast, utility scale renewable energy sites do not require the investment, readiness, and marketing that accompany industrial sites and parks. We would urge you, and the Board of Supervisors to further confer with all the parties and organizations involved in county and regional economic development before restricting utility solar to this one zoning category.

By prudently allowing conditional use permits in the agricultural zoned area of the county you can avoid many issues while knowing the land will still be preserved to agriculture. Such would not be the case if land gets permanently moved to industrial. Other process inefficiencies and problems seem likely in only allowing industrial property for solar investment.



For these policy reasons, we strongly urge you to take a second look at how a limited use of agricultural property for utility scale solar energy could maintain and strengthen your agricultural heritage, quality of life, and individual freedom.

Respectfully submitted,

Rand Fisher

Center for Infrastructure and Economic Development

[rfisher@centerforpolicy.org](mailto:rfisher@centerforpolicy.org)

515 577 5900

[www.centerforlocalpolicy.org](http://www.centerforlocalpolicy.org)

RECEIVED FROM RAND FISHER, 3-25-24



**CENTER**  
for Infrastructure & Economic  
Development

## Our Mission

The Center for Infrastructure and Economic Development works with local leaders seeking to transition their communities to adapt to and realize benefits from emerging infrastructure and energy technologies. Our goal is to help counties and municipalities stay centered on their core community identities while enabling sustainable, long-term economic growth that benefits local residents and businesses.

## Our Approach

At The Center, we believe the best policies are those that balance citizen concerns, energy needs and economic benefits. These policies will help local communities grow and prosper in an era of energy diversification and help lower energy costs during economic uncertainty.

## Issues



### Supporting Communities

We believe the development of renewable energy projects provides financial and quality of life improvements for communities that sponsor them. Many major manufacturers consider access to renewable energy as a key factor in locating new facilities, providing beneficial local economic ripple effects.



### Wind Energy

We value the safe installation and operation of wind energy developments. We work with local governments and communities to develop the best policies to meet that goal while achieving emission reduction targets and delivering reliable and cost-effective energy.



### Solar Energy

We understand community concerns of large-scale solar projects and we strive to highlight policies that address them while supporting renewable solar energy to meet customer demand.

RECEIVED FROM RAND FISHER, 3-25-24

## How Renewables Can Benefit Your Community?



### New Property Tax Revenue

Money that can be used to improve local services or infrastructure

### New Jobs

Well-paid jobs in a rapidly growing industry

### New Business

Businesses are increasingly looking to locate in places with access to renewable energy

### Reduce Carbon Emissions

Meet local emission reduction targets with clean renewable energy



## Our Services



### Ordinance Database

Our ordinance database provides you with quality examples from around the country of ordinances adopted by other local governments that both protect their communities and spur economic growth. Learn from your peers and see what's best for your county, city, or town.



### Case Studies

Go beyond numbers and data to hear from real results and real people.

The Center provides case studies and real world examples of how renewable energy projects, guided by sound policy, produce benefits for constituents and the greater community. Local officials are responsible for:



### Access to Experts & Research

The Center aims to be the one stop shop for all of your policy needs. We provide your staff with access to world class experts in policy, energy, environment, and economic development. Get in the know with research from industry leading institutions about the ordinance for you.



RECEIVED FROM RAND FISHER, 3-25-24

Governors Terry Branstad and Mike Johanns serve as National Co-Chairs of the Center and State Chairs of the respective states.

**Former Iowa Governor Terry Branstad** is the nation's longest serving Governor and served as America's Ambassador to China. Governor Branstad has a strong history of working with leaders at the local, state and federal levels to advocate the benefits of renewable energy development. While Governor he signed the first renewable energy portfolio standard.

**Former Nebraska Governor Mike Johanns** has 30 years of service at every level of government, including serving as Secretary of the U.S. Department of Agriculture. Through decades of work with farmers and ranchers, Governor Johanns learned firsthand that harvesting wind and solar energy works in tandem with current agricultural methods while providing new sources of income for landowners.

## Get in Touch

Visit our website at:  
[www.centerforlocalpolicy.org](http://www.centerforlocalpolicy.org)

Call us on the phone:  
202-708-4968

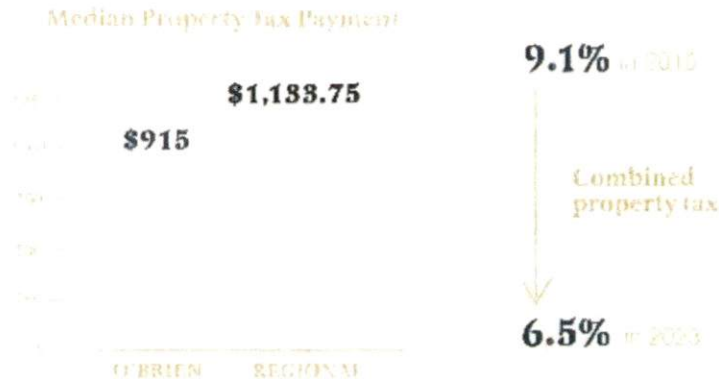
Or send us an email:  
[randfish@centerforlocalpolicy.org](mailto:randfish@centerforlocalpolicy.org)



## Reducing Taxes while Funding Additional County Services – How O’Brien County Iowa Thrives with Wind Energy

Other Iowa Counties had to raise taxes. Wind Energy  
Meant O’Brien County Could Lower Them.

RECEIVED FROM RAND FISHER, 3-25-24



[www.CenterForLocalPolicy.org](http://www.CenterForLocalPolicy.org)

**With Lower Taxes, Revenue from Wind Fills County Coffers**



**Revenue from Wind Farms Fund Essential County Services and Infrastructure**



**RECEIVED FROM RAND FISHER, 3-25-24**

**The Wind Farms Strengthened the County Budget during COVID**



Between the added valuation and increased taxes, we were able to actually reduce tax rates when many counties in Iowa were having to raise taxes immensely to cover increased costs.



**Nancy McDowell**

O'Brien County Supervisor



**O'Brien Has The 3rd Lowest Median Property Tax Payment Of Surrounding Counties**

## The Center Services -- Providing Fact-Based Expertise:



### Ordinance Database

Our ordinance database provides you with quality examples from around the country of ordinances adopted by state and local governments that promote clean energy and sustainable growth.



### Case Studies

The Center provides case studies of things that would exemplify how low-carbon energy projects can produce benefits to communities.



### Access to Experts & Research

We provide our staff with access to world-class expertise in policy, energy, environment, economic development, and research from industry leading institutions.



**Governor Terry Branstad**  
National Co-Chairman and  
Iowa State Chairman



**Governor Mike Johanns**  
National Co-Chairman and  
Nebraska State Chairman

### Get in Touch

Phone: 202-709-4008 | [www.centerforlocalpolicy.org](http://www.centerforlocalpolicy.org)

Email: [info@centerforlocalpolicy.org](mailto:info@centerforlocalpolicy.org)

@CenterLL Center of Local Policy

Center of Infrastructure and Economic Development

RECEIVED FROM RAND FISHER, 3-25-24



**CENTER**  
for Infrastructure & Economic  
Development

## The Renewable Energy Resource for Local Leaders

### Issues We Support

#### ☀️ Communities

We believe the development of renewable energy projects provides the local and quality of life improvements for communities that seek for them.

#### ☀️ Solar Energy

We strive to provide up to date information to address any concerns regarding large-scale solar projects.

#### 🌀 Wind Energy

We value the safe installation and operation of wind energy to achieve emission reduction goals and deliver reliable and cost-effective energy.

### How Renewables Can Benefit Your Community

#### New Property Tax Revenue

Money that can be used to improve local services or infrastructure.

#### Reduce Carbon Emissions

Reduce emissions to meet local reduction targets with clean renewable energy.

#### New Jobs

Well paid jobs in a rapidly growing industry.

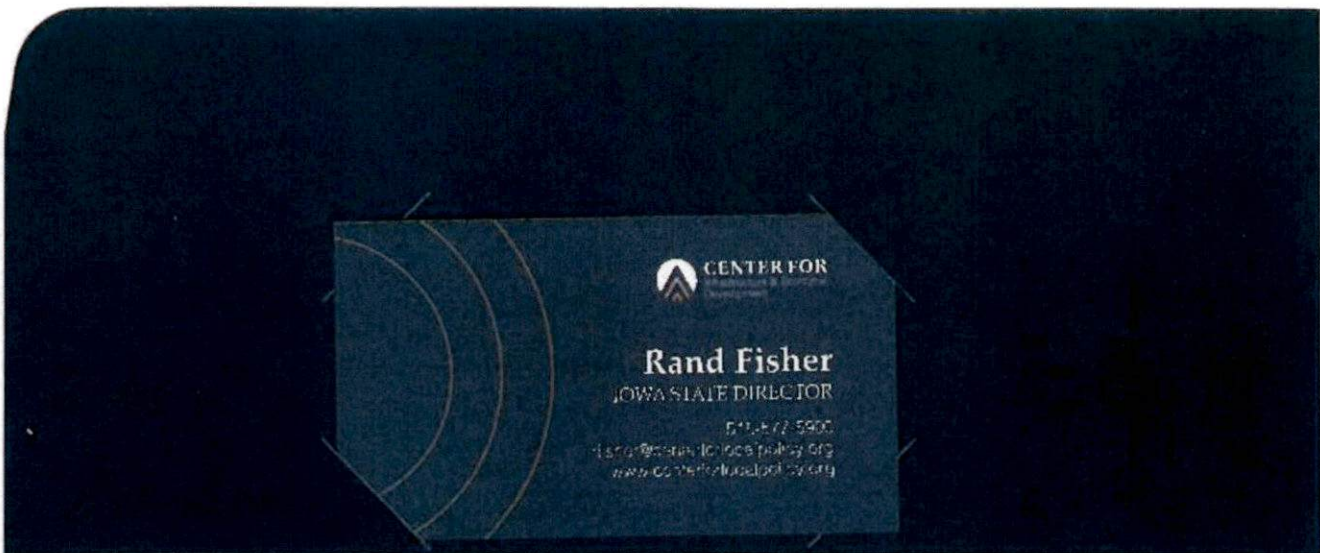
#### New Business

Attract businesses looking to locate in places with access to renewable energy.

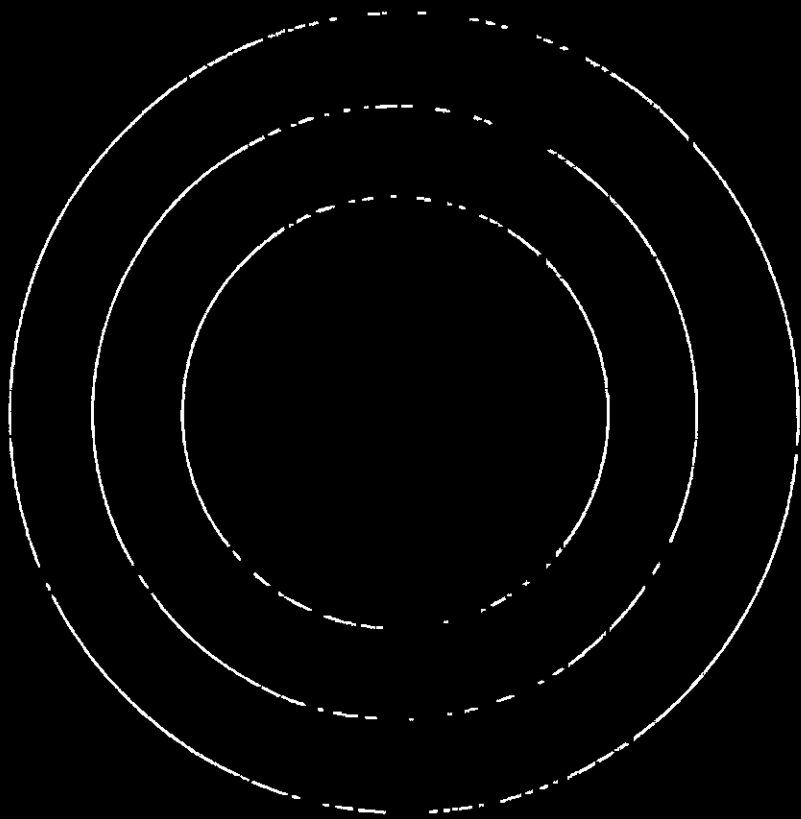
[www.centerforlocalpolicy.org](http://www.centerforlocalpolicy.org)

RECEIVED FROM RAND FISHER, 3-25-24

RECEIVED FROM RAND FISHER, 3-25-24







RECEIVED FROM RAND FISHER, 3-25-24

You can help protect Woodbury County from future alternative energy abuses such as industrial wind turbines being zoned in agricultural lands, which in our case, would allow them to be placed near our homes.

Woodbury County is in the drafting phase of our new Comprehensive Plan, which gives the *Board of Supervisors, Planning and Zoning*, and the *Board of Adjustment*, direction when considering new ordinances and projects. A company called SIMPCO is in charge of taking public comments during this drafting phase. It is **very important** that they hear from you!

Please call Erin Berzina (the planning director) and dictate to her the following changes we want to see in the Land Use & Natural Resources portion of the new Development Plan.

RECEIVED FROM DANIEL HAIR, 3-25-24



**Ask Erin to remove:** *Plan for the creation and use of alternative and renewable energy sources in Woodbury County. Support landowners' individual choices to implement renewable energy infrastructure.*

**Ask Erin to implement the following:** *Utility scale alternative and renewable energy sources should be zoned and placed in Industrial Districts in order to minimize adverse impacts to agricultural and residential living.*

- 1. Preserve agricultural land for agricultural purposes.*
- 2. Recognize that alternative and renewable energy projects should remain on industrial zoned land.*
- 3. Respect the intrinsic beauty of our Loess Hills, natural landscapes, and the great value of rural resident's quality of life.*
- 4. Utility scale alternative and renewable energy projects should be viewed as industrial activities.*
- 5. Preserve our agricultural land for future generations and protect our conservation areas for hunting, hiking, camping, and recreational use.*

RECEIVED FROM DANIEL HAIR, 3-25-24



Daniel Priestly  
Woodbury Co. Community & Economic Development  
620 Douglas St. 6th Floor  
Sioux City, IA 51101  
dpriestley@woodburycountyiowa.gov

**THIS IS NOT AN INVOICE**

## AFFIDAVIT OF PUBLICATION

#363136- Public Hearing - Solar Energy Systems

The undersigned, being first duly sworn on oath, states that Iowa Information Media Group, a corporation duly organized and existing under the laws of the State of Iowa, with its principal place of business in Sheldon, Iowa, the publisher of newspapers of general circulation as identified below, and printed and published in the city of Merville, Woodbury, Iowa, and that a legal notice, a printed copy of which is attached as Exhibit "A" and made part of this affidavit, was printed and published in the publication(s) and editions dated as follows:

|        |            |         |          |
|--------|------------|---------|----------|
| 363136 | The Record | 4/18/24 | \$130.67 |
|--------|------------|---------|----------|

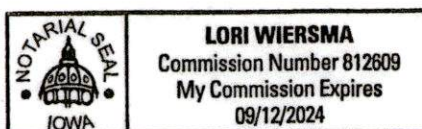
Subscribed and sworn to before me by said Myrna Wagner this 18th day of April, 2024

A handwritten signature in black ink, appearing to read 'Myrna Wagner'.

Myrna Wagner  
Management, The Record

A handwritten signature in black ink, appearing to read 'Lori Wiersma'.

Lori Wiersma  
Notary Public in and for State of Iowa



## Notice Regarding Public Hearings

### NOTICE REGARDING PUBLIC HEARINGS BEFORE THE WOODBURY COUNTY BOARD OF SUPERVISORS FOR THE CONSIDERATION OF ZONING ORDINANCE TEXT AMENDMENTS TO ADDRESS THE REGULATIONS FOR "UTILITY-SCALE SOLAR ENERGY SYSTEMS (US-SES) CONDITIONAL USE" IN THE GENERAL INDUSTRIAL (GI) ZONING DISTRICT

The Woodbury County Board of Supervisors will hold public hearings on the following item of business, hereafter described in detail, on Tuesday, April 23, 2024 at 4:45 PM, Tuesday, April 30, 2024 at 4:50 PM and Tuesday, May 7, 2024 at 4:45 PM or as soon as possible thereafter as the matter may be considered. Pursuant to Iowa Code Section 331.302, the second and third public hearings may be waived by the Board of Supervisors.

Said hearings shall be held at the Woodbury County Courthouse, 620 Douglas Street, Sioux City, Iowa, in the Board of Supervisors' meeting room in the basement of the courthouse. Persons wanting to participate in the public hearings may attend in person during the meetings to comment.

Copies of said item may now be examined in the Woodbury County Auditor's office in said Courthouse by any interested persons. You may forward your written comments by mail or email to: Woodbury County Community and Economic Development, 6th Floor, Woodbury County Courthouse, 620 Douglas St., Sioux City, IA 51101; Emails should be sent to Daniel Priestley at: dpriestley@woodburycountyiowa.gov. Only signed comments will be considered and should be received no later than 10:00 AM on Tue., Apr. 23, 2024.

All persons who wish to be heard in respect to this matter should appear to participate in the aforesaid hearing.

#### Item One (1)

### SUMMARY OF ZONING ORDINANCE TEXT AMENDMENTS FOR PROPOSED UTILITY-SCALE SOLAR ENERGY SYSTEMS (US-SES) CONDITIONAL USE IN THE WOODBURY COUNTY ZONING ORDINANCE.

**SUMMARY: Amendment #1** – To add "Section 5.08. Utility-Scale Solar Energy Systems (US-SES) Conditional Use...83" on Page iii of the Woodbury County Zoning Ordinance in the "Table of Contents" under the "ARTICLE 5 SUPPLEMENTAL REQUIREMENTS" heading after Section 5.07. Special Event – RAGBRAI and Special Event – RAGBRAI with Alcohol...81."

**SUMMARY: Amendment #2** – To add a new section to the Woodbury County Zoning Ordinance beginning

on page 83 entitled "Section 5.08: Utility-Scale Solar Energy Systems (US-SES) Conditional Use" to regulate the conditional use permitting of "Utility-Scale Solar Energy Systems" within the General Industrial (GI) Zoning District. The purpose of this Section is to regulate the construction, installation, and operation of Utility-Scale Solar Energy Systems (US-SES) in Woodbury County, in a manner that promotes economic development, protects property values, and ensures the protection of health, safety, and welfare while also avoiding adverse impacts to important areas such as agricultural lands, conservation lands, and other sensitive lands. This Ordinance and its provisions shall not apply to those properties or projects occurring within the incorporated cities of Woodbury County. The ordinance sets the requirements for the conditional use permitting of the US-SES including subsections that include Applicability, Conditional Use Permit (CUP), Application Materials, Requirements, Permitting Process, US-SES Building Permit Requirement, Woodbury County Road Use and Repair Agreement, Woodbury County Public Drainage System Protection Agreement, Operation and Maintenance Plan, Decommissioning, Abandonment, Financial Security, and Site Restoration Plan, Soil Erosion and Sediment Control Plan, Emergency Response Plan, Future Operators, Enforcement, Penalty, Severability, and Effective Date.

**SUMMARY: Amendment #3** – Following the addition of Section 5.08, to appropriately renumber the subsequent page numbers for the "ARTICLE 6. DEFINITIONS" and Section 6.01: Construction of Terms. and Section 6.02: Definitions and to appropriately change the page numbers in the Table of Contents on page iii to the correct page numbers.

#### ENFORCEMENT PROVISIONS:

Section 5.08

16. Enforcement

A. Violations

(1) It shall be unlawful to locate, erect, construct, reconstruct, alter, repair, convert, or maintain any building, land, or structure, or use any land, building or sign in violation of any regulation in, or any provisions of, this Section, or any amendment or supplement thereto, lawfully adopted by the County Board of Supervisors; or to fail to comply with any requirement or condition imposed by the Board of Adjustment.

(2) Any person, firm or corporation found to be in violation of any provision of this Section shall be served written notice by the Zoning Director or designee stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. Such person shall, within the period of time stated in the notice, take all necessary action to correct the violation and shall permanently cease such violation.

(3) Each day during which the violation continues shall be a separate violation.

(4) A Notice of Violation may be served as a first attempt to gain compliance. If compliance is not met with the sending of a Notice of Violation then a Citation shall be served on the property owner. The offender shall be provided a reasonable time, (not to exceed) thirty (30) days in which to correct the violation. A violation which occurs for a short period of time is observed and there is no other reasonable means for ensuring compliance, be served a citation immediately upon observation of a violation.

(5) If the violation is not corrected, Woodbury County may seek such remedies, civil or criminal as are authorized by law.

#### 17. Penalty

A. The Zoning Director or designee may assess the maximum civil penalty per day for each violation allowed upon each violation, as outlined in the Woodbury County Zoning Ordinance that continues to exist.

#### B. Remedies

(1) If work is being done in violation of any provision of this Section and continues beyond the date of notice and the work is not being done to correct a violation, an immediate stop-work order shall be issued by the Zoning Director. Such order shall be given to the owner of the property, the authorized agent(s), or the person or persons in charge of the activity on the property and shall be posted upon the property. The stop work order shall state the conditions under which work may be resumed.

(2) Violations by an individual or property owner will prohibit any additional permits for that property or other properties to be issued unless said permits will remedy abatement of the violation. Stop work orders will be placed on any work on other property in which the violator is operating or owns.

(3) If the Zoning Director determines that a violation is an immediate threat to public safety or welfare and the property owner or operator has failed to take corrective action within the time period stated in the notice provided, Woodbury County may take such remedial action as is necessary to protect the public safety or welfare. Such remedial action may include entering the property where a violation is present, correcting the violation, and placing a lien on the property to secure payment and reimbursement of any and all expenses incurred by Woodbury County to correct such violation.

(4) Woodbury County may seek other such remedies, civil or criminal as are authorized by law.

#### EFFECTIVE DATE:

This Ordinance shall be in effect after its final passage, approval, and publication as provided by law.

Published in The Record  
Thursday, April 18, 2024  
(#363136)

**FINAL REPORT**

**A WOODBURY COUNTY ZONING COMMISSION RECOMMENDATION**

**Utility-Scale Solar Energy System (US-SES) Conditional Use  
in the General Industrial (GI) Zoning District  
in Unincorporated Woodbury County, Iowa**

**April 18, 2024**

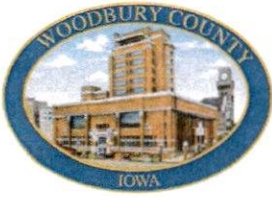
**Woodbury County Zoning Commission  
PLANNING & ZONING STAFF  
Woodbury County Community & Economic Development (Planning and Zoning)**

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## Letter from the Zoning Commission



### WOODBURY COUNTY ZONING COMMISSION

WOODBURY COUNTY COURTHOUSE  
620 DOUGLAS STREET  
SIOUX CITY, IA 51101

Woodbury County Board of Supervisors  
620 Douglas Street  
Sioux City, Iowa 51101

RE: Zoning Commission Utility-Scale Solar Energy System (US-SES) Zoning Ordinance Text Amendment Recommendation

Dear Board of Supervisors:

Over five months ago, we began an intricate process to address the direction given to us by the Board of Supervisors (BoS) on August 8, 2023 and again on September 25, 2023 for a new proposed utility-scale solar ordinance. After eight public meetings including two works sessions, and six public hearings of collecting comments from Woodbury County residents and other stakeholders, we can now report that the Zoning Commission has approved a recommendation to the BoS to address the permitting requirements for Utility-Scale Solar Energy Systems (US-SES) in the unincorporated areas of Woodbury County at the March 25, 2024 meeting. The recommendation was approved with a 4-1 vote.

The Commission recommends for US-SES to continue to be regulated with a conditional use permit application within General Industrial (GI) Zoning District only. The recommendation includes a process that involves the Zoning Commission, Board of Adjustment, and the Board of Supervisors. The Commissioners are tasked to review the conditional use permit application, the Board of Adjustment would consider the application for possible approval, and the Board of Supervisors would consider the building permit application(s). Our recommendation contains additional requirements including a road use agreement, a public drainage system protection agreement, an operation and maintenance plan, decommissioning, soil erosion and sediment control, emergency response, enforcement and other requirements governing the application process including a one (1) mile public notification area.

For further context regarding our proceedings, access to our meeting information including agendas, backup materials, minutes, and audio are available through the Woodbury County website at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/). The Commission met for either a public hearing or work session on the following dates: September 11, 2023, September 25, 2023, October 16, 2023 (Work Session), October 23, 2023, November 27, 2023, January 17, 2024 (Work Session), January 22, 2024, and March 25, 2024.

Please refer to the draft copy of the Zoning Commission minutes from March 25, 2024 for further details about the Commission's recommendation.

Dated this 8 day of April, 2024

  
Christine Zellmer Zant, Chair  
Woodbury County Zoning Commission

**Recommended Zoning Ordinance Text Amendment**

WOODBURY COUNTY, IOWA

ORDINANCE NO. \_\_\_\_

AN ORDINANCE AMENDING THE TEXT OF THE WOODBURY COUNTY ZONING ORDINANCE TO AMEND PORTIONS OF: THE TABLE OF CONTENTS; TO ADD A NEW SECTION ENTITLED SECTION 5.08: UTILITY-SCALE SOLAR ENERGY SYSTEMS (US-SES) CONDITIONAL USE; AND TO INCLUDE THE RENUMBERING OF PAGE NUMBERS.

**WHEREAS**, WOODBURY COUNTY, IOWA DESIRES TO REGULATE ALL UTILITY-SCALE SOLAR ENERGY SYSTEMS WITHIN THE UNINCORPORATED AREAS OF WOODBURY COUNTY, IOWA; AND

**WHEREAS**, THE WOODBURY COUNTY BOARD OF SUPERVISORS DESIRES TO REGULATE THE CONSTRUCTION, INSTALLATION, AND OPERATION OF UTILITY-SCALE ENERGY SYSTEMS IN A MANNER THAT PROMOTES ECONOMIC DEVELOPMENT, PROTECTS PROPERTY VALUES, AND ENSURES THE PROTECTION OF THE HEALTH, SAFETY AND WELFARE OF ALL INHABITANTS OF WOODBURY COUNTY WHILE ALSO AVOIDING ADVERSE AND DETRIMENTAL IMPACTS TO RURAL RESIDENTS, THEIR ECONOMIES, UNSIGHTLINESS ON AGRICULTURAL LANDS, CONSERVATION LANDS AND OTHER SENSITIVE LANDS; AND

**WHEREAS**, IN ADDITION TO HOME RULE AUTHORITY, THE WOODBURY COUNTY BOARD OF SUPERVISORS IS EMPOWERED TO REGULATE THE ORDERLY DEVELOPMENT AND PROPER USE OF SOLAR ENERGY BY ESTABLISHING CERTAIN PROCEDURES FOR OBTAINING ACCESS TO SOLAR ENERGY UNDER CERTAIN PROVISIONS OF IOWA CODE CHAPTER 564A; AND

**WHEREAS**, THE WOODBURY COUNTY BOARD OF SUPERVISORS HAS TAKEN INTO CONSIDERATION THE THOUGHTS, BELIEFS, SUGGESTIONS AND VIEWS OF WOODBURY COUNTY CITIZENS AND RESIDENTS IN THE DEVELOPMENT OF THIS ORDINANCE.

**NOW**, THEREFORE, BE IT ENACTED BY THE BOARD OF SUPERVISORS OF WOODBURY COUNTY, IOWA THAT THE BELOW ZONING ORDINANCE LANGUAGE AMENDMENTS BE MADE:

**Amendment #1 –**

In the Table of Contents, on page iii: To add "Section 5.08: Utility-Scale Solar Energy Systems (US-SES) Conditional Use" under the Article 5, Supplemental Requirements category ..... 83.

In the Table of Contents, on page iii: To repeal and replace "Section 6.01: Construction of Terms ..... 83" with "Section 6.01: Construction of Terms ..... 97".

In the Table of Contents, on page iii: To repeal and replace "Section 6.02: Definitions ..... 83" with "Section 6.02: Definitions ..... 97".

#### **Amendment #2 –**

Following the addition of Section 5.08: Utility-Scale Solar Energy Systems (US-SES) Conditional Use, to appropriately renumber the subsequent page numbers for ARTICLE 6. DEFINITIONS, Section 6.01: Construction of Terms, and Section 6.02: Definitions.

To repeal and replace the start page of "Article 6. Definitions" from page 83 to page 97.

To repeal and replace the start page of "Section 6.01: Construction of Terms" from page 83 to page 97.

To repeal and replace the start page of "Section 6.02: Definitions" from page 83 to page 97.

#### **Amendment #3 –**

Beginning on page 83, to add the following section to be known as Section 5.08: Utility-Scale Solar Energy Systems (US-SES) Conditional Use.

#### **Section 5.08: Utility-Scale Solar Energy Systems (US-SES) Conditional Use**

1. **Statement of Intent.** The purpose of this Section is to regulate the construction, installation, and operation of Utility-Scale Solar Energy Systems (US-SES) in Woodbury County, in a manner that promotes economic development, protects property values, and ensures the protection of health, safety, and welfare while also avoiding adverse impacts to important areas such as agricultural lands, conservation lands, and other sensitive lands.

If this Section conflicts with any other provision of the Woodbury County Zoning Ordinance, this Section shall control.

2. **Definitions.** For use in this Section, certain terms or words used herein shall be interpreted or defined as follows:
  - A. **Applicant.** The person or entity submitting the application under this Section, which is normally expected to be the owner or operator of a US-SES, or the owner of the US-SES development.
  - B. **Conditional Use Permit (CUP).** A use that is allowed in conformance with the regulations of the zoning district in which it is located, if and only if, approved by the Board of Adjustment as provided in subsection 2.02-9.

A CUP issued by the Woodbury County Board of Adjustment is required before associated building permit(s) can be issued in unincorporated Woodbury County.

- C. **Concentrating Solar Power Systems.** A system that generates solar power by using mirrors, lenses, or similar reflecting surfaces to concentrate sunlight collected over large areas onto smaller focal areas. Concentrating solar power systems are prohibited.
  - D. **Feeder Circuits/Lines.** A power line or network of lines used as a collection system that carries energy produced by a solar energy system to an interconnection point like a substation. Feeder circuits are most often placed underground.
  - E. **Glare/Glint.** Light reflected off of a surface.
  - F. **Ground-Mounted System.** A system where a rack(s) of panels is mounted on concrete posts or poles anchored in the ground and are wired or plumbed to an adjacent home or structure.
  - G. **Interconnection.** Link between a generator of electricity and the electric grid. Interconnection typically requires connection via infrastructure such as power lines and a substation, as well as a legal agreement for the project to be connected to the grid.
  - H. **Module.** An individual unit comprised of multiple photovoltaic (PV) cells, with multiple modules used in a solar energy system.
  - I. **Mounting.** The method of anchoring solar energy system modules to the ground or a building.
  - J. **Non-Participating Landowner.** A landowner who has not signed a binding agreement with the Applicant/Developer/Owner of the US-SES project.
  - K. **Occupied Residence.** A building designed for, and occupied on a regular basis (50% or more of the year, and is currently occupied or has been occupied in the last two years) as an abode.
  - L. **Operator.** The entity or individual that operates a US-SES.
  - M. **Owner.** The entity or entities with an equity interest in the US-SES, including their respective successors and assigns. Owner does not mean the landowner from whom a lease, easement, or other property right is acquired for locating the US-SES unless the landowner has an equity interest in the US-SES.
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- N. **Participating Landowner.** A landowner under lease, easement or other binding property agreement with the applicant, developer, or owner of the US-SES.
- O. **Photovoltaic (PV) Cells.** Semiconductors which generate electricity whenever light strikes them; generally grouped on panels.
- P. **Project Area.** The geographic area encompassing all components of a US-SES project, including border fencing.
- Q. **Property Line.** The legal boundary between separately owned real estate parcels, and between privately owned parcels and public owned land or public right of way.
- R. **Setback.** The minimum distance from a certain object, structure or point to the edge of any part or component of the US-SES.
- S. **Solar Array.** Equipment used for private or utility scale solar energy systems. Can be mounted on primary or accessory structures, on a racking system affixed to the ground, or integrated as a mechanical or structural component of a structure.
- T. **Solar Collector.** A device, structure or part of a device or structure for which the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical, or electrical energy.
- U. **Solar Easement.** An easement created to protect a solar project from encroachment by adjacent properties which would shade panels. See Iowa Code 564A.
- V. **Solar Energy.** Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.
- W. **Solar Energy Systems, Private.** An energy system that converts solar energy to usable thermal, mechanical, chemical, or electrical energy primarily for immediate onsite use that already has an existing principal use on the same parcel. Solar Energy Systems, Private shall be allowed only as a non-utility scale accessory use to a permitted principal use. Surplus energy sold back to a utility must comply with all applicable laws including but not limited to Section 199, Chapter 15.11(5) of Iowa Administrative Code, and all requirements of the Iowa Utilities Board. Systems can be mounted on primary or accessory structures, on a racking system affixed to the ground, or integrated as a mechanical or structural component of a structure.

- X. **Solar Energy Systems, Utility Scale (US-SES).** An energy system, commonly referred to as a “solar farm”, which converts solar energy to useable thermal, mechanical, chemical, or electrical energy primarily for transmission through the electrical grid for offsite use or wholesale and/or retail sale. Systems can be mounted on primary or accessory structures, on a racking system affixed to the ground, or integrated as a mechanical or structural component of a structure. Utility scale solar energy systems do not include concentrating solar power (CSP) systems.
  - Y. **Solar Panel.** 1) A grouping of photovoltaic cells used to generate electricity directly from sunlight. A grouping of these panels is called an array. 2) A panel circulating water or other liquid through tubes to collect, transfer and store the sun’s heat for domestic hot water and building heat.
  - Z. **Solar Storage Battery.** A device that stores energy from the sun and makes it available in an electrical form.
  - AA. **Solar Storage Unit.** A component of a solar energy device that is used to store solar-generated electricity or heat for later use.
  - BB. **Substation.** A facility that converts electricity produced by a generator like a solar energy system to a higher voltage, allowing for interconnection to high-voltage transmission lines.
  - CC. **System Height.** The height of a solar energy system, usually referring to ground mounted systems. Total system height is the measurement from the ground to the top of the mounting or modules associated with a system.
  - DD. **Transmission lines.** Power lines used to carry electricity from collection systems or substations over long distances.
3. **Applicability.** Section 5.08 applies to US-SES within unincorporated Woodbury County. It shall be unlawful to construct, erect, install, alter, locate, or operate any US-SES within unincorporated Woodbury County, without first obtaining a Conditional Use Permit from the Woodbury County Board of Adjustment.
- At all times, US-SES shall comply with the terms of the Conditional Use Permit, the agreements and plans associated with the Conditional Use Permit, and the Woodbury County Zoning Ordinance.
4. **Conditional Use Permit (CUP).** US-SES shall require a Conditional Use Permit within the General Industrial (GI) Zoning District. US-SES is prohibited in all other Zoning Districts in Woodbury County. This use shall be subject to the procedures and standards included in this Ordinance. Concentrating solar power systems are prohibited.
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5. **Application Materials.** In addition to all submittal requirements of a conditional use application, the application for a US-SES installation shall include the following information on the site plan or in narrative form, supplied by the utility scale installation owner, operator or contractor installing the structures:
- A. The name and address of the applicant, as well as the proposed owners or operators of the project, including the contact information (name, address, telephone and email) of their authorized representatives. The application shall designate the entity who requests the Conditional Use Permit.
  - B. A certified abstractor listing of the names and mailing addresses of all owners of real property lying within one (1) mile from the subject property shall be provided with the application.
  - C. Legal descriptions of all properties, leased and/or owned, identified to be part of the project area.
  - D. Location and size of existing and proposed structures.
  - E. Location and layout of vehicle parking, loading and queuing areas, street accesses, and driveways.
  - F. Number, location and spacing of solar panels/arrays.
  - G. Planned location of underground or overhead electric lines.
  - H. Project development timeline which indicates how the applicant will inform adjacent property owners and interested stakeholders in the community.
  - I. Pre-construction survey of nearby roads that may be impacted by construction of the facility.
  - J. Flood hazard area designations
  - K. Interconnection Agreement.
  - L. Operation and Maintenance Plan.
  - M. Decommissioning Plan.
  - N. Soil Erosion and Sediment Control Plan
  - O. Setback analysis showing the minimum setback requirements, or any agreed on greater setback provisions, are met by the project.
-

P. Emergency Response Plan

Q. Such other information as the Zoning Director may require to determine compliance with the provisions of this Ordinance.

6. **Requirements.** US-SES are subject to the following requirements:

A. No application for a US-SES Conditional Use Permit shall be granted without first submitting all required information and documentation, and paying all associated fees to the County.

B. **Setbacks.** The Zoning District Dimensional Standards of Section 3.04 shall apply.

C. **Height.** A solar panel shall be no less than two (2) feet (Twenty-Four inches) off the ground. A solar panel shall not exceed twenty (20) feet in height above grade at maximum tilt of the solar panel(s).

D. **Screening.** Project shall provide vegetative screening for all residences within 200 feet of the project boundaries.

(1) Applicant shall submit a screening plan for each residence within 200 feet of the project boundaries.

(2) Screening may be waived by the owner of a residence. Waiver must be in writing and recorded.

(3) Screening may be waived by the Board of Adjustment upon submission of a viewshed study from the applicant demonstrating that the project is not within the viewshed of the dwelling due to topography, existing vegetation, or other factors. The point of reference used in the viewshed study shall be as close to the dwelling as possible.

(4) Any vegetative screening within the project boundaries shall be maintained throughout the life of the project by the project owner. Any screening on the dwelling property shall be maintained by the project owner for no less than twelve months.

(5) Deciduous trees shall have a minimum caliper of 1.5" when planted, shall be at least six (6) feet tall within three (3) years of installation, and shall have a minimum mature height of twelve (12) feet.

(6) Screening plans shall use no less than two varieties of tree.

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- E. **Utility connections.** Reasonable efforts shall be made to place all utility connections from the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions or requirements.
  - F. **Glare minimization.** All solar panels must be constructed to minimize glare or reflection onto adjacent properties and adjacent roadways and must not interfere with traffic, including air traffic, or create a safety hazard.
  - G. **Appurtenant structures.** All appurtenant structures shall be subject to bulk and height regulations of structures in the underlying zoning district.
  - H. **Floodplain considerations.** Utility scale solar installations are considered to be maximum damage potential structures and facilities for purposes of the floodplain district regulations.
  - I. **Fencing/security.** A security fence must be installed along all exterior sides of the utility scale solar installation and be equipped with a minimum of one gate and locking mechanism on the primary access side. Security fences, gates and warning signs must be maintained in good condition until the US-SES installation is dismantled and removed from the site.
  - J. **Compliance with local, state and federal regulations.** US-SES installations shall comply with applicable local, state and federal regulations.
  - K. **Submittal Requirements.** In addition to the requirements in Section 2.02.9, the applicant shall submit all required materials contained in this Section at the time of the application for a Conditional Use Permit.
7. **Permitting Process.** In addition to the items required for a conditional use permit application in subsection 2.02-9. C, the process for a US-SES conditional use permit shall include the following:
- A. Application for approval of a permit to construct a US-SES shall be submitted to the Zoning Director on a permit application form provided by the Zoning Director and must include any additional information determined by the Zoning Director as necessary to demonstrate compliance with all applicable codes and requirements, along with the application fee, as established by resolution of the Board of Supervisors.
  - B. As conditions for approval, the following agreements must be executed with Woodbury County:
    - (1) Decommissioning, Abandonment, Financial Security, and Site Restoration Plan

- (2) Woodbury County Road Use and Repair Agreement
- (3) Woodbury County Public Drainage System Protection Agreement

- C. **Distribution.** The Zoning Director shall distribute copies of the application materials to the Planning and Zoning Commission and to the appropriate County departments, and public utilities for comment.
  - D. **Staff Review.** The appropriate county departments shall review the application and prepare reports of their findings and comments to the Planning and Zoning Commission prior to the review.
    - (1) To assure conformance with the goals and objectives of the county's comprehensive plan, the Zoning Director may make recommendations for conditions for approval including use restrictions required to preserve and improve the peace, safety, health, welfare, comfort, and convenience of the future residents of the subdivision and neighboring properties.
  - E. All US-SES permit applications shall require review by the Woodbury County Planning and Zoning Commission and approval by the Woodbury County Board of Adjustment following the standards and procedures for Conditional Uses as outlined in Section 2.02-9 of the Woodbury County Zoning Ordinance and shall follow the same schedule for submitting applications.
  - F. **Expiration.** A Conditional Use Permit issued by the Board of Adjustment for a US-SES shall expire at the end of one (1) year from issuance if a US-SES building permit has not been obtained from the Board of Supervisors as provided in subsection 5.08-8. After expiration, a new US-SES conditional use permit application would have to be filed and approved prior to application for a US-SES building permit.
8. **US-SES Building Permit Requirement.** In addition to the requirements of the Conditional Use Permit, each US-SES project must obtain an approved US-SES Building Permit from the Board of Supervisors prior to the start of any construction. An approved US-SES Building Permit shall be valid for one (1) year from the date of its issuance. The Zoning Department will supply a US-SES Building Permit application form to be used by any person or entity seeking to construct a US-SES project. The application shall contain:
- A. The name and address of the applicant, as well as the proposed owners or operators of the project, including the contact information (name, address, telephone and email) of their authorized representatives. The application shall designate the entity who will be the permit holder of the US-SES Building Permit.
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- B. A Final Development Plan for the project, which shall contain aerial images of the entire proposed project area, showing the proposed location of the solar arrays, private access roads, feeder lines, substations and all other components of the project. The Plan shall show property lines and setback distances, as well as all public roads and public drainage district facilities (i.e. – ditches and underground tiles) in the project area. The Plan shall also identify any wind turbines, communication antennae, and airports (including private airstrips) located within five (5) miles of the project area; city boundaries within two (2) miles; and all lakes, permanent water courses and Public Conservation Areas within three (3) miles of the project area boundaries. In providing the above information, the Plan shall use a GPS coordinate system that is compatible with the County's geographical information and data systems. The Plan shall also include a mailing address for the owner of each communication antenna identified.
- C. Project details, including the name of the project, the final number of arrays, generating capacity, and all the requirements of the Conditional Use Permit application as included in this Section.
- D. Approval. Approval of the US-SES building permit by the Board of Supervisors shall be based upon findings that the proposed use of the site and the proposed location and dimensions of the structure(s) on the subject parcel(s) of real property comply with the zoning provisions of this ordinance, the conditions of the Conditional Use Permit and that no longer than one year has passed since the issuance of the Conditional Use Permit. The Board of Supervisors must also ensure that agreements and plans as outlined in this Section are in place as part of the building permit issuance process.
- E. Denial. If a building permit application is denied, the application shall be returned to the applicant with a written explanation of the reasons for the denial.
- F. Expiration. A building permit shall expire and become void if the construction or change in use of the property has not commenced within one year after issuance. If necessary, additional one-year renewals may be approved at the sole discretion of the Board of Supervisors.

#### **9. Woodbury County Road Use and Repair Agreement**

- A. **Roads.** Applicants shall adhere to the Woodbury County Road Use and Repair Agreement, and in doing so, shall identify all roads to be used for the purpose of transporting solar components, substation parts, cement, and/or equipment for construction, operation or maintenance of the solar installation and obtain applicable weight and size permits from the impacted road authority prior to construction.

- B. **Existing Road Conditions.** Applicants shall conduct a pre-construction survey, in coordination with the impacted local road authorities to determine existing conditions of roads identified pursuant to Section 6.1. The survey shall include photographs or video and written documentation of the condition of the identified road facilities. The applicant is responsible for on-going road maintenance and dust control measures identified by the County Engineer during all phases of construction.

#### 10. **Woodbury County Public Drainage System Protection Agreement**

- A. Applicants shall adhere to the Woodbury County Public Drainage System Protection Agreement, and in doing so, shall be responsible for immediate repair of damage to public drainage systems stemming from construction, operation or maintenance of the US-SES (where required).

#### 11. **Operation and Maintenance Plan.** The applicant shall submit a plan for the operation and maintenance of the solar installation including all necessary services, frequency of service, preventative maintenance measures, and monitoring. The operation and maintenance plan should include at a minimum:

- A. Preventative maintenance practices and schedules for all on-site equipment including but not limited to: inverters, panels, equipment pads, tracking systems, transformers, access entrances, internal roads, gates, fencing, security systems, stormwater management installations.
- B. Annual reporting and verification to the Zoning Director on the status or changes to ongoing service schedule.
- C. Schedule of all other monthly, annual, or semiannual reporting requirements for other submittals including: agricultural impact mitigation plan, decommissioning plan, and vegetation management plan.
- D. Noise. No operating solar energy equipment shall produce noise exceeding any of the following limitations, with the exception of initial construction and routine maintenance. Adequate setbacks and effective noise mitigating equipment shall be used to comply with these limitations:
  - (1) An hourly average noise level of fifty-five (55) dBA during the day (between sunrise and sunset), and an hourly average noise level of fifty (50) dBA at night (between sunset and sunrise), as measured at the occupied dwelling of any adjacent property containing an existing residential structure. If the ambient sound pressure level exceeds 55 dBA during the day or 50 dBA at night, the standard shall be the ambient Leq (equivalent continuous sound pressure level) plus 5 dBA.

- (2) A baseline noise evaluation shall be completed by a board certified professional by the Institute of Noise Control Engineering (INCE), or an appropriately licensed Professional Engineer (PE) prior to construction of the proposed solar site.
  - (3) A post-construction noise evaluation shall be performed by a third-party board certified professional by the Institute of Noise Control Engineering (INCE), or an appropriately licensed Professional Engineer (PE) following commencement of commercial operation of the project to verify compliance with the County's standards.
  - (4) The owner(s) of adjacent properties within 500 feet may voluntarily agree, by written and recorded waiver, to a higher noise level.
- E. Issue resolution protocols. Contact information for responsible party to address issues that may arise (damaged equipment causing excessive noise, etc.).
  - F. Disposal/recycling plan for damaged or obsolete facility equipment or hazardous waste. No storage of inoperable or obsolete equipment shall be allowed to remain on-site. Site operator shall be responsible for the cleanup of debris related to storm damage.
  - G. Cleaning chemicals and solvents. During operation of the proposed installation, all chemicals or solvents used to clean photovoltaic panels should be low in volatile organic compounds and the operator should use recyclable or biodegradable products to the extent possible. Any on-site storage of chemicals or solvents shall be referenced.
  - H. Maintenance, repair, or replacement of facility. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to emergency response officials. Any retrofit, replacement or refurbishment of equipment shall adhere to all applicable local, state and federal requirements.
  - I. Repowering. Proposals to replace more than twenty five percent (25%) of the panels in a facility within a twelve (12) month period will be required to submit a new Conditional Use Permit application based on the requirements in this ordinance for review and approval. A repowering event does not include replacement of panels in previously approved locations due to weather damage, equipment failure, or a force majeure event.

- (1) The plan shall include updated information for some or all of the reports and plans required by this section, as determined necessary by the Zoning Director.
- (2) The Board of Adjustment shall review and approve, conditionally approve, or deny the repowering plan as per the requirements of Sections 2.02.9 and 5.08.

**12. Decommissioning, Abandonment, Financial Security, and Site Restoration Plan.**

- A. The application must include a decommissioning plan that describes the following:
    - (1) The anticipated life of the utility scale solar installation.
    - (2) The anticipated manner in which the project will be decommissioned, including plans to recycle components and dispose of any hazardous materials.
    - (3) The anticipated site restoration activities.
    - (4) The estimated decommissioning costs in current dollars.
    - (5) The method for ensuring that funds will be available for decommissioning and restoration of the site.
  - B. Decommissioning cost considerations. The applicant shall provide the estimated cost of decommissioning, excluding the salvage value, should be presented from both the solar applicant and from an independent third-party engineer, at the recommendation of the Woodbury County Engineer, at the expense of the applicant.
    - (1) Removal of any hazardous materials at the facility, as determined by a Toxic Characteristic Leaching Procedure (TCLP) or other similar test approved by Woodbury County and as described in the facility's Operations and Maintenance Plan. TCLP testing shall be performed prior to any ground disturbance at the project site.
    - (2) Salvage value shall not be included in the cost estimate.
    - (3) The estimated decommissioning cost must be updated every 5 years of the project using the same process as the initial decommissioning cost process.
  - C. Site restoration activities. Restoration activities shall include, but not be limited to, the following:
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- (1) Removal of all components and equipment.
  - (2) Soil in project area shall be decompacted and seeded with a cover crop, unless otherwise specified in the approved vegetation plan and/or agricultural impact mitigation plan.
  - (3) For any part of the energy project on leased property, the plan may incorporate agreements with the landowner regarding leaving access roads, fences, gates or repurposed buildings in place or regarding restoration of agricultural crops or forest resource land. Any use of remaining structures must be in conformance with the regulations in effect at that time.
- D. Performance agreement and proof of financial surety. At the time of permitting, the applicant, facility owner, or site operator shall provide a Performance Agreement and accompanying financial surety instrument to cover the cost of decommissioning in accordance with the following:
- (1) Decommissioning funds shall be required in an amount of 125% of the most recent estimated decommissioning total cost paid for by the project owner/developer. The decommissioning funds shall remain in place until one (1) year after the last day of decommissioning unless sooner released by the Woodbury County Board of Supervisors
  - (2) Decommissioning funds shall be maintained in the form of a performance bond, surety bond, escrow account, bank letter of credit, stable parent company guarantee, or other form of financial assurance as approved by the Woodbury County Board of Supervisors. Any financial document evidencing the maintenance of the decommissioning funds shall include provisions for releasing the funds to the County or a contractor hired by the County in the event decommissioning is not timely completed as outlined herein.
  - (3) Prior to any ground disturbance, grading or construction activity on the site, one-hundred twenty-five percent (125%) of total estimated decommissioning costs shall be provided by any of the means listed above.
  - (4) Financial surety shall be maintained for the life of the project.
  - (5) Proof of recertification of the financial surety instrument must be submitted to the County annually. The county shall be notified immediately if the financial security instrument is cancelled, lapses, or otherwise is no longer in effect.
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- (6) Every five (5) years, the facility owner or operator shall retain an independent Licensed Iowa Engineer approved by the County to re-estimate the total cost of decommissioning and attest that the value of the financial surety instrument is appropriate. This report shall be filed with the County and shall incorporate any new industry information learned since the last cost determination.
  - (7) The required amount of the decommissioning fund shall match the re-estimated cost of decommissioning. Within ninety (90) days of filing the re-estimation report with the County, the facility owner or operator shall cause the fund balance of the financial surety instrument to be adjusted to ensure that it matches 125% of the re-estimated decommissioning cost.
- E. Commencement of site decommissioning. Decommissioning of the site shall commence at the time identified in the project decommissioning plan or performance agreement, or when the facility is determined to have been abandoned.
- (1) Decommissioning shall be completed in accordance with the approved decommissioning plan.
  - (2) The landowner or tenant shall notify the Zoning Director both when the project is discontinued and when decommissioning is complete.
  - (3) Third-party verification, as well as County verification of completed decommissioning will be required before the financial surety may be released.
  - (4) The facility will be considered abandoned or out of commission in the following circumstances:
    1. Upon termination or expiration of the solar farm leases/easements; or
    2. After one year without production, storage of energy, or use as a backup facility; or
    3. Failure to comply with the terms of the Conditional Use Permit after written notice of infractions from the County and a period of no less than 90 days to allow the operator to bring the US-SES into compliance.
    4. Exceptions could be made for:
      - a. A force majeure event that has occurred or is occurring, which will prevent the facility from resuming
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operation within 12 months.

- b. If the facility is in the process of being repowered.
- c. The project is pending completion of construction of the facility due to a backlog of cases or service requests in the MISO queue.
- d. A situation in which the project owner can provide evidence to the Woodbury County Board of Supervisors, that the facility's period of continuous inactivity is due to circumstances beyond the project owners control and that the facility has not been abandoned.
- e. Appeal of the notice of abandonment from the county within a set time of the project owner's receipt of the notice in which the project owner explains the reasons for operational difficulty and provides a timeframe for corrective action that the county deems reasonable.

13. **Soil Erosion and Sediment Control Plan.** A grading plan shall be submitted and shall include all proposed changes to the landscape of the site (e.g., clearing, grading, topographic changes, tree removal, etc.). The plan shall be accompanied with the following documentation:

A. Erosion and Sediment Control

- (1) The applicant agrees to conduct all roadwork and other site development work in compliance with a national pollutant discharge elimination system (NPDES) permit as required by the state department of natural resources and comply with requirements as detailed by local jurisdictional authorities during the plan submittal. If subject to NPDES requirements, the applicant must submit the permit for review and comment, and an erosion and sediment control plan before beginning construction. The plan must include both general 'best management practices' for temporary erosion and sediment control both during and after construction and permanent drainage and erosion control measures to prevent damage to local roads or adjacent areas and to prevent sediment-laden run-off into waterways.

B. Stormwater Management Plan

- (1) For the purposes of pollutant removal, stormwater rate and runoff management, flood reduction and associated impacts, the applicant shall provide a detailed analysis of pre- and post-

development stormwater runoff rates for review by local jurisdictional authorities.

#### **14. Emergency Response Plan**

- A. The applicant shall submit an emergency response plan prior to any ground disturbance at the project site detailing the planned response actions that will be taken by the solar facility operator, including any battery energy storage systems in the event of an emergency situation. These actions are intended to minimize health risks to personnel and people in the surrounding community, as well as minimize adverse impacts to the environment.
- (1) The plan shall include, but is not limited to, a detailed narrative of response procedures and the facility representatives responsible for management of the following plausible contingencies that could occur at the facility: natural disaster/severe weather, fire, security incident, capacity/transmission, environmental, chemical, pipeline (if applicable), and medical. It shall include procedures for a site evacuation, designated egress routes and emergency staging areas.
  - (2) The plan shall include a standalone section detailing the emergency response protocols specific to battery energy storage areas (if applicable).
  - (3) The plan shall be developed in coordination with local first responders, Woodbury County Emergency Management & Siouxland District Health personnel.

#### **15. Future Operators**

- A. Future operators, successors, assignees, or heirs of an US-SES are subject to all conditions of the Conditional Use Permit, its associated agreements and plans, and this Ordinance. The holder of a US-SES Conditional Use Permit shall notify the County at least 90 days prior of the intent to sell or transfer or change operators of the US-SES.

#### **16. Enforcement**

##### **A. Violations**

- (1) It shall be unlawful to locate, erect, construct, reconstruct, alter, repair, convert, or maintain any building, land, or structure, or use any land, building or sign in violation of any regulation in, or any provisions of, this Section, or any amendment or supplement
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thereto, lawfully adopted by the County Board of Supervisors; or to fail to comply with any requirement or condition imposed by the Board of Adjustment.

- (2) Any person, firm or corporation found to be in violation of any provision of this Section shall be served written notice by the Zoning Director or designee stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. Such person shall, within the period of time stated in the notice, take all necessary action to correct the violation and shall permanently cease such violation.
- (3) Each day during which the violation continues shall be a separate violation.
- (4) A Notice of Violation may be served as a first attempt to gain compliance. If compliance is not met with the sending of a Notice of Violation then a Citation shall be served on the property owner. The offender shall be provided a reasonable time, (not to exceed) thirty (30) days in which to correct the violation. A violation which occurs for a short period of time is observed and there is no other reasonable means for ensuring compliance, be served a citation immediately upon observation of a violation.
- (5) If the violation is not corrected, Woodbury County may seek such remedies, civil or criminal as are authorized by law.

#### **17. Penalty**

- A. The Zoning Director or designee may assess the maximum civil penalty per day for each violation allowed upon each violation, as outlined in the Woodbury County Zoning Ordinance that continues to exist.
- B. Remedies
  - (1) If work is being done in violation of any provision of this Section and continues beyond the date of notice and the work is not being done to correct a violation, an immediate stop-work order shall be issued by the Zoning Director. Such order shall be given to the owner of the property, the authorized agent(s), or the person or persons in charge of the activity on the property and shall be posted upon the property. The stop work order shall state the conditions under which work may be resumed.
  - (2) Violations by an individual or property owner will prohibit any additional permits for that property or other properties to be

issued unless said permits will remedy abatement of the violation. Stop work orders will be placed on any work on other property in which the violator is operating or owns.

- (3) If the Zoning Director determines that a violation is an immediate threat to public safety or welfare and the property owner or operator has failed to take corrective action within the time period stated in the notice provided, Woodbury County may take such remedial action as is necessary to protect the public safety or welfare. Such remedial action may include entering the property where a violation is present, correcting the violation, and placing a lien on the property to secure payment and reimbursement of any and all expenses incurred by Woodbury County to correct such violation.
- (4) Woodbury County may seek other such remedies, civil or criminal as are authorized by law.

#### **Severability**

Should any section or provisions of this Ordinance be declared by the courts to be invalid or unconstitutional, such decision shall not affect the validity of the Ordinance as a whole, or any part thereof other than the part so declared to be invalid or unconstitutional.

#### **Effective Date**

This Ordinance shall be in effect after its final passage, approval, and publication as provided by law.

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Passed and adopted by the Woodbury County, Iowa Board of Supervisors on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

**THE WOODBURY COUNTY, IOWA BOARD OF SUPERVISORS**

\_\_\_\_\_  
Matthew Ung, Chairman

\_\_\_\_\_  
Daniel Bittinger II, Vice-Chairman

\_\_\_\_\_  
Mark Nelson

Attest:

\_\_\_\_\_  
Keith Radig

\_\_\_\_\_  
Patrick F. Gill, Woodbury County Auditor

\_\_\_\_\_  
Jeremy Taylor

Adoption Timeline:

Date of Public Hearing and First Reading \_\_\_\_\_

Date of Public Hearing and Second Reading \_\_\_\_\_

Date of Public Hearing and Third Reading \_\_\_\_\_

Date of Adoption \_\_\_\_\_

Published/Effective Date \_\_\_\_\_

## Summary of the Debate

On August 8, 2024, the Woodbury County Board of Supervisors directed for the Zoning Commission to begin exploring options for how utility-scale solar energy systems (US-SES) might be regulated in the unincorporated areas including those located with the Agricultural Preservation (AP) Zoning District. To determine possible compatibility with AP, was offered the following concepts to explore on August 8, 2023:

- A conditional use permit for AP "C" with Planning and Zoning and Board of Adjustment to be able to site-specifically take into consideration the concerns of neighbors, land/soil, and other factors when approving permit.
- A slope of no more than 5% in order to preserve the land and to account for soil erosion, compaction, and future land stewardship.
- A maximum height of no more than 20' for panel structures.
- Of all AP, no more than 49% can be in such a project. In short, 51% must be for agricultural production or no longer considered "AP."
- Utility solar can be no more than 2% of all AP "agricultural preservation," preserving 98% of AP. This equates to approximately 8,540 acres of the 427,000 acres of ag land, ag land constituting 75% of the 570,000 total acres in Woodbury County.
- Current notification for utility-scale solar shall be 1 mile for public comment instead of 500 feet.
- A requirement (or at least strong consideration) that the utility-scale solar project either be on a landowner's property or that the owner of the land be a resident of Woodbury County.

Subsequently, the Supervisors revised their direction to include the following on September 26, 2023:

- A conditional use permit for AP "C" with Planning and Zoning and the Board of Adjustment to be able to site-specifically take into consideration the concerns of neighbors, land/soil, and other factors when approving permit.
- A slope of no more than 5% ONLY for fixed arrays (most technology is now movable arrays) in order to preserve the land and to account for soil erosion, compaction, and future land stewardship.
- No more than 1% of industrial land conversion every 4 years for reclassification, roughly 5,700 acres.
- Current notification for utility-scale solar shall be 1 mile for public comment instead of 500 feet.
- A decommissioning plan from solar companies reviewed by P&Z/BOA subject to approval by the Woodbury County Board of Supervisors.

Since receipt of direction from the Board of Supervisors, the Commission has performed significant research, conducted six public hearings and two work sessions. Throughout the process, the Commission has been mindful of the consequentiality of this debate and has concluded that Utility-Scale Solar Energy Systems (US-SES) should continue to be regulated with a conditional use permit within the General Industrial (GI) Zoning District only.

The recommendation includes a process that involves the Zoning Commission, Board of Adjustment, and the Board of Supervisors. Under the proposal, the Commissioners are tasked to review the conditional use permit application, the Board of Adjustment would consider the application for possible approval, and the Board of Supervisors would consider the building permit application(s). The recommendation contains additional requirements including a road use agreement, a public drainage system protection agreement, an operation and maintenance plan, decommissioning, erosion and sediment control, emergency response, enforcement, and other requirements governing the application process including a one (1) mile public notification area.

## **Public Hearings and Work Session(s)**

As of April 17, 2024, six public hearings and two work sessions have been held to learn whether utility-scale solar energy systems are appropriate or not in the Agricultural Preservation (AP) Zoning District.

The themes gleaned from the meetings cover a host of issues. Those who spoke in favor of the expansion of utility-scale solar withing agricultural land discussed co-existence within the neighborhoods. Comments included techniques that could be used to mitigate any potential adverse impacts. It was suggested to develop an ordinance that establishes specific requirements and agreements so that the expectations would be clear. Those in favor offered concerns about the Corn Suitable Rating 2 (CSR) as a requirement due to the rainfall factor. Additionally, concerns were made about out of county ownership, solar as the future as part of climate change initiatives, and the potential phasing out of the area coal power plants. Furthermore, comments were made claiming that solar will positively benefit the soils, wildlife, add value to the county, and are important for the economic future.

Those who spoke in opposition referenced the purpose of preserving agricultural land in the Agricultural Preservation (AP) Zoning District. Comments included questions/statements about whether solar is an agricultural activity? It was asserted that solar is an industrial activity and should be placed on industrial or commercial land. Concerns were made about the solar industry being subsidized and the timeframe to which the panels would no longer function, thus generating concerns of disposal as well as questioning recyclability. Weather conditions were referenced as a detriment for the panels. Those opposed discussed the stewardship of land and questioned the short-term vs. long terms benefits and questioned how a conditional use or overlay would actually work. Concerns were also brought forth about the manufacturing of solar panels in foreign countries including alleged adverse working conditions for the workers. This debate has also included references to Constitutional rights and the use of the zoning districts to classify land.

The first public hearing was conducted at the Merville Area Community Center on September 11, 2023. There were over 31 members of the public present and 14 who offered comments. Three categories emerged from the hearing including those who were favorable, those who were opposed or not supportive, and those who were indifferent or undecided about the expansion of solar into agricultural land. There appears to be about seven (7) who spoke favorably, four (4) who were opposed or not supportive, and one who indicated to be undecided but interested in assessment. A second public hearing was conducted in the basement of the Woodbury County Courthouse on September 25, 2023. There were over 25 members of the public present and 12 who offered comments. Again, the same categories emerged as those who are favorable in comparison to those who oppose or not supportive of the expansion of solar-utility scale energy systems on ag land. There were six (6) who spoke favorably while six (6) spoke in opposition.

The third public hearing was conducted in the basement of the Woodbury County Courthouse on October 23, 2023. There were over 14 members of the public present and four (4) who offered public comments. There were four (4) who spoke in opposition. The fourth public hearing was held at the same location on November 27, 2023 with over 37 members of the public present and thirteen (13) who offered public comments. There were six (6) who spoke favorably and six (6) who spoke in opposition. The fifth public hearing was held at the same location on January 22, 2024 with over fifty (50) members of the public present with twenty-two (22) who offered their perspectives with eight (8) who spoke favorably and fourteen (14) who were opposed. The Commissioners subsequently voted 4-1 to approve the conditional use permit option within the General Industrial (GI) areas with the condition that it be sent back to staff and the county attorney's office and be brought back to the Zoning Commission for another public hearing. Commissioner Hanson made a statement that "I don't disagree that they should be allowed in industrial zoned properties. I also think they can be allowed in other zoning districts with further analysis..."

The sixth and final Zoning Commission public hearing was held on March 25, 2024 with eight (8) members of the public present. There were two (2) who spoke favorably and three (3) opposed with one (1) from Sioux City staff who offered the city's position of including a setback from the corporate line. Following the public hearing, the Commissioners voted 4-1 to recommend the ordinance to the Board of Supervisors excluding the setbacks that are within the draft before the Commission.

The following table includes: the date; meeting type; access links to agendas, meeting backup materials, minutes; and audio; meeting attendance data; and the names of those who spoke:

| Date               | Meeting Type / Action                         | Meeting Information  | Meeting Attendance | Public Input  |
|--------------------|---|--|--------------------|---|
| September 11, 2023 | Public Hearing / Zoning Commission (Merville) | <p><b>Agenda Packet:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2023-09-11_packet_zoning_commission_34199.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2023-09-11_packet_zoning_commission_34199.pdf</a></p> <p><b>Comments:</b><br/>           Written comments included within agenda packet.</p> <p><b>Minutes:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2023-09-11_minutes_zoning_commission_2192.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2023-09-11_minutes_zoning_commission_2192.pdf</a></p> <p><b>Audio:</b><br/> <a href="https://www.youtube.com/watch?v=XZQa-5kNgcQ">https://www.youtube.com/watch?v=XZQa-5kNgcQ</a></p> | 31+                | 14 <ul style="list-style-type: none"> <li>• Greg Jochum</li> <li>• Brad Jochum</li> <li>• Tom Jochum</li> <li>• Eric Nelson</li> <li>• Ron Wood</li> <li>• Elizabeth Widman</li> <li>• Bob Fritzmeier</li> <li>• Leo Jochum</li> <li>• Kim Alexander</li> <li>• Will Dougherty</li> <li>• Ann Johnston</li> <li>• Wally Kuntz</li> <li>• Supervisor Taylor</li> <li>• Will Dougherty</li> </ul> |
| September 25, 2023 | Public Hearing / Zoning Commission            | <p><b>Agenda Packet:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2023-09-25_packet_zoning_commission_66298.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2023-09-25_packet_zoning_commission_66298.pdf</a></p> <p><b>Comments:</b><br/>           Written comments included within agenda packet.</p> <p><b>Minutes:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2023-09-25_minutes_zoning_commission_9753.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2023-09-25_minutes_zoning_commission_9753.pdf</a></p> <p><b>Audio:</b><br/> <a href="https://www.youtube.com/watch?v=LJ-k9MCD8_8">https://www.youtube.com/watch?v=LJ-k9MCD8_8</a></p> | 25+                | 12 <ul style="list-style-type: none"> <li>• Matt Countryman</li> <li>• Deb Harpenau</li> <li>• Wally Wagner</li> <li>• Jerrod Ulery</li> <li>• Kevin Alons</li> <li>• Rebekah</li> <li>• Moerer</li> <li>• Jesus Cendejas</li> <li>• Elizabeth Widman</li> <li>• Leo Jochum</li> <li>• Ann Johnston</li> <li>• Will Dougherty</li> <li>• Daniel Segura</li> </ul>                               |
| October 16, 2023   | Work Session / Zoning Commission              | <p><b>Agenda Packet:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2023-10-16_agenda_zoning_commission_2395.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2023-10-16_agenda_zoning_commission_2395.pdf</a></p> <p><b>Comments:</b><br/>           Written comments included within agenda packet.</p> <p><b>Minutes:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2023-10-16_minutes_zoning_commission_3421.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2023-10-16_minutes_zoning_commission_3421.pdf</a></p>   | 15+                | 3 <ul style="list-style-type: none"> <li>• Will Dougherty</li> <li>• Leo Jochum</li> <li>• Doyle Turner</li> </ul>  |



|                   |                                    |  |     |   |
|-------------------|------------------------------------|--|-----|---|
|                   |                                    | <p><b>Audio:</b><br/> <a href="https://www.youtube.com/watch?v=lJAJ6Xh3cSU">https://www.youtube.com/watch?v=lJAJ6Xh3cSU</a></p>  |     |   |
| October 23, 2023  | Public Hearing / Zoning Commission | <p><b>Agenda Packet:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2023-10-23_packet_zoning_commission_6882.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2023-10-23_packet_zoning_commission_6882.pdf</a></p> <p><b>Comments:</b><br/> Written comments included within agenda packet.</p> <p><b>Minutes:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2023-10-23_minutes_zoning_commission_5233.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2023-10-23_minutes_zoning_commission_5233.pdf</a></p> <p><b>Audio:</b><br/> <a href="https://www.youtube.com/watch?v=qNpK3atf1k0&amp;t=3s">https://www.youtube.com/watch?v=qNpK3atf1k0&amp;t=3s</a></p> | 14+ | <ul style="list-style-type: none"> <li>• Elizabeth Segura</li> <li>• Ann Johnston</li> <li>• Elizabeth Widman</li> <li>• Elizabeth Cindy Haase</li> </ul>   |
| November 27, 2023 | Public Hearing / Zoning Commission | <p><b>Agenda Packet:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2023-11-27_packet_zoning_commission_49249.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2023-11-27_packet_zoning_commission_49249.pdf</a></p> <p><b>Comments:</b><br/> Written comments included within agenda packet.</p> <p><b>Minutes:</b><br/> See Draft Minutes in the appendix.</p> <p><b>Audio:</b><br/> <a href="https://www.youtube.com/watch?v=Me_SPKOFaHM&amp;t=11s">https://www.youtube.com/watch?v=Me_SPKOFaHM&amp;t=11s</a></p>  | 37+ | <ul style="list-style-type: none"> <li>• Bob Fritzmeier</li> <li>• Kevin Alons</li> <li>• Robert Wilson</li> <li>• Doyle Turner</li> <li>• Christopher Widman</li> <li>• Elizabeth Widman</li> <li>• Tom Treharne</li> <li>• Roger Brink</li> <li>• Leo Jochum</li> <li>• Naomi Widman</li> <li>• Steve Corey</li> <li>• Greg Jochum</li> <li>• Rebekah Moerer</li> </ul> |
| January 17, 2024  | Work Session / Zoning Commission   | <p><b>Agenda Packet:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-17_packet_zoning_commission_958.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-17_packet_zoning_commission_958.pdf</a></p> <p><b>Comments:</b><br/> Written comments included within agenda packet.</p> <p><b>Minutes:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-17_minutes_zoning_commission_6712.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-17_minutes_zoning_commission_6712.pdf</a></p>   | 10+ | <ul style="list-style-type: none"> <li>• Kim Alexander</li> <li>• Marty Dougherty</li> <li>• Chris Madsen</li> <li>• David Linn</li> <li>• Elizabeth Widman</li> <li>• Greg Jochum</li> <li>• Leo Jochum</li> </ul>   |

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|                  |                                    | <p><b>Audio:</b><br/> <a href="https://www.youtube.com/watch?v=9eStLzBTA8">https://www.youtube.com/watch?v=9eStLzBTA8</a></p>  |     |  |
| January 22, 2024 | Public Hearing / Zoning Commission | <p><b>Agenda Packet:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-22_packet_zoning_commission_4229.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-22_packet_zoning_commission_4229.pdf</a></p> <p><b>Comments:</b><br/>                 Written comments included within agenda packet.</p> <p><b>Minutes:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-22_minutes_zoning_commission_4344.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-22_minutes_zoning_commission_4344.pdf</a></p> <p><b>Audio:</b><br/> <a href="https://youtu.be/0yF9t1AqEVk?si=WoQYr_-luP1s77rK&amp;t=13">https://youtu.be/0yF9t1AqEVk?si=WoQYr_-luP1s77rK&amp;t=13</a></p> | 49+ | 22 <ul style="list-style-type: none"> <li>• David Linn</li> <li>• Dolf Ivener</li> <li>• Renee Weinberg</li> <li>• Daniel Segura</li> <li>• Will Dougherty</li> <li>• Eric Nelson</li> <li>• Doyle Turner</li> <li>• Tom Treharne</li> <li>• Bob Fritzmeier</li> <li>• Alan McGaffin</li> <li>• Peter Widman</li> <li>• Amber Widman</li> <li>• Elizabeth Widman</li> <li>• Jesus Cendejas</li> <li>• Amy Krogh</li> <li>• Naomi Widman</li> <li>• Christopher Widman</li> <li>• Tom Jochum</li> <li>• Greg Jochum</li> <li>• Elizabeth Cendejas</li> <li>• Ann Johnston</li> <li>• Shari Zenor Kiple</li> </ul> |
| March 25, 2024   | Public Hearing / Zoning Commission | <p><b>Agenda Packet:</b><br/> <a href="https://www.woodburycountyiowa.gov/files/committees/meetings/2024-03-25_packet_zoning_commission_7007.pdf">https://www.woodburycountyiowa.gov/files/committees/meetings/2024-03-25_packet_zoning_commission_7007.pdf</a></p> <p><b>Comments:</b><br/>                 Written comments included within agenda packet.</p> <p><b>Minutes:</b><br/>                 See draft minutes included in report.</p> <p><b>Audio:</b><br/> <a href="https://www.youtube.com/watch?v=rpIVdwtKgfM">https://www.youtube.com/watch?v=rpIVdwtKgfM</a></p>   | 7+  | 6 <ul style="list-style-type: none"> <li>• Rand Fisher</li> <li>• Chris Madsen</li> <li>• Daniel Hair</li> <li>• Peter Widman</li> <li>• Tom Treharne</li> <li>• Christopher Widman</li> </ul>   |

**Public Hearing #1 (Merville) – September 11, 2023**

On **September 11, 2023**, the Commission conducted the first public hearing at the Merville Area Community Center. Fourteen members of the public addressed the Commission on a range of issues in support and opposition to utility-scale solar on AG land. Below includes links to the audio and summaries and/or direct quote adaptations of the information shared by the public. The following is not intended to be a perfect transcript but is offered to provide context of the debate. The audio can be accessed on YouTube using the following direct link: <https://www.youtube.com/watch?v=XZQa-5kNgcQ>

The list of Zoning Commission meetings inclusive of the agendas, packets with backup materials, minutes, and videos (Audio) may be accessed at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/)

**Greg Jochum (Salix) (47:43 to 51:28)** - <https://youtu.be/XZQa-5kNgcQ?feature=shared&t=2863>

- Using CSR2 as a scenario, in 2013, the State of Iowa went from Iowa State University, went from CSR1 which is Corn Suitability Rating, went from one to a two. I have a few farms that the corn suitability rating was a 47 which means on a scale that means 1 is bad 100 is good. So, it's below average. After they changed to CSR2, miraculously my farm went to an 81 CSR2, it doubled the value pretty much. Same ground.

- Looking at possibly, if you would consider the CSR1 values rather than the CSR2 values because in Iowa State University's information, the major difference between the CSR1 and the CSR2 is the CSR1 included a rainfall correction factor whereas the CSR2 does not and it will without a climate adjustment, the CSR2 values will have an upward bias in counties located in northwest Iowa that comes right from Iowa State's information.
- So I have you know family-owned land that I have maps of and they all went from mid 40s upper 40s from up to 65 to 82, 83 just from the CSR1 to CSR2 and if looking at future development of land you're looking at excluding anything over 65 and a half or 75 and a half.
- The Board of Supervisors just approved a new interchange south of Sergeant Bluff and that farm that they are going to be putting it on is a 74 an half CSR2.
- The other one I want to bring up also is the 20 foot height for agrivoltaics or ag solar. If looking at running equipment underneath the solar panels the one that MidAmerican does it tilts flat and you know follows the sun so if you're limited it to 20 foot at the height of it so the panels are 10 foot that means the tilt is only at 10 foot height you know and if we were to farm underneath it whereas grass or hay or pasture or having cows pasture underneath there they want that a little bit higher than just you know the 20 feet so those are some information for you to know.  
**Zellmer Zant:** Do you know what that height would be? **Jochum:** I don't know what that height would be all depends I mean if they're going to they've take about like Iowa State has a farm right now that they got money for if they're putting 30 or 40 acres in right but it all depends on if they're if you growing vegetables you know if its manual labor to pick the vegetables it doesn't have to be that high but you know if they're using mechanical stuff it'll have to be higher there's a lot of studies out in Pennsylvania, New York.

**Brad Jochum (Plymouth County) (51:44 to 53:22) - <https://youtu.be/XZQa-5kNgcQ?feature=shared&t=3104>**

- Live in LeMars, Iowa. I grew up in Woodbury County though I moved to Plymouth County to be close to my clients. I own land in Woodbury County with my brothers and sister uh and my brother Greg that for me um if I wanted to have a solar facility owning it with them uh I think I should be able to um we have an undivided interest in the land so no one individual is designated as the owner of that uh would complicate things as far as ownership goes if I wanted to be involved with this uh solar utility solar project it would not be fair to them also a solar project on their land. I'm also an owner in that farm. Uh taking a step further if my parents had a revocable trust set up and I would become an owner of the property after their death which is already in the solar project would I have to sell my ownership because I'm not allowed to be an absentee owner of that uh this is a complicated issue? I have faith in the zoning board to sort this out uh utility solar would be a positive alternative for Woodbury County for electrical generation.

**Tom Jochum (53:42 to 55:59) (Sergeant Bluff) - <https://youtu.be/XZQa-5kNgcQ?feature=shared&t=3222>**

- I support solar. Its clean energy. Renewable energy has been a big factor for electric grades in Iowa. The average cost is lower than most of the country. It has become more reliable and efficient the last few years. Port Neal North commissioned in 1974 was a coal fire plant retired in 2016. That time they had a lot of employees and after the shutdown they lost many of their employees. They lost several contractors that continuously worked on that site for Neal South as a coal fire plant was commissioned in 79 and is currently still operating. As the movement towards clean energy in recent Iowa Supreme Court ruling there is growing pressure on MidAmerican Energy to close or convert Port Neal South. MidAmerican is a leader in renewable energy. Now is the time for solar to step in and fill that gap. Existing equipment transmission lines that are already in place solar energy will be able to save some of those high paying jobs and bring in electricity generation additionally solar energy will be a great source of income for Woodbury County. Construction process creates jobs. More importantly the land used for solar energy will pay a generating tax based on kilowatt hours. According to the county Board of Supervisors' calculations tax generated by solar will be 5.3x higher than current agricultural land tax. A tax revenue will be by the county will be increased 5.3x as needed all this additional revenue will be available for the county to use where needed. I believe Woodbury County should take this opportunity.

**Eric Nelson (Moville) (56:24 to 57:44) - <https://youtu.be/XZQa-5kNgcQ?feature=shared&t=3384>**

- I would like to encourage you folks to um earnestly seek out all the information you can from all sides. I found it ironic that we started off this meeting with a discussion about wanting to just build one home on um AP and it's not easy just to do that and yet we're talking about building uh commercial solar and this solar is not agricultural. It's commercial. I mean any of the electricity that can be generated on what's called agricultural can be converted into electricity used anywhere um, so I think we need you to be really careful on converting AG land. If you want to have um solar, I think it needs to be on commercial property because that's really a commercial entity um and I think that your very first activity today um and how steep of a hill it is to climb to just build a house on AP ground um I think that kind of answers the whole question for me hopefully for you too.

**Ron Wood (Salix) (57:57 to 59:24) - <https://youtu.be/XZQa-5kNgcQ?feature=shared&t=3477>**

- I support solar in the fact that I worry about the Siouxland area trying to grow in comparison to Omaha and Sioux Falls on a regular basis and can't seem to get the most. (In audible). I was just talking about comparing ourselves to Omaha and Sioux Falls and the need for power generation and I kind of feel like if uh the two coal fired plants that are in existence now no longer produce energy where does it come from and how do we get the growth that we want in the Siouxland area to stimulate our economy we have to bring in more power from other areas we just more relying on other areas to sustain what we're trying to accomplish here in addition to that I think a lot of this new commercial a little research of commercial solar is very low to the ground and companies are very eager to appease neighbors with barriers, tress vs. whatever so I just encourage you to consider those facts.

**Elizabeth Widman (Sergeant Bluff) (59:59 to 1:04:46) - <https://youtu.be/XZQa-5kNgcQ?feature=shared&t=3599>**

- Resides in rural Sergeant Bluff. Landowner.
- Children are fifth generation Woodbury County farmers.
- Never knew father-in-law who passed of Lou Gehrig disease before met husband.
- Husband always said his father taught him and his brothers and sisters to take care of the land
- Your farmland should be better when your done with it than when you started.
- Husband taught this to our children.
- What I could find there would be 1,500 solar panels per acre.
- Over 8,000 acres of solar panels have been mentioned in Woodbury County.

- I've heard by where I live, they want to put 2,600 solar farm there.
- You're looking at around four square miles of solar panels and from what I can tell on average solar panels only last about 10 years.
- They also have hail storms that can destroy solar panels.
- Once they are done, they are not recyclable. They contain toxic chemicals that can go into the ground.
- They are going to fill the landfills. Sometimes they just leave them above ground and set them in piles which is an eyesore.
- It had been mentioned at the Board of Supervisors meeting about the Constitution and property owner rights. It has been mentioned here tonight that you have a right to make money off your property. I believe in the Constitution. I believe in property rights but this county has an ag preservation designation and the purpose of that is to preserve ag land and the farmers have been free to use the land for farming and to make as much money as they can and many have done quite well on this system.
- However, the Constitution and property rights does not give permission to change the rights of a whole county by putting a conditional use on it to allow a few individuals to make a lot of money on industrial solar energy projects on farmland.
- The rest of the county will not really benefit from this change it leaves us open to having to go through a process if somebody wants to be an industrial solar system by us we're going to have to go and say hey I don't really like this.
- We shouldn't have to live on our properties being worried about being subjected to that. I believe putting a C on the land would open us landowners to having eyesores by our property. I'm sorry if you think looking at acres of solar panels is beautiful, but I live out in the county because I love to see the landscape there, I love to see the crops to see the sky to see it all. Even if you put these things down low If I look out my window, I'm going to see acres of solar panel that's not going to be ag land.
- I've also read there is possible health effects. The solar panels put off a hum. If you live out in the country its quiet. It can cause migraine headaches.
- I believe these industrial solar products belong industrial land. Not on ag land.
- The change will affect the whole county and will benefit a few and it belongs on industrial zoned land.

**Bob Fritzmeier (Sioux City) (1:04:53 to 1:07:00) - <https://youtu.be/XZQa-5kNgcQ?feature=shared&t=3893>**

- Commend Zoning Commission for seeking a balanced view on this.
- MidAmerican Energy has put in a solar installation on their property. This installation has helped the soil actually. An installation like this does help the soil. It's not an agricultural use for some years. Grass is going to grow there. The soil loosens. The soil rejuvenates. I commend MidAmerican Energy for what they've done and bring about some transition from the fossil fuels to the renewable energies.
- Besides those positive effects, those solar installations have a 60 foot distance that has to exist between the outer fence and the first solar panels, and that area can be put into grasses and will foster pheasants and quail and help the hunting prospects in Woodbury County.
- This would be a positive step to continue with your conditional use and with the needed aspects scrutinizing the needs that each applicant would have for the solar installation.

**Leo Jochum (Salix) (1:07:12 to 1:10:42) - <https://youtu.be/XZQa-5kNgcQ?si=K7rB1XziF7cvPxEH&t=4032>**

- According to independent researchers, Iowa residents enjoy a lower residential rate than most people in the United States with an average rate here of 13.12 cents per kilowatt hour versus 15.72 cents per kilowatt hour nationally this for Iowans represents an annual monthly rate of \$16.32 versus a national rate of \$147.64 or a savings of amount \$370 per year for every household.
- Renewable energy in Iowa is the main factor for these lower rates utility solar has advanced its technology in recent years to become the least cost provider for electricity with that some people have concerns about the landscape around such a facility I can see their concern. That's one concern I'd like to address tonight.
- When a residence is next to a solar facility, a vegetative screening is provided by using evergreen trees, shad trees, shrubs, and a diversity of plant species to preserve the aesthetics of the surroundings vegetative screening is allowed up to 20 feet in height which is about six feet higher than the solar panels each neighbor is contacted by the solar company for their input regarding where to place the screening what type of plants to use and the length of such screening that goes in front or across their acreage.
- Vegetative screening for neighbors should be included in the conditional use permit.
- Another emotional issue is using farmland for solar. The example used as 51% should be dedicated to ag use. This could be in the form of grazing livestock, raising crops that are not tall.
- A lot of research is ongoing with agrivoltaics, but more research must be done before this is an acceptable practice.
- Fencing needs to be in place for unauthorized entrance or any time of vandalism. However, fence lines or stranded acres there will be some stranded acres in the middle where there already existing easements, could be used for beekeeping for specialty crops because they would be outside of the restricted zone.
- The idea of capping acres at 2% or 8,540 acres on agricultural preservation, that's okay. That is actually more restrictive for the county than it is for utility solar. 8,540 acres has the ability to produce 1,420 megawatts of electricity when Neal North and South were in production together, they produced 1,340 megawatts which is less than the amount that 8,540 acres would produce.
- At the present time, the infrastructure is not here to accommodate 1,420 acres of solar. Utility solar is safe, quiet, and does not pollute the soil and is a great revenue source for the county. I support placing utility solar as a conditional use.

**Kim Alexander (Smithland) (1:11:03 to 1:13:17) - <https://youtu.be/XZQa-5kNgcQ?si=6wwYGQVw1sc4Q0cp&t=4263>**

- From Smithland. Farm in the area. Appreciate the Commission and the Jochum's speaking their peace.
- Seems to me this is about the money. Making money and getting money.
- Ironic to take the most efficient and least expensive solar collector in creation which is green grass, corn, and soybeans and you're going to cover it with concrete or asphalt or whatever and put up these solar panels that's the height of irony. The days of unlimited use of our land, we can use it however we want and to foey with anybody that tells us different goes or gone when we live in a community, we have to consider what the community has to say about that use of the land and so those days are gone, and I appreciate the commission having this meeting tonight.
- Again, it's all about the money. More tax revenue baloney. The county gets enough tax revenue. I'm not going to put in something to generate more tax revenue. The question is how much money is enough and if you're not making enough on your ground that you have then get rid of

half of it and do a better job with what you've got instead of putting asphalt on it and putting in solar panels. Again, there's more to life than just making money.

- As Mrs. Widman said treating a piece of land improving it so that it's better than when you got it that you leave it better than when you got it. It's not about the money it's about caring for the land, it's about caring for the land it's about planting renewable crops instead of renewal industrial solar.

**Will Dougherty (Urbandale) (1:13:39 to 1:16:55) - <https://youtu.be/XZQa-5kNgcQ?si=Qgt8OF3ZIJj0gHBn&t=4421>**

- From MidAmerican Energy.
- Referenced the Commission's consideration of neighbor, height, CSR ratings.
- Looking at how to carve and dice the situation for Woodbury County as a community in general.
- The CSR maps that you have in front of you right is one of many kind of layers on top of layers when you look at it from a zoning perspective similar to a lot of renewable projects that are install. The state we've done six solar projects today we have 38 wind farms across the state. Yes, the county has a large dictation as to where the solar projects can go in their own respective county there's a lot of other considerations that come into play when you're going through the development process for a solar project. Dan mentioned the FAA. There's consultation with them, the DOE, the DOJ as well for the sighting of these facilities whether or not you have anti-glare films put on the front of the solar projects or the panels themselves. There's consultation with the Iowa DNR. There's consultation with the fish and wildlife service as well. Like you said Dan, Neal solar project that we have down by Port Neal right now there was a lot of communication between ourselves and the county to kind of sort some questions. I know there's like a pipeline crossing question that came into play. We submitted for you known grading permits, secondary roads and everything like that and so these are all questions that I think the county just needs to take into consideration when drafting the ordinance or any zoning regulations around potentially solar for ag use.
- You know a lot of questions that have come up tonight have been you know regarding about the land usage and returning it back better than you found it a lot of counties throughout the state, they do have mechanisms in place such as decommissioning agreements with the county in which a developer has to enter into. There a lot of other mechanisms that you can look like they help protect the agricultural use and the long-term viability of that land uses as well as so there's a lot of different things you can kind of tweak and play with to see how it fits your community's use and see how you want the solar project to transition you know beyond the 30, 40 year years of life back to ag or potentially into a secondary solar project or something else entirely so you would mention a lot of the resources that have been sent over from some of the other entities in the state that advocate for balance policy outcomes.
- I'm familiar with a lot of those resources. If you have any questions, please feel free to reach out and as always, I've done this at a Board of Supervisors meeting but if anybody and this means anybody wants to come to our Neal solar project, please let me know. I'll leave my information with the board and they can put it in the packet material but the Neal project is down by Port Neal and would love to show everybody around.

**Ann Johnston (Salix) (1:17:38 to 1:18:26) - <https://youtu.be/XZQa-5kNgcQ?si=BzSVyF0F0dImCUje&t=4657>**

- I would consider these solar panels an eyesore. And I like Elizabeth like to see the corn and beans. We have two Fox dens that are across the road from us. Every summer, the mother sits back and lets the two babies come over and eat mulberries from our trees. Where are they going to live with these solar panels here over there?
- I like the farm. This belongs in an industrial setting. Not out in the country where people live for peace and quiet.

**Wally Kuntz (Moville) (1:18:48 to 1:21:05) - [https://youtu.be/XZQa-5kNgcQ?si=P0CRduozXpG\\_ajrQ&t=4728](https://youtu.be/XZQa-5kNgcQ?si=P0CRduozXpG_ajrQ&t=4728)**

- Not for or against the project. Was here for another reason. The question I have is about the taxes to the county when the solar goes up. Obviously, MidAmerican is a commercial entity. Do we get to reap the benefits of square foot commercial taxes on that then or how's that work. I guess that the assessor. I don't know how that works to be honest with you does anybody else?

**Supervisor Jeremy Taylor (1:19:20 to 1:21:05) - <https://youtu.be/XZQa-5kNgcQ?si=cZSv6H8-M1XSsEF5&t=4760>**

- o One of the questions that we asked our assessor was if zoning matters materially to the county based on the zoning designation in regards to taxation. The answer is no whether the solar project was in ag preservation or whether it was an industrial. It's taxed on a generation usage so it's immaterial whether the zoning designation ultimately is.
- o So one of the things we asked July Conoly, our assessor to do is to run 2,500 acres in ag and just to do it on a general survey of ag land an re-yeild about \$94,000 on 100 megawatt project that's approximately 2,500 acres, it would yield about \$504,000 that is not a way of saying this is for or against so I don't want that to be implied these are just dollars that we asked her to run on a comparison basis and if I could just add one more thing from a County Board of Supervisors perspective, my goal here tonight isn't to push one way or another but just to have the ratio of I have two ears and one mouth and try to use them in that proportion and to sit and listen and then take back the information that I'm hearing tonight and take that back to our Board of Supervisors so just want to commend planning and zoning and the director in terms of holding this public hearing.

**Commissioner Bride (1:21:27) - <https://youtu.be/XZQa-5kNgcQ?si=cZSv6H8-M1XSsEF5&t=4887>**

- Question for Will Dougherty regarding the footprint of the largest solar site currently in the State of Iowa.

**Will Dougherty**

- o Are you referring to our Holiday Creek project?

**Bride:** What's the acres involved in that?

- Dougherty: the largest one we have is the Holiday Creek project. That's kind of northwest of Fort Dodge I believe encumbered by the solar project itself it's roughly a little under right around 800 acres that's for a 100 megawatt project and that kind of goes with the rule of thumb approximately and a lot of topography can play into it along with you know setbacks set forth by the county zoning as well as for how you can kind of optimize use of land but the general rule of thumb about 8 acres per megawatt per solar project. Bride: Another quick question before you sit down. To date, has there ever been a request to the Iowa Utilities Board to grant eminent domain for any commercial energy project?

- Dougherty: For a commercial energy project? So, I'm not 100% familiar with. Bride: What about solar then?
- Dougherty: Solar I'm not familiar. I mean we have had to go in for like sites certificates basically there's certain thresholds that for generation basis you have to go into the IUB but it's not for an eminent domain case, it's basically just site certificate basically authorizing you as a public utility to utilize that area. It's somewhat similar to kind of the process the county holds their public hearings. There are interveners involved and stuff like that for a lot of our smaller scale. So, if it's not going to the transmission grid, it's going to the distribution system that did not go through the IUB process but to your original question of have any of them been put in place through eminent domain and have we taken landform someone in order to facilitate project answers no.

**Kevin Alexander (Smithland) (1:23:45 to 1:27:30)**

- Sir before you sit down can I ask a question?
- Since the big problem with photovoltaic and generation is storage of the power. What you do, so say you got this megawatt photovoltaic solar utility. Where's that power going or and with the wind generators, I noticed a lot of times, when I head to Schleswig and Smithland a lot of times though things are shut down. I assume they have more power than they need so what about the whole storage thing on this generation, I guess.
- Dougherty: I don't know if we're addressing storage along with the solar but I mean it's so basically it's as you alluded to it's not an on-demand energy source and so the wind turbine and solar panels similar you know they run when that resource is available so the way that it's kind of operated and it kind of depends largely upon whether it's a distribution scale solar system a transmission scale solar system but you know kind of under the same lines from the physics perspective that energy goes to where it's first basically it gets put onto the grid distribution or transmission goes where it's need first whether that be the next house down the line or 20 miles down the line doesn't matter and then basically jumps off to that nearest load center that's on that system there so from the energy storage perspective I guess I'm not sure what the question really was. Alexander: Well, the point of the question is the functionality and the utility of these solar farms that you want to put in if they're going to sit idle half the time like those big electric fans over by Schleswig are whenever I drive over to Denison then what's the point? Same way with these photovoltaic panels, if they're going to, do they switch them off when they have all the power they need or do they just keep shifting it around?
- Dougherty: So, I think it's important to kind of take a step back and look at it from the perspective of an above all approach. Obviously here in Woodbury County we have Port Neal down south of Sioux City. That's an on demand coal fire facility and we have five of those throughout the State of Iowa and we have one natural gas facility in the Des Moines area. And so we've transitioned to a point here where renewables have started to act more as like a base load generation traditionally that was more like your fossil assets or your nuclear assets so yes they are you know vulnerable to when the sun is shining or when the wind is blow but that doesn't mean there's not value in them it's above all approach there's a lot of discussion earlier about the rates that within the State of Iowa are lower than the national average that's largely a portion at least for MidAmerican our rates are fifth lowest in the nation for investor own utilities and we have the second and third lowest as well in South Dakota and Illinois but that's largely contributed to the zero cost resource of actually running these facilities from a fuel standpoint as opposed to the fossil generation standpoints. I'm not saying that fossil is bad but we still run those facilities they're needed every single day for that times when the sun isn't shining wind is blowing but they are additive in nature and they're complimentary in nature and so even though they might be not working one day or curtailed one day or there might not be enough winter sun one day doesn't mean they're invaluable resources. They're just different resource types guess this is kind of getting off track discussion but hopefully that helps a little bit guess.

**Public Hearing #2 (Woodbury County Courthouse) – September 25, 2023**

On **September 25, 2023**, the Commission conducted a second public hearing at the Courthouse. There were 25 members of the public at the meeting including one on the phone. Twelve addressed the Commission and provided the subsequent information. Below includes links to the audio and summaries and/or direct quote adaptations of the information shared by the public. The following is not intended to be a perfect transcript but is offered to provide context of the debate. The audio can be accessed on YouTube using the following direct link: [https://www.youtube.com/watch?v=LJ-k9MCD8\\_8](https://www.youtube.com/watch?v=LJ-k9MCD8_8)

The list of Zoning Commission meetings inclusive of the agendas, packets with backup materials, minutes, and videos (Audio) may be accessed at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/)

**Matt Countryman (23:22 to 23:51) - [https://youtu.be/LJ-k9MCD8\\_8?si=AOMcmUF7nK4buE1W&t=1401](https://youtu.be/LJ-k9MCD8_8?si=AOMcmUF7nK4buE1W&t=1401)**

- Renewable Energy Equity Partners
- Mitigation plans and agricultural restoration plans set a good pathway forward when applicants are seeking a conditional use permit with an overlay district, something that can be incorporated into a development application regarding utility scale solar energy parks.

**Deb Harpenau (Salix) (23:13 to 25:27) – [https://youtu.be/LJ-k9MCD8\\_8?si=UY7uYtXUwe2Uygtv&t=1453](https://youtu.be/LJ-k9MCD8_8?si=UY7uYtXUwe2Uygtv&t=1453)**

- Throughout our daily lives, we see change. Usually, it's gradual and it's not even noticeable, so it's just accepted or even expected.
- For the last decade or more people started addressing climate change and as a result started researching alternative energy source one of which is solar and again this change in fact is a sudden change. I understand for some this can be scary, but we find solutions we should listen to the facts such as native grasses will be planted under the panels this land used to be all native grasses before it was broken up for agriculture.
- These native grasses will be home to many species of wildlife while the grasses rejuvenate the soil through its roots and water absorption and retention. There has been rumors that Neal 3 and 4 will scale back or possible shut down in the future. If that would happen, I think utility solar would be a clean nontoxic and economical source of electrical generation.

**Wally Wagner (Salix) (23:43 to 28:54) - [https://youtu.be/LJ-k9MCD8\\_8?si=UKjnw3mKn5lgCPdY&t=1543](https://youtu.be/LJ-k9MCD8_8?si=UKjnw3mKn5lgCPdY&t=1543)**

- Back 87 years ago, my grandfather bought a farm on the river which is located just north of Neal South and then later on another parcel to the east now my folks bought a parcel that actually adjoins Neil South to the east and you know we were there before Neil South was so Deb just talked about progress or change. I don't think there's anybody in this room that saw more change in their neck of the woods than we did.

- I was a teenager when that all started happening besides the fact that the Corp of Engineers completely rerouted the river we had landed to join the river and then after that our hunting and fishing ground was you know changed completely so anyway, we're talking about change we're really talking about progress.
- So, I have parcels east of Salix. I have parcels west of Salix. Grew up out there and I have a parcel south of the airport in the General Industrial zone and we have had at least 8 probably 10 different companies contact us for options on these parcels all over okay in all three of the areas so with the present interest in renewable energy it's my conclusion that it's coming to our area okay and the Salix area is primed for solar electrical generation due to the proximity to the Neal complex and the electrical grid that is there okay. So, to me it's like we're either going to accommodate it or we could put our heads down and but at it but it's probably not going to work okay as my mom would say we could be bullheaded about it okay, so the conclusion is like it was 50 years ago electrical generation is important okay. We're talking about millions of people being served with electricity now at present it's with renewable energy so to me lower production land which I have some that okay would be an appropriate consideration for you all and also the lower residential density. Okay so now going back to the CSR1, CSR2s, you guys heard about that last session the CSR2s are not accurate for what I refer to as gumbo. Okay poorly drained high clay density soils okay and so it's like they went two to one, so I don't know that is a really accurate consideration for you guys to think about in the future okay.

**Jerrod Ulery (Ulery Energy) (29:21 to 30:01) - [https://youtu.be/LJ-k9MCD8\\_8?si=zKyflbma0P1pphSB&t=1761](https://youtu.be/LJ-k9MCD8_8?si=zKyflbma0P1pphSB&t=1761)**

- I am the owner of UR Energy. I was present here I think about three months ago submitting a special use permit for a data center, so my company builds data centers all over Iowa. We have about 250 megawatts in our pipeline currently and one of our five megawatt projects is in the vicinity of these solar projects and wind projects that are going on so we support it. I'm here to support it. I'm not a local resident. I'm in LaGrande, Iowa but we have many sites in this area and we plan on developing those sites as well so I plan on seeing you guys many more times so thanks for having me.

**Kevin Alons (Salix) (30:14 to 32:55) - [https://youtu.be/LJ-k9MCD8\\_8?si=jIDZGUvtNarMvE7D&t=1814](https://youtu.be/LJ-k9MCD8_8?si=jIDZGUvtNarMvE7D&t=1814)**

- I've heard the talk about progress and a lot about renewable energies. I'd just like to first just challenge the assertion that the use of solar on agricultural land in Iowa meets the definition of agricultural preservation right. It's not an agricultural use and I think that's it's kind of a stretch. It is quite a stretch to call it an accommodation that this is something that's compatible with agriculture. It's obviously going to supply agriculture and you can argue whether it can be put back at a later time but that's really a secondary issue.
- Obviously solar is being considered along with some of the other renewable energies because they are being heavily subsidized as I think everybody here recognizes. We would not be having this discussion if there wasn't a significant federal subsidy for this process. I'm not sure that first off, I think everybody also recognizes that those subsidies are being paid for with debt. Not with revenue and they certainly aren't going to pay for themselves so the energy being produced is not a sustainable process even though that's the way we tend to describe it. I know that there is consideration and this may be outside of the purview specifically for this discussion about how much revenue might be increased for either the individuals who the landowner but more specifically for the county but I really wonder what the net effect will be for the county for how much revenue comes into the local area how much revenue is generated and how much is lost because of the changes how money is spent in the county because I'm sure most of these entities. I would assume that the entities that are going to bring this into the county are not local so their considerations really for any of those things is about chasing short-term profit coming from federal subsidy so I probably will run out of time but I mean just as a fundamental, solar is a very inefficient way of producing power and it's hard to imagine that it could ever produce anywhere close to the amount of money that is being promised again through subsidies so I feel like that is a short-term bet, something that is certainly not assured long term and I really question how long into a 40-year contract that apparently they're discussion they could actually be relied upon. So, I live down in Salix at least I live in the area and I'm not sure they would but we're talking about large projects that could have a very large impact on property values so just some things that I would like to see considered.

**Rebecca Moerer (Sioux City) (33:17 to 35:06) - [https://youtu.be/LJ-k9MCD8\\_8?si=ASj3wSjW2Qjm1drS&t=1997](https://youtu.be/LJ-k9MCD8_8?si=ASj3wSjW2Qjm1drS&t=1997)**

- I live in Sioux City. First of all, I feel that people should think about this a little bit more. I believe solar farms are misnomer totally because energy is not an ag product. The definition of farm is an area of land and buildings used for growing crops and raising animals at the last meeting the proponents of these solar zones talked about planting grasses and trees to increase the land value and protect wildlife but they were presented as ideas and not requirements. So, I guess that would be one of my main concerns also are their fees if these solar panels break down who pays for those who checks on them to see the maintenance is maintained and what happened to those and whose cost is it after they don't function anymore. We still have unsightly satellite dishes around the county to. They talked also about taxes generated would they be staying in Woodbury County from these solar areas? I do feel that there's plenty of unused commercial properties where these could be implemented to benefit a larger number of people or the units could be directly connected to use to produce energy that they claim there's so much of directly to an item that needs that energy instead of taking up crop land or animal land and I do feel that these do disrupt wildlife areas so I am against this.

**Jesus Cendejas (Salix) (35:17 to 38:32) - [https://youtu.be/LJ-k9MCD8\\_8?si=35eSEuc4uS08hIIF&t=2117](https://youtu.be/LJ-k9MCD8_8?si=35eSEuc4uS08hIIF&t=2117)**

- Thank you for this opportunity and we believe God has appointed all of you guys in this position and we pray that you make good decisions and everything that you're involved in apart from our United States Constitution which I am grateful for the Bible is the first to call the right of owning and being able to use private property. The latter informed the authors of our Constitution and is evidence in the language they're in two of the Ten Commandments say thou shall not steal and thou shall not covet these implying and tell the right to work hard and the right to own possess including the right of private property part of the issue with the situation is not simply the thought or idea that a person should be able to deal with their property as they please but rather is it that in this liberty and reality one is still responsible for the stewardship of the land that God ultimately owns and the neighbor that lives beyond one's boundary as an example Exodus 21, 20-29 says if an ox gores a man or woman to death then the ox shall surely be stoned and its flesh shall not be eaten but the owner of the ox shall be acquitted but if the ox tended to thrust with his horn in times past and has been made known to his owner and he has not kept it confined so that it has killed a man or a woman, the ox shall be stoned and its owner also shall be put to death as you may see God's law informs us that the way we manage our private property matters in more than just our personal benefit it also matters as how it affects others quite weighty and this is just one example there are many angles we can take and should consider you guys ourselves here are a few subsidies, all this money is given for this where does it come from and who's going to pay for it and maybe even who actually owns this land depletion we don't have more farmland than what we possess now there's containment effects jobs and economy outside entities are paid for this project and other non-Iowa residents hired will

benefit most apart from maybe only a few local hired individuals in the long run this is historically the case neighbors, those who have invested in living in the area have the right to expect present zoning to be honored so that their own investments are not diminished due to change. In closing Dr. Gordon Wilson, Senior Fellow of National History of the New St. Andrews College in response to this complex issue set states its true once operational wind energy cuts emissions by running on 100 renewable resource but it is that the whole story? Wind turbines and solar panels along with the batteries required to store the energy have a high monetary environmental production cost. These upfront costs may balance out over time with low operating costs but for now the power that the wind and solar farms provide is more expensive than the traditional power this costs demands government subsidies that are likely to greater than the reduced energy cost of the wind and solar farms. Additionally, wind and solar farms require vast areas of land that can change the natural aesthetics and landscape and interfere with wildlife habitats, bats and bird are often killed by the rotating blades or the concentrated beams of light and the termite vibrations produce sound pollution with complex environmental topics such as alternative energy we must carefully consider the impact on our neighbors and God's creation as we make his dominion decisions.

**Elizabeth Widman (Sergeant Bluff) (38:58 to 42:23) - [https://youtu.be/LJ-k9MCD8\\_8?feature=shared&t=2338](https://youtu.be/LJ-k9MCD8_8?feature=shared&t=2338)**

- I'm a landowner in Woodbury County and my sons are fifth generation Woodbury County farms and um but I would just like to address there seems to be a misconception about constitutional rights and property rights and that you cannot restrict a property owner from doing anything they want to on their property and if the situation was reversed and incorporated city land had a C put on it to allow ag activities in the city um so that someone could put a hog building on their property in tow if they had enough property to do it and someone else maybe want a couple cows and a flock of chickens in there um you know and say will the neighbors just have to put up with the flies and the noise and the smell uh no one would be in favor of that so I don't think it's right to come out to ag protected properties and say um you know we're going to put a C on here and you just have to put up with when they put up these solar facilities is not ag land and it is not um it is not the life out in the country that people want out there um it can if you put these up it can lower property values you have noise from these solar panels there's glare, there's lots of beautiful viewage um there's harm to wildlife and birds um there's um 12,860,000 solar panels that will be not good in 10 years or less if you have hail storms. We're going to have to do something with those they're going to be in our county and um we could possibly have a change in administration here with elections coming up and there might not these solar panels might not be so subsidized um I read somewhere environmentalists are actually asking in some areas to quit putting up so many solar panels because it kills the birds um the extreme heat from the reflective material can instantly incinerate them it changes the migratory patterns especially down by Salix you know you have birds come through on my property I have a pond we have um the geese come through and um the biggest treasure in Woodbury County is our people that live out in the county. My children have been involved with 4-H we go to the fair you know if you put these solar facilities in their people are not going to view this as the beautiful ag land that they've lived in these are industrial. They're not they're not solar. Is that my time and uh so thank you for listening your consideration and I just ask you to you know preserve this for the people that love the land and want to live out in the country.

**Leo Jochum (Salix) (42:34 to 45:15) - [https://youtu.be/LJ-k9MCD8\\_8?feature=shared&t=2554](https://youtu.be/LJ-k9MCD8_8?feature=shared&t=2554)**

- Good afternoon, thanks for all the work you people have done, Leo Jochum, Salix, Iowa. About 10 days ago, my wife and I took off and went to Indiana to see relatives at the quad cities, we go off the interstate, took the back roads through Illinois, those county roads are all blacktop but they're very narrow as we were enjoying the landscape, we came upon a utility solar facility actually when we saw that we were only about a quarter of a mile away that's when we noticed it, we went along it for about a mile and then we pull over and stopped as we got out of the car pheasants flew out of the pollinator area out of those grasses that were inside the perimeter fence, we took some time just looking around and listening there wasn't any electrical hum like you hear in electrical lines. There was no sound of motors but what we did hear was crickets. We could hear the crickets chirping the grasses under the panels were very green. They were probably mowed within the last couple of weeks. The pollinators between the panels and the fences. They were green and flowering as we drove away, we noticed some acreages a few across the road use the vegetative covers that's always supplied free of charge by the solar companies. There are a couple of acreages on the same side of the facility that had a windbreak that was probably in place before the solar facility was built. We were impressed with how professional everything looked. There wasn't any machinery parked outside. We did not see any trash. We didn't see any piles of used panels anywhere actually I wasn't surprise to see how neat everything looked. The other facilities that I have been at looked just as good. If utility solar is allowed in Woodbury County I would employ the same practice today that I used in the mid-1970s. In 1974, we built a house, a new house on our farm. In 1978, I expanded my hog operation by building a confinement facility. The concerns of the neighbors were satisfied when I built it approximately 400 feet from my house. If utility solar becomes a reality, I would allow panels 360 degrees around my house. If the pipeline easement allows it.

**Ann Johnston (Salix) (46:33 to 47:17) - [https://youtu.be/LJ-k9MCD8\\_8?feature=shared&t=2793](https://youtu.be/LJ-k9MCD8_8?feature=shared&t=2793)**

- I live in Salix out in the country. I thought the only mortal sin anymore was not recycling. Leaving a bigger footprint. I understand these solar panels are not recyclable so what are we leaving for our kids and our grandkids? My second point is parts of these solar panels are made by the Uyghurs, slave labor in communist China. The women and the children are physically and sexually abused. I don't want any part of that.

**Will Dougherty (MidAmerican Energy) (47:34 to 50:56) - [https://youtu.be/LJ-k9MCD8\\_8?feature=shared&t=2854](https://youtu.be/LJ-k9MCD8_8?feature=shared&t=2854)**

- If I may um sorry, I was going to wait to chime in, but this is Will Dougherty with MidAmerican Energy. Is it okay if I give a quick comment. Zellmer-Zant: Yes.
- Okay, yeah, so I guess there's a lot of good comments. I think overall from the meeting um a lot to kind of unpack but I'll just kind of keep it short and simple um you know our position on it from the zoning perspective is um you know there's a lot of good ways that um a lot of these concerns can potentially be mitigated and I think through a permit process and a public hearing process any constituents that you know live an adjacent proposed project would be able to have their case heard and the conditional use can directly reflect any of those concerns for mitigation side of things but kind of in line with what we're discussing last week that the land use for ag lands and potential for solar to be placed on them I think having a thorough decommissioning plan in place um that's something that's required throughout a lot of counties throughout the state something that gets reviewed and approved by both the counties and the proposed solar developers so that's a mechanism that the county can try to utilize to mitigate any future impacts to the ag land and restore the property back to its original use after the decommissioning of the project. Additionally, um you can look at things such as visual screening or shielding from projects a lot of times these projects if they are located in ag properties they're surrounded by adjacent ag parcels as well um having buffers you know whether that be a



setback from road right of ways or from fence lines allows for those visual screenings to take place once the vegetation is established so having a plan on the front end of a project that a developer or a project owner must enter into a county is a good way to try to mitigate that as well establishes vegetative growth plans seeding mixes stuff like that kind of lays out on the front and the expectations from the county side of things um for the maintenance of it and the growth of it long term for the project overall I think for the general comments we've received on solar it is an above all approach for MidAmerican's point of view. I think someone pointed out earlier you know. Neal is located down in Salix area. Someone else had pointed out that you know they didn't believe that solar was a viable option um as we look toward transitioning uh from a more carbon intensive resource to more diverse resources it is an all of the above approach there is no one-size fits all. There is no silver bullet um it can't all be wind; it can't all be solar. So having the resource available to help hedge and mitigate any potential fluctuations and market prices whether it be from natural gas or coal um or material costs from winter solar having all those resources available is in best interest of not only the utility customers but also the state in general having more balance portfolio and really starting to um kind of hedge your resources so that you don't become too heavy or too reliant on one so that being said um I'm always open for questions or comments um we can always try to get a tour for anybody down at Neal solar as well.

**Daniel Segura (Sioux City) (1:38:44 to 1:41:43) - [https://youtu.be/LJ-k9MCD8\\_8?feature=shared&t=5904](https://youtu.be/LJ-k9MCD8_8?feature=shared&t=5904)**

- Hy my name is Daniel Segura. I live in Sioux City uh I have family and have friends that have uh have property in sort of the subject areas um in this county um I just wanted to uh make a comment about this discussion about uh overlay and uh pairing that with the conditional use permit or maybe a variance or something of that nature I don't see how this necessarily addresses the concerns of those that are as we would say against the motion to institute uh promoting these solar panels um one thing I'm seeing is uh we already have um just by virtue of the statutes and ordinances in this Country uh a method to do something like that and that's the regular conditional use permit uh a way of applying and getting a variance that sort of thing what it seems like is uh this overlay might just be more of a sort of like a soft approval of these uh category of solar panels uh solar energy uh what have you and then it kind of sort of boosts it into being approved once it gets kicked down to the next so I don't see it as an extra protection for you know to uh basically give those that are uh opposed to this motion uh sort of like oh this is going to help the process like an extra check it doesn't seem to be that way one thing that I want to mention just about the conditional use permits those we can't take those away those are always permitted you know that will someone can't always apply for a conditional use permit or a variance and uh it seems uh that those would be a good way to if someone had a specific um and sort of a unique need for solar panels on their property or solar energy one clear example would be something like a medical clinic that's kind of out in the country and they need backup power and um you know I don't think anyone would uh be opposed to considering okay this is a special um this is a special example a special scenario where a conditional use permit or a variance it would seem reasonable that these people have a particular need for something that's unusual but the concerns that most people are having those that are wanting to retain the farming jurisdiction and the zoning of farming is that uh the if we open the door to everyone getting something then people will continue to get it um it we wouldn't say that we could allow variances and conditional use permits for every person for example like we've heard that wanted to farm in the city we would say well only if you had a specific need for that if there was something out of the ordinary um so that's would I would I just add to the comments to some of this talk of overlay and conditional use permits.

## **Work Session #1 (Woodbury County Courthouse) – October 16, 2023**

On **October 16, 2023**, the Commission conducted a work session at the Courthouse to consider utility-scale solar energy systems. There were fourteen members of the public at the meeting. Below includes links to the audio and summaries, paraphrases and/or direct quote adaptations of the meeting content. The following is not intended to be a transcript but to provide context of the debate. The audio can be accessed on YouTube using the following direct link: <https://www.youtube.com/watch?v=IJAj6Xh3cSU>

The list of Zoning Commission meetings inclusive of the agendas, packets with backup materials, minutes, and videos (Audio) may be accessed at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/)

### **Work Session for Proposed Utility-Scale Solar Energy Systems Zoning Ordinance Amendment(s).**

Prior to this meeting, the Zoning Commission has held two public hearings to collect comments from the public (Moville – 9/11/23 & Courthouse – 9/25/23). Subsequently, a follow up public hearing will be held on Monday, October 23 at the regular meeting of the Commission that begins at 5:00 PM.

Priestley offered an overview of the evening's proceedings including five considerations for a potential utility-scale solar energy systems ordinance that could be considered by the Zoning Commission in preparation for a recommendation to the Board of Supervisors.

#### **Consideration 1**

Consider updating the General Development Plan and/or Future Land Use Map to facilitate the potential expansion of the General Industrial (GI) and Limited Industrial (LI) Zoning Districts and consider adding additional requirements to the conditional use permitting process to make expectations clear for the applicants, area landowners, and the general public.

#### **Consideration 2**

Consider retaining the current permitting procedures in the Woodbury County Zoning Ordinance but add additional requirements to the conditional use permitting process to make expectations clear for the applicants, area landowners, and the general public. Consider retaining the General Industrial (GI) Zoning District as the only allowed location for the consideration of a conditional use.

#### **Consideration 3**

Consider establishing a utility-scale solar energy systems overlay zoning district that requires a rezone application to be reviewed by the Zoning Commission and considered for approval by the Board of Supervisors that must meet specific criteria for the appropriateness of whether a particular area in the Agricultural Preservation (AP) Zoning District is suitable for utility-scale solar energy systems. Consider adding additional requirements to the conditional use permitting process to make expectations clear for the applicants, area landowners, and the general public.

#### Consideration 4

Consider establishing an agrisolar utility-scale solar energy systems overlay zoning district for the specific purpose to coincide with an existing farming operation where each parcel of land shall include over 51% of its usage for farming purposes.

#### Consideration 5

Consider retaining the current policy for utility-scale solar energy systems (No changes).

The Commission discussed the current process for the permitting of utility-scale solar on agricultural land including the issue of spot zoning and its relationship with the comprehensive plan's future land use map. Priestley referenced the future land use map as a tool for justifying future industrial areas that could facilitate the permitting of utility-solar. He indicated that industrial areas could be expanded on the map for future consideration of solar. However, it would take going through the comprehensive map approval process of amending the map to reflect additional industrial areas that could later justify additional areas.

Priestley discussed the concept of overlay districts as used by both Scott County and Linn County. Scott County relies on a CSR2 average of 60 or higher to authorize the rezone while Linn County uses a score card or rubric which identifies a number of issues not limited to CSR2, grading, vegetation, and good neighbor payments in order to obtain a permissible score.

Priestley indicated that the rezone to an overlay is similar to a conditional use, however, it adds the Board of Supervisors to the process of determining whether or not an area of the county is appropriate for solar. Therefore, the Zoning Commission and Board of Supervisors would be involved in the overlay district rezone process. Additionally, the Zoning Commission and Board of Adjustment would be involved with the conditional use permit process. The Board of Supervisors would be involved with authorizing each individual agreement such as decommissioning, road use, agricultural mitigation, etc.

Zellmer Zant indicated that she likes the involvement of the Zoning Commission, Board of Adjustment, and Board of Supervisors as it gives the public more opportunities to participate in the process. She also questioned whether the overlay district is permanent or temporary.

Priestley indicated that depends on how the overlay district is designed. The goal of the district is to allow a new use but retain the base use. The policy for a decommissioning plan will be a determining factor as to whether the specific use of the overlay can continue or conclude.

Bride inquired as to whether there would be any issues if separate overlay districts associated with other projects were treated differently than others.

Priestley indicated that there must be clear consistent expectations in the requirements for establishing the district, however there can be some room for conditions if information is identified that should be addressed.

Priestley stated there must be a balance, but various options must be exhausted as applicants/developers must know what they are getting into from the start.

Priestley discussed other considerations such as separation distances, setbacks, setback waivers, and the floodplain.

Priestley discussed a potential application process and expectations of staff, associated county departments, the commission, and boards. He discussed the concept of the solar-ordinance conditional use as being portable for either the industrial or overlay district. If the overlay district is not used, then an added feature conditional use permit process can be used for the general industrial areas. If the overlay district is used, there would need to be a set of parameters for determining how the overlay gets approved.

Bride shared a concern that if the Commission recommends no changes that the Supervisors might consider going with a stand-alone ordinance which does not involve zoning.

Priestley indicated that a stand-alone ordinance does not include the zoning districts.

Priestley stated that the Zoning Commission has the right to offer any reasonable recommendation to the Board of Supervisors. He indicated that everyone is mindful of the harvest season, and we will continue to offer multiple opportunities for input.

O'Tool inquired about the downside of using the overlay district.

Priestley explained the debate of exclusively relying on CSR which could offer limitations for landowners.

Meister mentioned in a previous public hearing questions about the reliability of CSR. He indicated that he likes Linn County's rubric as including CSR and other items. He also inquired who would be monitoring or policing the rubric for items such as grass species.

Priestley responded that additional regulations create the need for more bureaucracy or more resources.

Meister inquired about how the Board of Supervisors arrived at 2% use of agricultural land. Is that enough or too much? He would like to see more information on how this equal to an existing power plant.

Bride indicated that 2% is around 8,400 acres and stated that the Supervisors may be looking for a cap.

Will Dougherty of MidAmerican discussed the acres on some existing projects in other counties.

Meister offered concerns about the 2%.

O'Tool inquired with Will Dougherty about the comparison of solar and wind in terms of megawatt capacity.

Bride inquired about the setbacks and if any of the allowed uses expand outside of the property lines.

Priestley indicated the existing zoning ordinance does not include separation distances beyond the lot lines. Setbacks are determined by the zoning district dimensional standards in the zoning ordinance.

Bride offered concerns about the impact of setbacks on other property owners.

Priestley indicated that setback waivers could be used, and he cautioned about the law of unintended consequences.

O'Tool referenced the 5% slope proposed requirement.

Bride inquired as to where the Supervisors arrived at that number.

Priestley said it has been offered as part of the consideration for the Commission to research as a possibility.

Zellmer Zant referenced the importance of comparing practices with other counties and not necessarily reinventing the wheel.

Zellmer Zant also referenced the needs of the cities including community solar.

Bride used Merville as an example using an overlay to facilitate solar. He also referenced the use of the percentage as an issue.

Priestley indicated that the 51/49% solar ratio is meant to ensure agriculture remains a primary function on ag land.

Meister inquired about the proposed one mile notification area.

Priestley responded that the purpose is to increase public awareness.

Zellmer Zant inquired with Will Dougherty as to whether these contracts are 10 years and questioned the rapid change of technology.

Dougherty discussed maximizing efficiencies as a driving factor of change. He referenced ISU's study pertaining to the coexistence of agriculture and solar with aspects such as grazing.

Bride inquired about damage to panels as a result of grazing.

Dougherty referenced sheep as an option over others.

Bride inquired about how the land can be put back the way it was through decommissioning and referenced concrete left in the ground as result of wind turbines.

Dougherty indicated that solar concrete footings are not being used.

Zellmer Zant asked about the Port Neal solar field's footings. O'Tool asked Dougherty about buried power lines and if they can be buried in the floodplain.

Priestley indicated that electrical assets must be elevated above the BFE.

Bride and Zant indicated there are locations where lines are likely buried in the floodplain.

Zellmer Zant asked Dougherty about how much power gets lost from arrays through distribution. Bride asked Dougherty about the driving factor for locating solar parks.

Zellmer Zant inquired with the Commission about what they like/don't like in the packet considerations.

Parker referenced the Supervisors' discussion point of Light Industrial. Priestley indicated that the limited industrial use can be associated with Consideration #1 which would entail revising the development plan.

O'Tool referenced having a list of bullet points to follow to determine where an area is appropriate or not.

Zellmer-Zant stated that she prefers to not go with the map change as referenced in Consideration #1 because there are other systems in place. She indicated that she likes the conditional use and overlay district format as it includes multiple entities.

Bride questioned the ability to accurately be able to paint/assign the industrial areas through mapping.

O'Tool indicated that the overlay could be used in AP areas. Bride discussed the flexibility of the overlay district and the permitting routes.

Priestley discussed the creation of the overlay district on a project by project basis. He indicated that an acre cap could be instituted in the ordinance. Zellmer Zant stated that one of the counties she researched had a cap of 400 acres.

Zellmer Zant indicated that the Commission appears to be leaning toward Consideration #3.

Priestley indicated that Consideration #4 is not field tested and was only brought into the discussion to discuss the relationship or co-existence of solar and agriculture. Agrisolar could be a part of Consideration #3.

Priestley also discussed how battery systems should also be brought into the debate with the growing technology. He made reference to its inclusion in Linn County's ordinance.

Will Dougherty discussed batteries in Iowa.

Zellmer Zant inquired if Consideration 5 is off the table. Bride indicated that not doing anything is not what the Supervisors are looking for.

Priestley indicated the Commission has the latitude to make a recommendation as you see fit as long as it has an explanation and rationale behind it.

Zellmer Zant referenced the overlap between Considerations 2 and 3. Priestley discussed the overlay district and the overlay rezoning process.

Parker inquired if the county currently has an overlay district. Priestley stated that there is a conservation overlay district that could be petitioned for.

Zellmer Zant questioned the reference to the 10,000 acre limitation, dimensional standards, etc. between Consideration #3 and #4. She referenced the relationship between the 51% agricultural use and the CSR2 rating.

O'Tool questioned whether the CSR2 should be prohibited or not. Meister questioned the inconsistency and reliability of the CSR2.

Doyle Turner offered comments about the accuracy of CSR2. Leo Jochum referenced the difference in rainfall between CSR1 & CSR2.

Zellmer Zant indicated that CSR's may be over 65 in industrial areas.

Priestley suggested the comprehensive plan and map allows for industrial areas to include areas of high CSR if the county plans for those areas to be industrial.

Meiser is concerned with CSR being the sole factor. Priestley indicated that CSR has traditionally been a part of this county's determination of land use.

O'Tool indicated that it would be appropriate to spell out that a lower CSR would be preferable. Bride indicated that CSR is presently considered in the rezoning decision process.

Zellmer Zant inquired about 5% slope for fixed arrays and whether there should be a range. Bride offered concerns about the fixed percentage and discussed erosion. Doyle Turner commented about farming practices across the state and discussed soil erosion including highly erodible land (HEL).

Zellmer Zant inquired about the policy toward the special flood hazard area (floodplain). O'Tool suggested that the standard floodplain regulations could be followed.

Zellmer Zant referenced the conditional use language as being included along with the overlay. Priestley replied that it would need to be discussed and debated.

Zellmer Zant inquired about the definitions and the remaining concerns in the conditional use and overlay section.

Priestley suggested that the concepts must continue to be vetted through the County Attorney's office. It will be shared with both parties.

Priestley recommended that future work sessions be held following next week's public hearing.

Leo Jochum offered concerns about the comparison between Scott County and Woodbury County and the use of CSR2. Jochum made reference to other counties such as Louisa County, Mills County, Johnson County, and Linn County. He referenced the scorecard as used by Linn County and the role of using seed mixes.

Doyle Turner suggested that elected people should have a say on the locations of the solar parks. Turner offered concerns that parameters set could limit the amount of land available for these projects. He recommends giving the Supervisors more than one recommendation which could include the industrial areas. As part of the conditional use, he offered questions about the hurdle of being necessary and desirable.

### **Public Hearing #3 (Woodbury County Courthouse) – October 23, 2023**

On **October 23, 2023**, the Commission conducted a third public hearing at the Courthouse. There were fourteen members at the meeting including one on the phone. Four addressed the Commission and provided the subsequent information. Below includes links to the audio and summaries and/or direct quote adaptations of the information shared by the public. The following is not intended to be a perfect transcript but is offered to provide context of the debate. The audio can be accessed on YouTube using the following direct link: <https://www.youtube.com/watch?v=qNpK3atf1k0&t=3s>

The list of Zoning Commission meetings inclusive of the agendas, packets with backup materials, minutes, and videos (Audio) may be accessed at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/)

**Emily Segura (Sioux City) (14:45 to 18:24) - <https://youtu.be/qNpK3atf1k0?si=CGm38fZqA05uwVj2&t=885>**

I'm from Sioux City. I'm a native of Woodbury County here and I love our county. I think we have so much to offer um new people coming here and just the farmland um I grew up on the farm and I definitely love the land. It's very important to me that we take care of it so that's why I'm here today to just bring forth a few concerns that I might have about this that I think maybe aren't being considered at this time. So, like I said, I'm from this county I have been coming for the past several weeks just listening to what's been going on um, and I think something that's maybe kind of failed um to be recognized is that these maybe are not as green friendly as we'd like to think. An article that I'm going to reference I'm only going to talk about one here um there's many more that I could bring forward if needed but the one we're going to talk about is from the Harvard Business Review. It's titled the "Dark Side of Solar Power" um in this article it is talking about how prior to putting up a solar farm you'd need a correct way to get rid of when these solar panels go bad so in the article it's talking about the waste that is coming from these solar farms because they go in our minds we think okay they're going to last us like 30 years or something well that's not actually what happens generally if we have like a hail storm that comes through it's going to take it out or um something of that nature or also another factor that it talks about is um that there is more efficient solar panels coming up so the ones that we have now in 10 years we're going to have more efficient solar panels so when we're going to we're going to just change it so what are we going to do with the solar panels that are already in place they're going to get they're going to go to the dump because it is cheaper to send them just to the dump we don't have another way to do it that's what's going to happen and when they go to the dump which our dumps like this is going to be full of solar panels when they go there they also would emit toxic waste which there are metals that are in these and also glass products so we don't have a place to go with these solar panels once they go back so um in conclusion I would recommend that you check out the "Dark Side of Solar Power" from the Harvard Business Review. It's just a good insight into another viewpoint that possibly we're not thinking about that these things are not really helping us out in the long term because we're making our children take care of the mistakes that we did. – Referenced Article: "The Dark Side of Solar Power" by Atalay Atas, Serasu Duran, and Luk N. Van Wassenhove. Harvard Business Review. - <https://hbr.org/2021/06/the-dark-side-of-solar-power>

**Ann Johnston (Salix) (18:50 to 20:28) - <https://youtu.be/qNpK3atf1k0?si=CKeu0LvAPe5KTSf&t=1130>**

I have some additional information about the Uyghurs, the slave labor group in communist China that makes parts of the solar panels not only do they make parts for the solar panels, they make the whole solar panels and yes there's still a slave labor group the women and children are physically and sexually abused and that's who makes 97% of the solar panels that come to the United States. My second point is I've heard a lot about Linn County and Scott County but I haven't heard anything about any counties over here on the western side of the state so I made several phone calls and Sioux County has a big moratorium on any of this energy stuff that's going on the other counties um are not going with solar or wind power um in fact um they know very little about it so if it is so desired here in Woodbury County um it's not desired in surrounding counties.

**Elizabeth Widman (Sergeant Bluff) (21:00 to 24:22) - <https://youtu.be/qNpK3atf1k0?si=OQ4pZ36Ye01GmNK&t=1260>**

I live in rural Sergeant Bluff and I'm a landowner and my sons again are fifth generation Woodbury County farmers. I've going to all the solar meetings two of the Board of Supervisors voted against putting solar on ag protected land so this is not a mandate from the board to ensure solar encroaches on ag land. Putting utility solar on ag protected land fundamentally changes the ag protected area and should only be put in industrial zones. MidAmerica's largest Iowa project is 800 acres but they stated they did not have immediate plans to locate solar in Woodbury

County. The photo of Europe of farming between solar panels is experimental and not done in America. MidAmerica stated that cattle grazing underneath solar would not work because they would rub against the solar panels and knock them down. Grass planted underneath would not help wildlife because it was stated that fences need to be around these solar areas to protect the public at the last meeting Dan Priestley said that when utility solar is allowed in a preservation land companies would have to be forthright in their application however at these public meetings it has not been mentioned that the pro solar speakers have already signed contracts with an outside company and we should be told who this company is if you add up the acres of land in the plat book owned by these individuals in my area it comes to roughly 2,600 acres or around four square miles to get an idea of that magnitude um think of this the area of the city of Sergeant Bluff is only 2.11 square miles all of the rest of the cities in Woodbury County are less than one square mile four square miles is about the size of 1,936 football fields. MidAmerica said that their solar contracts are for 30 years if these signed solar contracts are the same. I'll be 97 years old before these is a possibility of decommissioning them back to ag if it ever is done. Utility solar is not agriculture in 30 years my grandchild recently born will have completed all of their schooling, their college degree and worked several years in their first job all without seeing this land in agriculture another solar project also unmentioned at these meetings is contracted near Rock Brach for around 3,000 acres My mom's um cousin owns 80 acres out there that he's turned into a nature preserve and I just uh recently inherited some land right next to that the solar would be out by there so utility solar is not agriculture the reason it's called agriculture preservation is to preserve it. These solar utility um facilities belong on industrial land.

**Elizabeth Cindy Haase (Salix) (24:46 to 24:22) - [https://youtu.be/qNpK3atf1k0?si=ffZv8N6kDOvv8g\\_\\_&t=1486](https://youtu.be/qNpK3atf1k0?si=ffZv8N6kDOvv8g__&t=1486)**

I do have some concerns with the solar farming and one of them is uh the radiation that could be caused by it um cause I read some things about um the electromagnetic hypersensitivity to it that could give you um headaches and dizziness and nausea um and there are some who believe that there is increased risk of cancer for those who live next to them um and some of this makes sense because they're those who do live um near them have said that they have had headaches from them and so I think those are good reasons to um to think about.

## **Public Hearing #4 (Woodbury County Courthouse) – November 27, 2023**

On **November 27, 2023**, the Commission conducted the fourth public hearing at the Woodbury County Courthouse. Thirteen members of the public addressed the Commission on a range of issues in support and opposition to utility-scale solar on AG land. Below includes links to the audio and summaries and/or direct quote adaptations of the information shared by the public. The following is not intended to be a perfect transcript but is offered to provide context of the debate. The audio can be accessed on YouTube using the following direct link:

[https://www.youtube.com/watch?v=Me\\_SPKOFaHM&t=11s](https://www.youtube.com/watch?v=Me_SPKOFaHM&t=11s)

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**Bob Fritzmeier (Sioux City) (8:32 to 11:15) - [https://youtu.be/Me\\_SPKOFaHM?si=xmjwED2uRr\\_egZar&t=512](https://youtu.be/Me_SPKOFaHM?si=xmjwED2uRr_egZar&t=512)**

Yeah good afternoon um I'm Bob Fritzmeier and I'm I live at 2933 Leech here in Sioux City and I think that the overlay district for the solar would be really good for Woodbury County the solar panels they create a good pollinator environment or habitat which really according to the USDA is very important for uh ensuring that that we have food and we often hear you know Iowa helps to feed the world and this would be part of the mix really scientists estimate that about 75% of the world's flowering plants like alfalfa like soybeans that we have in plentifully here in Iowa are depending on the pollinators to flourish I think that the solar uh scorecard is all right on Target in helping to address the native grasses and there are three the three season flowering plants that do increase the survival of the pollinators that are needed. These will have a really positive effect on the food production. Solar is also as a form of renewable energy will improve our environment and the air that we breathe here in Woodbury County and I wonder um may I submit two documents these are from the United States Department of Agriculture and it's the National Institute of Food and Agriculture this one and the other one is from the United States Department of Energy it just basically these reinforce the facts I've been presenting here um would you be willing to accept these? --- Thank you.

**Kevin Alons (Salix) (11:37 to 14:53) - [https://youtu.be/Me\\_SPKOFaHM?si=3FxQmw16BOIX64K5&t=697](https://youtu.be/Me_SPKOFaHM?si=3FxQmw16BOIX64K5&t=697)**

I'm going to speak again just in recommendation against an overlay for agriculture for solar and uh I just want to point out that again that uh solar and agriculture simply aren't compatible so using pulling solar on top of agriculture land especially land that's in production or productive land in the county which most of the land I think even that's been proposed to date or at least been considered is very productive land and uh the two really just aren't compatible a 30-year time period is a very long period of time and I'll talk about that later when it comes to decommissioning or other considerations but I would just urge that to be strongly considered uh talking about productivity is solar as I've researched and continue to look at it I mean it's something that is known to degrade over time so solar I've heard uh people talk about even in the first year or two there's like several different ways that solar degrades but sounds like even in the first couple years you might already see the production drop by well even a third and it will continue to drop year over year and that's established like a one to one and a half percent drop now that obviously doesn't directly impact the county when it comes to you know obviously how much but it does indirectly uh affect how much power is generated which therefore generate affects how much income is generated and that also affects how much taxes are generated so I think that the science on these are while they have certainly been improved and I think they become less expensive they're still very high expense to put in place and when you look at how long they're going to operate especially in some of the conditions we have here in Iowa I think that uh it's it's kind of a stretch to say that we're we can count on these things even operating with any reasonable amount of performance for 30 years obviously the production of solar is uh quite low and it's temporary so it's it's not a baseline prod production model it's something that would be additive and in the end we we keep hearing discussions of how there's pressure to turn down our baseline or coal natural gas and other types of power production sadly that think these are being used as justification for that and I I just think in the end that this is a it's a it's a false it's kind of a red hearing argument because it's going to leave us with without a Baseline and these can't reproduce that the only reason we're pursuing these things at all given the costs and given their inefficiencies is um Federal subsidies well it'd be one thing if we were doing these subsidies while we had a surplus of money but I think everybody knows we don't have a surplus of money at the federal government they're spending over a trillion dollars in deficit every year and our debt is growing rapidly so anything that this thing would generate is driving inflation which is going to really jeopardize whatever positives these things are touted to produce so just all of the all of the um fundamentals to these things are are questionable at best um the I just looked at the map and saw where I live from Salix I live by Salix just south of there and most of the land that's being proposed for this is right up abutting the the town of Salix um I'm really curious to know what

the town of Salix opinion is with that because it could affect how much they can grow it certainly will affect their land values and that type of thing so anyway those would be my primary reasons today to resist an overlay or otherwise consideration for solar thank you thank you.

**Robert Wilson (Rangeland Energy Management) (15:00 to 17:48) - [https://youtu.be/Me\\_SPKOFaHM?si=bwEobOuCeZpGpdJ6&t=900](https://youtu.be/Me_SPKOFaHM?si=bwEobOuCeZpGpdJ6&t=900)**

This is Robert Wilson with Rangeland Energy Management um I just wanted to speak to you know solar development I'm a renewable energy developer um things have really changed and can continue to change as uh more and more projects are permitted um some of the new things that a lot of projects are doing uh fits under the definition of agrivoltaics um in the sense that there are portions of these projects that can still be utilized to harvest um different types of agriculture while not necessarily real crops um other types like uh barley uh bean peppers that sort of thing um in addition we often utilize sheep herding as a form of vegetation control so that's in a sense um another form of agrivoltaics and finally when the project's operating it's essentially the land being laid fallow the same way that you would see uh a CRP parcel um so there's no massive grading uh or laying of gravel or anything outside of our perimeter roads um so it would essentially be CRP lands with solar modules on top of them in the racking system in addition I wanted to touch on decommissioning requirements um our site control agreements all have decommissioning and remediation requirements that we're bound to in addition to us our financing partners are also bound to those commitments as well um also in a lot of CUP processes uh municipalities often request bond requirements so we'll put aside funds to uh finance the decommissioning in the event that uh the project trades hands there's money that's been set aside prior to permitting the project that will finance the decommissioning of the project um so at the end of the lifetime there are monies in county hands to provide for decommissioning of the project um in addition there's no concrete that's used with the pylon so it's a relatively easy decommissioning process and the um the salvage value of the project itself will often finance the decommissioning of the project or exceed the value of the decommissioning costs um finally these projects provide for replacement generation for retiring thermal thermal generators uh there's a thermal generator that's nearby that's actually half retired and it's under lawsuit with the Sierra Club to be retired it's one of MidAmericans dirtiest in their coal fleet so these projects provide for New Generation that keeps power prices low for the public um as thermal generators are retired and that's it for me thank you.

**Doyle Turner (Moville) (18:36 to 21:32) - [https://youtu.be/Me\\_SPKOFaHM?si=o7Zwkdc9ej80rqla&t=1116](https://youtu.be/Me_SPKOFaHM?si=o7Zwkdc9ej80rqla&t=1116)**

Doyle Turner 2738 200th Street Moville um one of the main things that I think we really need to be cognitive is that we have a development plan that is really close to being done and and I have talked to some of the Supervisors and I I do know that some of them are thinking that it would be wise to wait until that development plan is done due to just the total number a of the acres that are involved in something like this it's not like a conditional use where you're looking at one property and how one property affects the neighborhood we're we're looking at changing the outlook of a significant portion of our county and I think that considering the laws that whenever you get into litigation or anything like that you always go back to that development plan and I I think it really be would be wise to not not necessarily delay this but to not get the cart ahead of the horse and to get this done after the development plan is done the other thing that I'd like to bring up is is people talk about the income derived off of this from tax revenue um it's not an apples to apples to compare this to property tax revenue because it doesn't create revenue from property tax it creates revenue from the electricity that is produced um there the MidAmerican has requested from the IUB to look into um nuclear those those small nuclear uh power plants um so what we have is the main asset that these companies are looking at are the transmission lines you know they're worth more than the land is I mean you're looking at probably a 5 billion transmission line and that's what they're after and we have to also be cognitive that this is only going to really utilize 20 to 25% uh of capacity in the fact that these don't produce electricity all the time and we don't want to get in a position where we short change ourselves um an opportunity to produce electricity 95 to 100% of the time compared to 20 to 25% of the time so when you are comparing when you are looking at a possible revenue stream you have to compare apples to apples and you have to compare that this is not fully funding our transmission lines so I you know I I think the overlay is something that is worth looking at but not until after the comprehensive map has been developed thank you.

**Christopher Widman (Bronson) (21:55 to 24:43) - [https://youtu.be/Me\\_SPKOFaHM?si=0xv00StpVTDfdF8L&t=1315](https://youtu.be/Me_SPKOFaHM?si=0xv00StpVTDfdF8L&t=1315)**

Christopher Whitman my address is 1866 220th Street Bronson Iowa um I'm a fifth generation farmer um I love the county and it's a roots and I hope to pass my farm someday on to my kids um I'm not opposed to industrial solar in the county by any means but I don't think it has a place um on ag preservation land that these big and solar industrial solar complexes that I mean they need to stay on the industrial land we have a planning zoning department and committee that basically they're here to tell us hey you know if I went there and I wanted to build on my land they would be like no there's an industrial park go by land there and build there not how about let's rezone your ag land to build on it so I think the county is doing its 20-year development plan and as they do that like they need to take into consideration we can increase these big so like if we want solar in the county how about let's increase our industrial parks and expand them a little not cherry pick out in the middle of the county for a few land owners that have come in front of you that say hey we need to expand this um I think it just doesn't like it doesn't seem consistent to you know have all of these land owners come that already have signed contracts with you guys like the county is supposed to develop their plan based on a land development plan that is not part that it's supposed to be with the best the general welfare of the county not a few so like if we start making these changes based on what these individuals have come here and asked for and they're trying to change things so these individuals that have signed contracts get their land to go in it then I think the county has a big legal issue because we're going to be going after them saying you capitulated to these people with their own interest and that was not in the general warfare of the county so I would say let's wait till the 20-year plan is done I don't think that there's a place for overlay on ag land let's expand the industrial parks and tell the land owners go buy the industrial land don't try to use your ag to make industrial profits the last thing I would like to enter into the record are a few questions for you guys that if you could answer them by the next meeting or whatnot um and then there's an article in here and a listing of everybody that has uh land easement signed in the county thank you.

**Elizabeth Widman (Bronson) (25:23 to 27:05) - [https://youtu.be/Me\\_SPKOFaHM?si=XJxydJdjOKbmAZyZ&t=1523](https://youtu.be/Me_SPKOFaHM?si=XJxydJdjOKbmAZyZ&t=1523)**

My name's Elizabeth Widman again 1665 220th Street Sergeant Bluff um I'm a landowner and um I would just like to urge you like some other people to delay your decision until the new Woodbury County Comprehensive Plan is finished um I understand that they're working on it right now and have been working on it and um the reason for this is because um as residents of Woodbury County um that is protection for us it gives guidelines as to what the county is going to do moving forward um what's expected instead of just having uh oh surprise somebody came and now we're going to have this this uh solar utility farm next to a place that you've been developing and you like the the view etc and um um I appreciate the job you're all doing appreciate the jobs the supervisors are doing but this is a comprehensive plan that lasts for 20 years and boards come and go people come and go but that's what's in place that gives guidance uh to the county and um so again I I believe that utility

solar belongs an industrial ground it is not um Agricultural and I believe that the comprehensive plan is called an agricultural preservation district uh for a reason that's to pre preserve agricultural land and I just um like I said would like to urge you to delay this until the their development plan is finished thank you.

**Tom Treharne (NextEra Energy) (27:21 to 31:47)** [https://youtu.be/Me\\_SPKOFaHM?si=XZBiGC-bMALZdLHY&t=1641](https://youtu.be/Me_SPKOFaHM?si=XZBiGC-bMALZdLHY&t=1641)

This is Tom with Nextera can you hear me. Zellmer Zant: Yes please go ahead. Thank you sorry um I just wanted to to ask if is there a recommended um proposal or a recommendation coming out of staff or which which way to proceed or are all of them up for just for discussion at this point? Priestley: there's three concepts that are out there for discussion um that are fluid uh one is the conditional use for the general industrial, the second is the overlay uh district scenario that's been discussed, and the third is the uh comprehensive plan as part of a background to uh look at that because we're uh toward the end of that or in that process as well so those three things but there is uh language in the backup material that has the conditional use and the overlay District language in there that's fluid and being discussed but there's no concrete direct uh one pointed at at this point. Treharne: okay thank you I've read through all the options and um you know just from a development perspective um certainly appreciate the time that's spent and you know as a as a developer of a project you know we we respect and and really appreciate the time that you guys are looking at and would would work towards being able to build a project we would just ask is the development language is is put together um you know some of the setbacks the thousand foot setback from residential dwellings it's that's that makes really makes for some serious challenges on a project as well as some of the grading language specifically limiting it to 5% and so um you know just depending on how uh you know the the ordinance moves forward and what proposal we're looking at those are some those are two considerations that um um would would be difficult for for us and we like to see something changed I I know there's a lot of conversation as well as it relates to industrial ground and the development of solar in the industrial properties um solar solar development is is is while some may consider the used to be industrial in nature the the fact that you would be developing solar on large pieces of property that are being geared for uh industrial development would would not be the greatest ideal greatest situation considering you know you build industrial ground you're You're building streets and roads and sewer and water and a whole host of of public utilities and public infrastructure to serve industrial tax base and industrial facilities that employ people at a large scale and and are adding value in a very urban on area the the value that that comes from from a solar development is the taxes um to the county and and there's not a lot of uh investment in in public utilities or infrastructure to support that so pointing all of your solar development to industrial uh property um creates a whole host of of problems that that I would see in the future anyway I I do think the overlay district is a is a great way to go uh solar uh can be uh very um similar and like to to an ag use I know some folks don't like the way it looks um but I think that traditionally that's how the regulations have been been cast in the past I know for you know Linn County is moving forward with that and appreciate the work that's been done to take a look at that and the scorecard for Woodbury as well so um just I wanted to just address those those couple items and and um you know I'd be just looking forward to how the board or the commission um reviews what's being proposed and and and takes action in the future so thank you for your time.

**Roger Brink (Onawa) (31:54 to 32:33)** - [https://youtu.be/Me\\_SPKOFaHM?si=Tm\\_sUTI8AAqeioii&t=1914](https://youtu.be/Me_SPKOFaHM?si=Tm_sUTI8AAqeioii&t=1914)

My name is Roger Brink from Onawa Iowa I've been hearing a lot of comments about needs to stay into the agricultural ground but yet the government is paying CRP ground to lay it aside and people's got trees growing up 6 feet 7 feet tall and then they go in there and spray them it looks a lot worse than what the solar panels will -- we got three solar panels project in the county already that they don't seem to bother too many people thank you.

**Leo Jochum (Salix) (33:14 to 37:50)** - [https://youtu.be/Me\\_SPKOFaHM?si=iOue6GQZ1CSiIPQZ&t=1994](https://youtu.be/Me_SPKOFaHM?si=iOue6GQZ1CSiIPQZ&t=1994)

Leo Jochum 1691 250th Street at Salix I think option two would be the best of these three options that we've discussed I think it is important that the overlay designation keeps farmland in the AP zone so that when the solar release expires the farmland will be returned to agricultural production I do have a concern with the qualifying CSR2 of 65 or less the majority of the farmland east of 75 has a CSR1 rating between 45 and 55 which increased between 20 and 34 points in 2014 when the precipitation factor was removed I'm in favor of removing that as a qualifying factor during the Iowa Utility Board's application process the soil conservation service NRCS and the DNR will be involved with grass and plant selection to ensure the soil quality will be preserved which will make the transition back to agriculture production possible in the ordinance under rough draft under H ground cover and buffer areas this references some of the practices that are listed in the Solar SC scorecard prior to construction soil sampling will be done to create a baseline for fertility but in addition to that soil probing will also be used to determine the type and the characteristics of the soil this is used to determine the size and the gauge of the tubing and the proper depth to place the steel tubing that supports those brackets there isn't any concrete put in the ground for this no concrete to support the tubes and no blacktop under the panels the method of installation allows for a very efficient and minimal soil disturbance for the removal of the solar array at the expiration of the solar contract which will allow for a smooth transition back into the agricultural production now I would like to address just a little bit about setback proposals and I I hope that the separation distance will be compatible with placement of the panels uh the occupied residence setbacks that I have seen are usually in the 150 to 300 foot setback from a residence in addition there's usually a landscaping or screening plan put in place that I also see in the proposed ordinance the city also has a jurisdiction of two miles and I don't know if this little issue on the bottom is contemplating having a county ordinance of two miles towards the city so I don't know if that would interfere and does the county have current setbacks from like a road right away and is that what we should be using like if it's 50 or 60 feet from the road white right away um want to make a comment on uh the 2005 planning um 3.4 is protecting Prime Farmland is determined by a corn suitable rating over 65 CSR if we use that CSR one which they are using right here that's going to put most of these lands that they'll have to be under an 85 to qualify so that's why this csr2 is important that was time okay thank you thank you I do have um some information I'm this is just kind of review of what you had before but it's going to reinforce what I said tonight okay.

**Naomi Widman (Bronson) (37:59 to 41:18)** - [https://youtu.be/Me\\_SPKOFaHM?si=DmHOG7irVIwDpMzj&t=2279](https://youtu.be/Me_SPKOFaHM?si=DmHOG7irVIwDpMzj&t=2279)

I'm Naomi Whitman um 1866 220th Street um I just want to thank you guys I don't envy your position at all so thank you for the work and time that you guys are putting into this I know it's a lot um I do I do want to make one comment um as we consider people's um thoughts and opinions um I think we need to consider the motivations as well um when we are looking at what they're saying information that they're giving us um and just what their motivation behind it might be um I am not opposed to solar energy at all I think it has its right place um I I am concerned about granting an overlay for select areas that are not even close to industrial areas um in ag preservation land I think that like it's been mentioned multiple times that there's a 20-year plan that's nearly complete that we've been working on um I definitely think we should

delay until that's completed before we consider anything um as far as granting overlay I it's important that we have the best interest of the Gen like general community and the county in mind versus catering to particular individuals who have honestly a very significant financial interest in receiving an overlay so it data has shown that land values surrounding solar complexes decrease um particularly residences and so when we are looking at that I I feel like people should have freedom to decide what happens on their land to a certain extent um when that starts negatively impacting surrounding land owners um um that's where our governing bodies are obligated to step in and make regulations and um that's that's just how life works really so I think when we when we are making decisions we need to think about the um general welfare what is um in the best interest of them I don't think it's any secret there's easements that have been signed there are very small select individuals um that will profit from that I think if we just grant overlays not thinking about what's in the best interest of everyone in this surrounding area um it seems to show a lot more favoritism versus okay what as Woodbury County we're developing what do we want to do what what is best for the county as we move forward um and everyone who resides in this county um so I I would think if we want to expand solar which I'm not opposed to it all I think that we can we can look at that we can we can um consider that but I don't think cherry picking little parcels in the middle of ag preservation land is probably the best way to go about go about that so I would just um encourage the Zoning Commission the Board of Supervisors um just to consider their role in making decisions for the best interest of the county um and not particular individuals thank you.

**Steve Corey (Salix) (41:25 to 43:13) - [https://youtu.be/Me\\_SPKOFaHM?si=jZ2fQJ6KtL\\_5gcAe&t=2485](https://youtu.be/Me_SPKOFaHM?si=jZ2fQJ6KtL_5gcAe&t=2485)**

Steve Corey 1757 290th Street Salix. Um my concern is in speaking to some of the uh the city leaders of the town of Salix um they're pretty much in the dark right now on this whole project um looking at the map and the land that is being proposed for this uh the community is kind of penned in uh from the south southwest corner the whole east side running up you know going north towards Sergeant Bluff um I never imagined living here in Northwest Iowa that I was going to have to be dealing with carbon sequestration, wind farms, and now solar in the middle of the county to boot um I I never thought I'd have to deal with that as a resident of the state and the county and the community um it's it's a real Challenge and they all all three of these particular uh proposals are coming you know want to come through this County as most of you are aware not only that but none of them work without the taxpayer being involved in this that bothers me um if you have to subsidize it to make it work does that make sense on the backs of the American taxpayer considering what we're all dealing with today regarding inflation and what's happening to all of our to all of us when it comes to uh how we put bread on the table so um there's a lot of things that need to be considered here not only that but the the agriculture land itself and where in the county and the future and what is our County going to look like um because once we open this Pandora's Box um you know how that goes right anyway thank you for your time.

**Greg Jochum (Salix) (43:53 to 47:24) - [https://youtu.be/Me\\_SPKOFaHM?si=On6BgTy\\_bmAhPcdA&t=2633](https://youtu.be/Me_SPKOFaHM?si=On6BgTy_bmAhPcdA&t=2633)**

Greg Yokum uh 1629 270th Street um I feel very fortunate to be part of production agriculture a lot of consolidation took place in the 1980s during the farm crisis which gave way to producers selling their livestock and continuing to farm and taking a job in town to some extent we have that today as a growing number of farms become more automated using artificial intelligence and other smart technologies to boost performance energy production could be the next step to enhancing land use I am confident that in the future of our family operation could consist of pork production corn production soybean production and energy production the corn and soybeans that I raise on my farm right now the corn goes to ethanol plants with which is energy the soybeans go to AGP which in turn the soybean oil gets turned to biodiesel another form of energy with solar on the farms that I have will produce energy that can also be used locally I'm in favor of using the overlay district in the AP zone for utility solar the infrastructure is already there with two 345 KV lines and two 161 KV lines uh these go through my Farms that I've been farming around since I came back in 2000 my dad's been farming around them when he bought his first Farm in the 60s I'm also in favor of using so the solar scorecard versus the CSR rating the meeting in Merville I discussed to you about the difference between CSR2 and CSR1 the scorecard will also encourage a more desirable diverse native grass flowering plants and pollinators the soil conservation service is also involved in determining the best seed mix for preserving and improving the soil the scorecard will also encourage dialogue between the solar developer and the non-participating neighbors and land owners the supervisors on September 26th recommended that no more than 1% of farmland every four years be allowed for utility solar I agree with that as it is it will give the county officials time to analyze and make adjustments where they see needed when my dad retired I took over the family farm with me I'm a fifth generation farmer and this spring my nephew graduated college he came to work for me this summer he's showing interest in the farm and I also have a 12-year-old son that I hope will be the sixth generation taking over our farm was that my time that was your time gr all right thank you thank you.

**Rebekah Moerer (Sioux City) (48:48 to 50:14) - [https://youtu.be/Me\\_SPKOFaHM?si=DrcbehX89hmfWLXp&t=2928](https://youtu.be/Me_SPKOFaHM?si=DrcbehX89hmfWLXp&t=2928)**

My name is Rebecca Moerer I live at 3437 Nebraska Street here in town um I have a couple questions as a county taxpayer I'm wondering what the benefit of these solar farms are to people who live in town or if it's a benefit just to the people who own the land um my other question is what are the exact costs that um would be assessed to taxpayers uh they talked about decommissioning these and it it wouldn't take much but it sounded like there would be an expense who pays for that um I feel solar farms are an industry and should be subject to the way um industrial land use restrictions are already set up um when I purchased my house I checked into solar and I was told I'd have to cut a tree down um I would have to get a second mortgage the cost would be over \$20,000 and I would only save about 25% of my energy bill I also looked up um the largest solar farms in Iowa and three to four of those are only on buildings none of those are on eggs and the the largest one is in Washington, Iowa so I thought that was very interesting um so that's just my take on it thank you.

## **Work Session #2 (Woodbury County Courthouse) – January 17, 2024**

The Commissioners welcomed for the public present to offer any comments. The following addressed the Commission:

**Kim Alexander (Hornick)** stated this is all driven by government and federal incentive and intervention. He inquired about the federal initiatives including the January 12, 2024 meeting conducted by the Department of Agriculture and Department of Energy as referenced by Priestley earlier in the meeting. Indicated that this is not a free market or grass roots initiative and is being supported with government money. Stated there is no need.

**Marty Dougherty (City of Sioux City)**



Offered concerns about the impact of utility-scale solar on the industrial areas. Dougherty comment on the city's interest in the industrial areas for development. If industrial solar were placed in the GI Zoning District, this could adversely impact industrial growth. Dougherty referenced the partnership with the IDOT for the new interstate interchange project and offered concerns of how utility-solar might impact the industrial growth potential for the area.

**Chris Madsen (City of Sioux City)**

Discussed Sioux City's general concern over the city's two mile jurisdiction. He discussed other setbacks including FAA setbacks and indicated that they are working with the airport on getting further language for the concerns about solar setbacks. Madsen stated that Sioux City does permit accessory solar. Madsen indicated that they appreciate the larger notification area for potential projects.

**David Linn (Correctionville)**

Questioned why not expand GI area to accommodate industrial solar. Not a fan of it. Should keep within industrial area. Land value may increase in GI. Should be on land out of site, west of interstate. Inquired about the future land use mapping.

**Elizabeth Widman (Sergeant Bluff)** Property values could drop as much as 5%. About \$15 per month would be saved on bills by ruining ag land. Money is the incentive and motivation. Leases signed are traced back to headquarters of lawyers' office not around here.

**Greg Yochum (Salix)** Location is the reason why it's not feasible in GI area. Transmission lines are not there. GI can still have farming, rather a CUP or overlay, not close to highway and land would go back to AP. Is in favor of scorecard/overlay.

**Leo Yochum (Salix)**

Offered the Commission with some farm economic history during the 1970s and 1980s. Offered a comparison of agricultural economic figures between Woodbury, Sioux, and Plymouth Counties. Offered support for utility solar as an economic benefit.

The following is an attempt at a transcript. Due to it being computer generated, this transcript is not intended to be perfect but is being provided to offer context of the discussion. The transcript may include issues related to grammar and punctuation. The full audio and transcript is available online at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/). The direct hyperlink is available at: <https://www.youtube.com/watch?v=9eSTtLzBTA8>

**WORK SESSION TRANSCRIPT – BEGINS AT 5:06 PM CST**

**Dan Priestley**

yes again tonight's meeting

5:06

is a work session for the continuation of the uh debate uh that has been

5:11

presented to us by the Board of Supervisors uh concerning uh an

5:17

option to look at proposals to address solar energy policy in the

5:22

unincorporated areas of Woodbury County um it's important to point out that the

5:28

current policy in place is for the permitting of industrial assets in

5:34

particular solar panels for industrial uses are geared toward the general industrial zoning district in Woodbury

5:41

County if there was an applicant at this time uh for these type of projects uh

5:48

the eligible area would be in that industrial area which is predominantly uh south of the uh airport Sioux Gateway

5:57

airport and west of Interstate State uh 29 in that respective area so at this

6:03

point that's the only areas where utility solar could be considered um

6:09

the Board of Supervisors have asked uh the commission to look at this in

6:15

terms of permitting it in other uh locations uh such as the agricultural uh

6:21

preservation zoning district and over the course of several months and a

6:26

series of meetings we've collected input uh from uh many land owners and various

6:31

others that have opinions on all different sides of the issue uh We've looked at a good amount of literature uh

6:39

We've consulted with comprehensive plans uh and presented a few options uh for

6:46

consideration one of the options is to transfer this debate as part of the

6:51

comprehensive plan uh the comprehensive plan is at the 11th Hour meaning it's  
6:57  
pretty much in place uh input has been collected uh and information is uh ready  
7:03  
in fact we will have a public hearing on Monday uh to kind of present to where we  
7:08  
are at with the comprehensive plan in nature however the comprehensive plan uh  
7:14  
remains open to discussion uh for the priorities of the mapping throughout  
7:20  
unincorporated Woodbury County and that kind of leads to the other uh proposals  
7:26  
uh such as an overlay district uh which would be kind of considering a  
7:32  
particular area over AG land with a set of parameters uh that could possibly  
7:39  
open up uh the ability to permit over there over AG land if uh certain criteria  
7:46  
met uh that's included within the backup materials and the other option is to  
7:52  
retain the current policy and revise the conditional use permit process the uh uh  
7:59  
overlay district is geared toward involving the zoning commission and the Board of Supervisors in terms of the  
8:05  
level of permitting uh as far as the current policy that involves the zoning commission and the board of adjustment  
8:13  
uh the uh retention of the current policy with added features would entail  
8:18  
um adding additional ordinance language with protections uh such as agreements  
8:24  
decommissioning etc uh where we had left off in the last public hearing  
8:29  
uh was to um push this out to tonight's meeting January uh to have us have a  
8:35  
chance to of course collect more uh public input uh more concepts to be introduced into the record those were  
8:42  
put into uh the backup materials included uh with the packet um  
8:47  
Additionally the only other uh major item that I had received since the last meeting was a citizen comment uh from  
8:57  
no Naomi Widman and I uh ask that the zoning commission receive this  
9:03  
into the record for the minutes uh which would require of course a motion in a second but this is this general comments  
9:10  
from the public and so  
**Barb Parker**  
do you want to do that now  
**Dan Priestley**  
yeah I think it' be a good idea  
**Barb Parker**  
I'll make a motion that we accept those  
9:18  
**Chris Zellmer Zant**  
a motion a second second favor say I I Opposed same sign.  
9:25  
sign okay  
**Dan Priestley**  
with uh everything that I've said which is of course a broad  
9:31  
Viewpoint this is a very uh um uh significant consequential debate on the  
9:38  
future of Woodbury County I've reached out to the local jurisdictions the uh  
9:43  
the cities etc and have definitely asked for them to offer input on the  
9:50  
potential effects with their respective communities I have not received a lot of input uh back at this point but uh  
9:57  
there's definitely lots of considerations that you could keep in mind for the ordinance as far as uh

10:04

respect for the respect uh local jurisdictions um with that said uh the

10:10

three concepts are laid out within there and so I would basically turn it

10:16

back to the board and ask that we kind of look through at least uh

10:21

those three possible options and so we can all better acquaint ourselves with the uh kind of the details uh the for us

10:30

in a conversational

10:40

format

**Jeff Hanson**

Dan has there been any previous applications for conditional use permit

10:46

for this use

**Dan Priestley**

yes Mid-American Energy a couple years ago um uh down by Port

10:52

nail road on the corner uh uh near their campus uh about a 73 acre or so parcel

10:59

located a uh a solar site down there uh they went through the uh protocols that

11:06

the county has at the time uh for the conditional use uh for notifying the neighbors uh actually a notification at

11:13

that under the current rules are 500 ft within the property and the that are notified by letter everything's

11:20

published in the legal section and the zoning commission uh scrutinize the site plan uh the respective uh

11:29

locations where they're going to be on the parcel and uh um looked at potential

11:35

effects that it could have on the area we consulted with a number of area agencies including the FAA considering

11:42

the location there of the airport and took a lot of information into consideration through our typical

11:49

conditional use funnel as we try to investigate all the different aspects of

11:54

that and um it was turned over to the board of adjustment uh they uh our system is designed where

12:02

the commission uh conducts a review meeting and the public hearing is held

12:07

at the board of adjustment level so the commission kind of does the homework as far as uh where the shortfalls and the

12:14

positives negatives all those are transfer that over to the board of adjustment and the board of adjustment

12:20

has that information available as well as the public input at hand and so that information is funneled in and they make

12:27

a determination on how to uh write the resolution and the standards for permitting that respective

12:33

project so that is the one and only project that I'm aware of since my

12:38

tenure

**Jeff Hason**

and no pending applications

**Dan Priestley**

no

12:44

pending

**Tom Bride**

was there a decommission plan with that site

**Dan Priestley**

I don't believe so. [Tom Bride: Okay]

12:50

um and that's why uh that's why part of the proposal is is to have direct language in there specific to

12:57

decommissioning

**Tom Bride**

any other companies that have approached

13:04

the county at all or anything in the general industrial area?

**Dan Priestley**

we um once in a

13:10

while we get inquiries of course but as far as actually permitting and uh selecting that as a site location

13:19

no

**Chris Zellmer Zant**

that's 11,000 Acres

**Tom Bride**

yeah I mean I'm just kind of you

13:25

know there's been stuff talked about that it doesn't pay what it would deem necessary to acquire

13:34

that ground is what I've heard

**Chris Zellmer Zant**

because of the

13:39

infrastructure

**Tom Bride**

the general industrial businesses will pay more than

13:45

the solar solar panels so I mean that's just couple comments that I've had made

13:52

to me

**Chris Zellmer Zant**

and then mid America that they owned that 73 Acres

**Dan Priestley**

that was that was their private property yeah

14:05

**Chris Zellmer Zant**

okay so I mean if we start at the comprehensive plan debate which is number one just a couple of things that

14:12

I saw that I highlighted that I thought were significant was even in the 2005

14:18

comprehensive plan we for policy by 2.5 States fully explore alternative

14:24

renewable energy sources so I don't think that's really a debate I think that's

14:31

something that is still exists today but I mean what is everybody else's

14:37

thoughts renewable energy is here to stay

**Jeff Hanson**

I would agree

**Tom Bride**

yeah I think

14:44

that's back then and now and more so now

**Chris Zellmer Zant**

and I think so into the future from what

14:50

I can understand I mean I'm looking at articles from that are portraying

14:55

2050 that renewal renewable energy is just going to expand maybe not to the

15:01

extent that they think it is but and that's something else I found they still

15:07

said coal oil natural gas is going to be our primary energy

15:12

sources well that's even the um guy from mid America and that was his comment it's more of a mix than a one source

**Chris Zellmer Zant**

One

15:22

Source situation right

**Dan Priestley**

if I may in the lit review

15:29  
uh references the uh this has been uh kind of a federal initiative the  
15:35  
Administration has put forward uha priority as far as introducing uh the  
15:42  
local communities to renewable initiatives and uh there's been  
15:48  
priorities uh 2035 which was referenced in there and I  
15:53  
know that they've been carefully watching the communities there's been meetings uh there was a meeting last  
15:58  
Friday from the Department of Agriculture as well as the Department of Energy that was kind of assessing uh  
16:05  
where the local communities are what kind of potential positives and negatives there are as far as the  
16:11  
permitting and trying to understand where communities are with the different aspects of addressing it and as kind of  
16:19  
coincides with the lit review um many communities there's not one size fits  
16:24  
all in terms of addressing these respective issues some communities uh do  
16:30  
it by conditional use permits some do it by allowed use by certain areas  
16:36  
and uh some have employed the overlay district scenario which is of course  
16:42  
heavily referenced with Linn and Scott County even though those two are overlay they significantly do it much different  
16:48  
as one relies much more on corn suitability rating while the other uh has more of  
16:54  
that rubric aspect but uh uh the point I'm making is uh this this is part of uh  
17:00  
the economy or the future economy as far as renewable being a part of it and there's a compelling interest at the  
17:07  
federal level um asking communities to look at this as part of the land use  
17:13  
measures and as we know a lot of times these unincorporated areas have uh aged development plans that are not up to  
17:21  
uh where these uh future standards are and if you're looking at uh particular areas or priorities across the board for  
17:29  
the county to recognize these type of land uses it's more than appropriate to look at the development plan as a way to  
17:37  
prioritize uh what the initiatives are and where you want to put these assets just uh you look at the history of  
17:43  
Woodbury County and the nature of our population and U as SIMPCO has worked  
17:49  
towards this current uh uh draft of the development plan uh we found a lot of  
17:54  
similarities uh from 2005 as far as as the priorities of where we locate our  
18:00  
industrial base is where we where we have the priority on agriculture and the  
18:05  
uh zoning ordinance that grew out of that 2005 plan put the emphasis much on  
18:11  
the uh um agricultural area or excuse me the industrial areas and kept it off of  
18:17  
the agriculture land at that time uh lots of debates have been in Woodbury  
18:23  
County about whether you take the Farmland out of production we've also had quite a bit of debates on uh  
18:29  
protection of Loess Hills and uh we've ran into a number of issues as far as the uh  
18:35  
uh the interpretation of of landowner rights however uh development plans are  
18:40  
put in place on purpose so that we can have a moment to stop and look and see the Innovations of how the world has  
18:48  
changed in a lot of respects and go back and poll the public so that the public  
18:53  
understands and can has the ability to present to the to the uh leadership

18:58  
on what type of community that we want to be and that's why we label these that's why we say 2040 we're projecting  
19:06  
forward and as technology grows uh we're kind of here at a juncture um uh these  
19:13  
um solar assets can definitely take up a significant footprint and so it does  
19:18  
offer us the question we have quite a bit of ag land out there are there areas that might be suitable to facilitate uh  
19:27  
uh the permitting of this uh growing technology um it's imperative to  
19:33  
point out that we have a lot of significant uses that can definitely play affect a footprint on  
19:39  
agriculture land that are conditional use permitted however the most distinguishing factor is that uh solar  
19:47  
can take up a lot more acres than any other use that is presented in our  
19:52  
zoning ordinance they could probably go from 500 acres up to 2,500 3,000 and some  
19:58  
Acres of agricultural land that could be uh debated within there and I think  
20:03  
that's important uh as the uh uh community decides if this is a fit uh  
20:10  
for how Woodberry County wants to be in that meeting uh that I attended it was a  
20:15  
zoom meeting they talked about nationwide kind of affecting less than 2% of ag land or about 1% kind of  
20:23  
spreading it out as addressing some of the alternative energy priorities uh uh  
20:30  
to address the grid in the future and uh they um they pointed out uh quite a bit  
20:36  
in their presentation about coexistence uh agrivoltaics things that we've  
20:41  
talked about in some of the previous meetings uh uh where that technology continues to be studied on whether it  
20:49  
can go further than sheep grazing whether it could coexist with uh crops  
20:55  
etc but uh that's kind of a growing uh uh thing to look at as well as the  
21:00  
compatibility and the literature definitely says uh in the uh the the  
21:06  
proponents of uh adding this to ag land see it as compatible uh depending on how  
21:13  
the farmer wants to prioritize uh uh their uh their farm operation with this  
21:20  
uh so the the literature definitely kind of goes across the board talking about  
21:26  
land values uh it's tough there's various studies out there from Texas Rhode Island Massachusetts that are uh  
21:33  
placed into the uh um kind of direct comparison Woodbury County is unique  
21:39  
we're definitely not Rhode Island but we can definitely learn something uh some of the data says that within a half mile  
21:47  
it could affect land values at 1.5% but then you're talking about housing and so I I cannot consciously  
21:54  
take that data and 100% apply it or even attempt to apply it to our situation  
22:00  
but it's definitely helpful to understanding the perception this is a  
22:06  
lot of a assessment is based on perception how people feel there's some that might uh really value the renewable  
22:14  
uh aspect and see it as a as a gain as far as having it in your community and  
22:20  
actually positively affecting we've seen that in some of the literature we've seen that some that have strongly  
22:26  
oppose it because it couldn't adversely affect things such as viewscape quality of life Etc so what we find is there's a  
22:35  
significant level of opinions on the aspect of how it affects ground zero

22:42  
 meaning your own backyard your own respective community and I think that's why um I know that's why we've spent so  
 22:49  
 much time trying to carefully consider uh what is an appropriate fit or not and  
 22:55  
 going back to the previous determination the citizens of Woodbury County uh  
 23:01  
 placed those in the industrial basically labeling them an industrial type of  
 23:07  
 activity and that's that's pretty much where the plan is and that's why we put so much emphasis on the development plan  
 23:15  
 as looking at does that remain our priority or is there an openness to  
 23:20  
 expanding out and if you're going to expand out uh the development plan could  
 23:25  
 either back an overlay district or even back the concept of not necessarily spot  
 23:31  
 zoning where you can uh maybe address areas that are suitable and prioritized  
 23:39  
 for a type of General Industrial Development or even reworking the limited industrial kind of concept as  
 23:46  
 well uh then we would have to look at the law of unintended consequences you fix something some way then all of a  
 23:53  
 sudden what did you end up doing the other way as far as if you make something industrial but there's a  
 23:58  
 desire to continue agriculture um do you handle that with the overlay District or do you uh adjust  
 24:05  
 and allow farming in limited industrial and uh the grandfathering rights or uh  
 24:11  
 legal non-conforming rights I should say that are applied in our current industrial area mean that the farmers  
 24:18  
 can basically continue fully with their operation until that use ceases to exist  
 24:24  
 after a set period of time and so if you were to flip a district and allow  
 24:30  
 something maybe in a limited industrial do you address it for long-term farming  
 24:35  
 or do you have a grandfathering type of scenario so the question is how do you  
 24:40  
 look at each unique location and I think the fallacy that I've ran into a staff  
 24:46  
 throughout this whole debate is I haven't had any um direct target  
 24:51  
 locations which is very helpful for understanding the priority of the county  
 24:57  
 and so when we talk about the future development map and looking at it as a  
 25:02  
 debate as far as development planning I think it would be helpful to kind of  
 25:07  
 know where are some alternative areas if not industrial that could be presented  
 25:13  
 to us so that we could understand if it might be a priority and that goes beyond  
 25:19  
 the CSR and the various other indicators that we're talking about because we had the question in our last work session  
 25:25  
 what about the CSR on Industrial land well you're already an industrial land and it's already a permitted use or  
 25:33  
 conditional use so you're not talking about those aspects once you're inside of the industrial land so if you decide  
 25:40  
 up front and you have the information before you up front and if something's going to be a future industrial area you  
 25:47  
 plan for it ahead of time you lay that out as the priority then you're not  
 25:52  
 debating CSR and those type of things you're the public comes together as far  
 25:57  
 as an area that they all find appropriate so those are some of the I think the challenges and that's why this  
 26:04  
 is strung out so long as uh the debate has been more of we're looking at all

26:10

these options but we don't have okay uh this proposal this proposal this

26:17

proposal when you when you have a set of proposals or priorities it it uh it

26:22

shows transparency as far as okay that might work that might not work and so uh

26:29

that's why development plan is an option

26:34

**Chris Zellmer Zant**

so I I might be going Beyond tonight's

26:40

meeting and going into the next meeting that we have on com the comprehensive plan there wasn't a lot of feedback from

26:46

the community from the public as far as what they saw in the comprehensive plan

26:52

the time when Simco was developing everything

**Dan Priestley**

um specific to the the whole

26:58

plan or to solar policy **Chris Zellmer Zant:** solar policy

**Dan Priestley**

there was not a lot there was actually no major uh um uh submissions

27:06

that I got I would have to uh touch base with Erin more further as far as the

27:11

solar policy but the the meetings that I've been at the they were not uh not I

27:17

wish they were more attended in fact as well but uh um solar was never that you

27:24

know shining uh priority at the time

**Chris Zellmer Zant**

right yeah I mean we talk about solar

27:29

kind of as a as a whole with the renewable energy sources but I know that includes wind but that's off the you know that's off the table I don't want

27:35

to include that but I mean there wasn't a lot of push back or a lot of concern about that terminology or language in

27:42

this proposed new comprehensive plan yeah so you know that kind of surprises

27:48

me a little bit too but then we don't hear things until we have a problem and then we hear

27:54

funny that's

**Dan Priestley**

that's the the one thing as a as a college instructor when I'm

28:00

teaching the students we'd oftentimes talk about proactive policy versus the reactive policy and you can't get more

28:07

proactive than a development plan you're basically asking the community what kind of community do you want to be over the

28:14

long run and that's the opportunity to chime in and show us but most policy is

28:19

reactive you know eventually and we do and that's fine and that's that's definitely a big part of it but uh this

28:26

is one of the most wonderful opportunities that any Community has to to collect on the priorities because

28:33

it's the hope that there's some sort of uh unity as far as the priorities as

28:38

much as possible

**Dan Priestley**

and the other thing that I see even in this map versus the proposed

28:46

map um there isn't a lot of change but I see around a lot of the towns there's

28:51

transitional Agriculture and solar could potentially feed into those towns and I

28:58

mean we're talking transmission lines and it sounds like that's where the solar wants to be is near transmission

29:04



line we don't know where those are we don't know the key information about

29:09

okay where are they so we can plan around this where is this going to happen it sounds like they want to be within a half mile yeah it's uh what

29:17

I've been told is I mean common sense and practicality is you need to be near

29:24

where the energy is so substations or the transmission lines the literature

29:29

definitely backs that up and uh so you can generally understand where a lot of

29:34

those assets are but it's uh in order to have a priority to have a layout on

29:41

what the expectations are the community would have to come to some type of consensus through mapping on where there

29:48

might be some reasonable priority areas and uh um

29:53

that's that's a good point though energy assets are something that should be

29:59

definitely considered as part of those locations

**Chris Zellmer Zant**

right and we've gotten no information from those small the

30:04

communities in Woodbur County as far as their interest in renewable energy

**Dan Priestley**

well the the communities as far as the

30:10

development plan have been consulted and looked at as far as the uh uh their development plans when Erin and Corinne

30:17

have worked on uh putting this together the one of the first things they looked at was the city's future land use maps

30:24

because we want full out compatibility never want to run into any kind of conflict based on the land use there's

30:32

got to be a full out agreements as far as uh and you you look at even our

30:39

normal role regular order and how we handle subdivisions uh the two mile is

30:44

taken very seriously we work with Sioux City on that quite a bit with the subdivisions and and the other community

30:51

uh when we revisited the wind debate one of the things that came up was two mile setback and so to mile setback was

30:58

brought in there not because it was it was not actually not associated with wind policy or even a section in Iowa

31:05

Code but we went back to the tradition of understanding that two mile territory as far as subdivision and and other uh

31:13

zoning scenarios or cities actually if you County does not have zoning the city still has a compelling interest in Iowa

31:19

Co within the two mile range there so uh yes the cities have been respected

31:25

through the development

**Chris Zellmer Zant**

right but have they even said that this is what we're trying to plan we might be planning this

31:31

in this area too or we're interested in this so This AG land that's transitional

31:37

we're looking at this for the potential that this might be so that helps us plan

31:42

overall

**Dan Preistley**

yeah specifically and running these proposals out and and right now

31:48

we're talking in hypotheticals so the cities have basically received information how do you feel about solar

31:54

policy being that General but and that's the fallacy in the debate is we don't have a specific target area so if you're

32:01

talking about an entire district whether it's AP the the citizen or the community leader we're all left with okay it's

32:09

it's possible but we don't know because it gets project specific and that's

32:14

definitely the Challenge from that chasing a policy without a direct

32:20

mapping and so if we get into the ordinance and we start talking about AG

32:25

areas or these other areas we can still discuss setbacks or discuss ways that we

32:31

can protect the cities and their rights within those areas and their priorities for sure

**Chris Zellmer Zant**

so we're talking

32:37

about 427,000 Acres of ag land AP and yet

32:43

we're supposed to figure out where these solar things are supposed to fit and work with a maybe a conditional use or

32:49

whatever it happens to be without knowledge of what the cities

32:55

are thinking or those transmission

33:00

lines we can narrow the field by using a our two mile you know setbacks we can

33:08

use up some by our csrs that eliminate some of the land slope that can

33:15

eliminate some more of the land so that narrows the field a little bit but it's that going to be enough are those the

33:21

issues that we want to

**Dan Priestley**

well the the issue is if you're looking at an or

33:27

if you're looking at the overlay specifically where you're trying to facilitate it on agricultural land uh

33:34

you need to know the priorities of what the regulations are um you owe it to

33:40

developers you owe it to land owners you owe it to the public that there's a clear transparent process that they can

33:47

go through and have an expectation uh to meet the permitting requirements by the time they work

33:54

through the ordinance they work through staff they work through other leaders uh uh most proposals should be in shape to

34:00

be feasible typically when somebody calls the zoning office and they try to they they expect you in a sense to have

34:07

an understanding when I know number one thing we say we can't speak for board members we can't speak for appointed or

34:14

elected officials but we can certainly show them a process that has been put into place by the community that is

34:21

clear and uh makes you know hopefully makes sense to everybody uh whether it's a clear setback you can be this far away

34:29

whether it's a a soil standard having uh specific regulations built in there uh

34:37

uh to the point uh we get into the uh larger uh scale of how other communities

34:43

have addressed this uh I've seen acre caps I've seen megawatt caps but if you

34:49

to even put an acre cap on and you still have the whole level of agricultural available that still leaves the

34:55

uncertainty as far as where these uh could be sited and so uh going down to I

35:02

know one of the communities puts an acre cap in and where the supervisors would

35:07

probably have to because it's an ordinance they'd have to go revisit the acre cap if something were to ever

35:13

change and actually debate it through the three typical public hearings on whether an acre cap uh should be at a

35:20

certain level

**Chris Zellmer Zant**

and that's all 14 counties that actually have some kind of zoning regulations for this out of of the state

35:27

of Iowa

**Dan Priestley**

and as you can tell through the sample counties that were presented in the report there's a mix but a lot of

35:33

them do rely on the conditional use

**Chris Zellmer Zant**

some kind of special use

35:40

permitting

**Tom Bride**

we discussed a little bit on size the

35:45

uh Port Neal plants the there they about

35:50

a 500 megawatt each um that 500 megawatt would would equate

35:57

to somewhere between 500 to 1,000 Acre Site per solar

36:06

depending on how it's done

**Jeff Hanson**

more than that I think your literature in five to 10 acres per megawatt it's going like

**Tom Bride**

36:14

I thought that the uh what was the yeah there was a five to 800 acre 500 megawatt site that Mid

36:22

America or somebody currently has in Iowa. **Chris Zellmer Zant:** that's it by Fort Dodge

36:27

trying to think of this I can't remember the name

**Tom Bride**

and I thought that was a 500 megawatt site and it was 800

36:34

acres right

**Barb Parker**

this this says 10 acres to produce one megawatt on page

36:40

five

**Tom Bride**

I just I don't know where the difference would come into play

36:45

**Dan Priestley**

on it roughly gives you an idea how many acres per a project if they're going for

36:51

a certain amount of megawatts could take out of out of eglard or

36:59

or coexist with

37:05

it find information in here there's a

37:11

lot

**Tom Bride**

but is that am I incorrect then on that site that's currently a 500 megawatt site with 800 acres have to

37:19

probably go back and look at did that that came out of the work session yeah that was in one of the I think that was

37:25

a question I asked the largest one was in yeah Iowa 800 AC oh that's 100

37:33

megawatt eight yep eight acres for yeah so that fits

37:40

within that ballpark part so that but is that the largest one

37:46

currently in the state of Iowa holiday Creek

37:53

project

**Dan Priestley**

have to look back transcript

38:01

**Tom Bride**

so yeah I mean you'd be and that's where the cap I can't remember what it was around 8,000 some acres is was the

38:08

supervisors when we discussed that start with they have the percentage

**Chris Zellmer Zant**

2,540 it's

38:15

2% I think we talked about that was even too much at one

**Tom Bride**

that would allow for two

38:21

two sites to if they were full 500 megawatt sites **Chris Zellmer Zant:** maybe three if you get

38:27

2500 acre piece three plus right

**Tom Bride**

what's that it'd be 4,000 acres for a

38:36

five right okay 500 megawatt okay so if they were to say we're going to replace

38:42

this plant which it wasn't well what I can't think the M

38:49

Americans Will um he said that wasn't that's not what the plan would be and

38:57

uh I mean even so you'd have two sites would meet the

39:03

cap if they replaced every or the whole capacity that mid american currently would

39:10

have on two PL or was it South which ones are

39:18

run south and there there's two right yeah um but I you know he said that coal

39:26

is going to still be part of the picture and it's not going to be taken over by

39:31

solar right um I mean I think the 2% cap I guess what I'm saying is would

39:37

probably allow enough acres to cover what's going to be needed in the short term you know 20 years or

39:45

whatever maybe that'll change down the road

**Chris Zellmer Zant**

do we want to commit to something like that over 20 years or you want to

39:51

review that like they down here in the industrial area they're going to review it they wanted to review it every four

39:56

years

**Tom Bride**

and that's the other thing too is if it's if it's left that hey just put it in the general industrial there's

40:03

11,000 Acres 10,000 ACR so you could eat up a big chunk of that if somebody were

40:10

to put that in there so then the other answer is do you expand General industrial um but then where do you put

40:19

it you know how how do you expand that and if if you take away the ability to

40:25

put it elsewhere outside General industrial if you stay with what we currently have and that's the only spot

40:31

for it is it even going to be feasible I mean if nothing's went there now

40:37

nobody's looking at the general industrial site that you're aware of or

40:43

and has and hasn't and hasn't for how many years I mean so I guess it's

40:52

either the way I look at it is right now General Industrial

40:58

doesn't work for solar to the land owner because they don't get the money that they want to get out of it that they can

41:06

potentially get for General industrial use other than solar I mean that's I guess I'm thinking

41:12

the reason why it hasn't gone there yet and like I said I've had a couple individuals say I'm not going to take

41:20

that payment because it's worth this much it isn't enough but

**Chris Zellmer Zant**

it didn't sound like M American was really even a

41:26

player as far as the solar goes I got the indication that a

**Tom Bride**

there's um the

41:33

options that are being bought right now are I'm assuming not Mid American

41:38

purchasing them that's what I'm guessing I don't know we don't we don't know those answers but uh somebody's out

41:44

there looking somebody's got options on ground land

41:50

but none of those are within the general industrial currently so I'm assuming either they looked and

41:56

they realized it was too costly or they just didn't look there I don't know what the answer is on that

42:03

but right now our plan only allows for it in that area so I would think that they would have at least looked there to

42:09

start with right unless there's a different reason that I'm not seeing why it doesn't work in the general

42:15

industrial

**Dan Priestley**

well the um I think we got to be careful with hypotheticals and what

42:21

what uh folks might Envision I I do think that the literature speaks to the fact that they're they're looking for

42:27

the most feasible locations they're not Nationwide probably when the when this

42:33

kind of comes from you know a nationwide priority and you have

42:38

developers uh um finding it very lucrative to get into uh industrial

42:45

solar and uh they're they're going to look at various factors on where the

42:51

most suitable locations are of course zoning would likely be a factor uh but

42:57

uh you're going to always try to find the path of least resistance I'm sure they would love to line up the zoning

43:03

perfectly but there's times that uh you gotta you got to tell the local community that we've got this you know

43:11

this endeavor here that might be lucrative and um your zoning may not fit

43:17

up exactly right and so uh the burden is on them to demonstrate to the community

43:23

on how uh this will fit uh with that area and that's that's really what a rezone application does is it shows the

43:31

very public way on whether that this is a suitable priority and going back

43:36

through normal order and development plans and mapping all of those things can be helpful to backing up a

43:44

particular project but uh I think there's a number of reasons why or why

43:50

not folks may have considered uh an industrial area not an industrial area

43:55

there's on the the other hand folks will argue that industrial areas are not a good location because uh you might take

44:03

other uh economic activity that could be placed in the industrial area that uh

44:08

solar may not do so well for well those

**Tom Bride**

that activity won't fit anywhere else

44:13

but it would fit there and the economic gain is going to be high and I guess the other thing when Chris was talking about

44:21

um transmission lights those those we can't

44:27

it's it's a Federal Regulation we can't put a map out there with them drawn

44:32

through and say oh these are the areas in Woodbury County that we should be looking at because you can't do that so

44:39

so that makes it was that well they know where they are but we can't put together that map and put it in our plan and say

44:45

well here's these correct

**Dan Priestley**

yeah a lot of the um um utility asset things there's

44:52

there's knowledge of them obviously Planning Group

**Tom Bride**

people know where they are but we can't put that map in our

44:59

plan in our public you're not going to get down to specific foot and then go

45:04

out and say okay here's an area that's you know there's transmission lines through here this is suitable this is an

45:10

area we would

**Dan Priestley**

but I I do think if you're a developer and you're looking at you know the the key assets and why you want

45:17

a project in a certain spot you're that's going to catch your eye and you're going to definitely go for it and

45:22

that might very well be the case on why there's some areas out there I'm just saying kind of through the planning

45:28

process without having a a good grasp on what those areas are I we you can always

45:34

uh track options like but you know with the recorder's office you can generally understand where those options are as

45:42

was reflected in the packet at certain points but uh not knowing the full scope

45:47

uh makes it much more challenging as far as uh uh the priority of uh which lands

45:54

that you take out and this debate is very much centered in on um doesag go

46:00

in does Egan go out we're concerned about uh corn suitability rating we know

46:05

that it's uh it's heavily went into the debate of CSR one csr2 Etc but uh which

46:12

csr2 is of course the current metric across the board uh from assessment but

46:18

uh um like with Scott County Scott County basically says we're using the

46:23

csr2 but when you do use the csr2 it does limit uh depending on the quality

46:30

of the soil limits those available acres and so that's that's where this is kind

46:36

of goes back and forth and uh again if we uh had a better understanding on what

46:43

some of these particular areas are it would definitely be helpful for for the planning process it's sort of sort of

46:49

like the theory you get a rezone application we all know what happens with that you get a rezone application

46:55

we bring it in do they meet the criteria we look down the criteria and I know the

47:00

the first thing that we run to right away is that a spot Zone run into the spot Zone and that that's what's kind of

47:07

hindered the process right now from the developer standpoint uh because they know they could submit an application it

47:13

could come to you tomorrow uh they'd go through and then they'd run into that criteria they'd have the CSR to look at

47:20

but then they would have your spot Zone to look at and the commission depending on the fact that you glean out of all

47:27

the proceedings and everything might recommend to the Board of Supervisors you know that's a nice project and

47:32

everything but it just does not fit with the letter of the law right now uh within the ordinance and so you make

47:38

that recommendation to them and that's the overall effect and so you go back to the looking at this process the

47:45

question is how do you address those metrics for whether the area of land that

47:53  
 footprint is suitable or not and because it's on ag land that's that's why we're  
 47:59  
 in the midst of this the overlay is a way of um uh your original  
 48:05  
 recommendation to the supervisors back in May and June was to go the conditional use route and I think that  
 48:12  
 the commission at that time really highlighted you look at the area you scrutinize the area you look at the  
 48:18  
 application you look at the surroundings you run it through each of the criteria you come up with a determination and  
 48:25  
 then you send that over to the board of adjustment um uh I know you're very well versed and used to doing that that was a  
 48:33  
 result of the recommendation it's sort of like when you go to the overlay how do you replicate that in a sense but  
 48:40  
 involve the supervisors with some type of criteria and you'll see in the the proposed  
 48:46  
 option there in the packet there's sort of some red ink in there that kind of highlights the similar process  
 48:52  
 that you do for the conditional use on scrutinizing in the area uh some of that  
 48:58  
 U scorecard that Linn has adopted is in there to kind of mitigate some effects  
 49:05  
 uh but uh it sort of amplifies the conditional use process in a sense I kind of call it a super conditional use  
 49:11  
 because it involves the supervisors but um and involves the the public hearing proceedings and everything at maximum  
 49:18  
 level with the three and then the the zoning commission but um  
 49:24  
 uh it's so if you're going to go with a solar policy or a solar proposal you  
 49:29  
 need those clear goal posts on what constitutes that area as being  
 49:36  
 acceptable or not it's just that if you run that through the existing right now  
 49:41  
 on ag land to switch it to Industrial I mean that's that's what you we would do  
 49:46  
 right now to try to facilitate IT staff would tell them you know that's not suitable because there's no C in the  
 49:53  
 column and so uh they could try for the rezone and then  
 50:00  
 run the application here and then maybe run into that brick wall because of that  
 50:05  
 criteria so  
**Jeff Hanson**  
 in your overlay option and I apologize if these questions have been  
 50:11  
 answered this is my first meeting so trying to get caught up to speed on all the work that you guys have put into  
 50:17  
 this but on the overlay option have you looked at limiting that overlay in the other zoning districts have you said the  
 50:25  
 overlay is allowed in AP D LI or have you looked at those additional  
 50:30  
 parameters of limiting it elsewhere?  
**Dan Priestley**  
 yeah um so the overlay could be conditioned  
 50:36  
 for only a specific zoning District so you could uh say that it's only eligible  
 50:42  
 on AP land and uh some counties some jurisdictions have actually put setbacks  
 50:47  
 from the overlay from other zoning designations as well to kind of create a  
 50:53  
 buffer in there from it but yes um the the way that it's kind of presented in  
 50:59  
 here is the overlay becomes an ordinance option and it gets confusing sometimes  
 51:04  
 when you say you're creating an overlay District I think the public might think that you're laying a district over top

51:10  
the map right away when it's approved but what it is is the it's an available  
51:16  
tool that the county has the commission supervisors have uh to approve an area  
51:23  
where you're virtually creating the overlay for the project footprint so that district is being created at the  
51:31  
time to facilitate that project on that respective District so yeah you could  
51:36  
say no it can't go nowhere near suburban residential it can't go near agricultural Estates uh if you even went  
51:44  
that far uh agricultural Estates is our most dense District in terms of the two  
51:49  
acre lots and density land density so um that's really kind of how the overlay  
51:56  
can be used and in a sense it it has the feeling of a conditional use because you  
52:02  
you're dealing with a footprint of land on a conditional use as well uh but as  
52:08  
far as a a zoning overlay District we would end up with a legal description basically defining what this new overlay  
52:16  
district is and we have we have all kinds of overlay districts out there we do have a pre-existing one which is the  
52:22  
flood plain it sits out there it is a fun District that that coincides it's  
52:27  
just that we we create a recognized area for an additional use that's created to  
52:34  
innovate that is not allowed underneath the base District basically and the  
52:39  
the overlay um has a bit more flexibility than a standalone um zoning  
52:45  
District because uh if you go and rezone to General industrial the way it's written right now or limited industrial  
52:52  
you're going specific to that use and any use that's available within that District which can create other concerns  
53:00  
the law of unintended consequences but the overlay could be geared toward uh  
53:05  
okay here is this use and uh but you retain your full agricultural rights and  
53:11  
everything that the rights and privileges of agricultural preservation underneath and so that's definitely the  
53:18  
I think the compatibility that uh um Scott and Linn County have seen as far as  
53:24  
their proposal and it's a smart kind of smart planning type of principle to if you're going to  
53:31  
go into overlay is to again go into the development plan and maybe reference  
53:37  
those type of uh Concepts so that there's some something to hang the Hat on as far as a a policy and the use of  
53:46  
those things and this is something that would be very new to Woodbury County we don't have uh um we we have language in  
53:54  
there overlays for conservation and other uh uses but they're they're not they haven't been actively employed or  
54:01  
re zoned to and so it's it's not a regular process for us  
**Tom Bride**  
and other thing  
54:07  
that could or would limit is if there was a cap and you have that two you know  
54:13  
if it's X Acres that's really the only way you can limit the because you don't  
54:18  
know where it's going to go or where where people are going to want to put it in AP so you just have to acres and once  
54:26  
that caps it then that's it yeah  
**Chris Zellmer Zant**  
and once once the use is done like your your  
54:31  
lease or your contract is up the overlay disappears in your back tag and this you



54:37

would

**Tom Bride**

change that CH Zing classification for that property and end up with this

54:42

General industrial out in the middle the spot zoning that we're trying to stay away from

**Dan Priestley**

and it depends on how you word

54:48

the overlay ultimately in the ordinance what the rights and privileges are of the overlay uh what the decommissioning

54:56

situation is what the when the youth stops uh what are the expectations there

55:01

for that respective District we've got our countywide regulations on things but if you're going to get specific you're

55:09

going to want the overlay to cover a lot of those options and uh again I I would

55:14

my recommendation would be everything that is considered we immediately go to the law of unintended consequences

55:21

because this is one of those things right away that you make one adjustment here and you may not realize oh we're

55:27

affecting it over here so we've got to be very very careful as far as uh how

55:33

those could be if if an overlay is something that's uh desired for

55:51

recommendation

**Chris Zellmer Zant**

so condition wise I know we've talked talked about condition we already had flood zone or the you know

55:57

the flood zone that's kind of a condition that we use typically we talked about csrs they have an impact on

56:04

what we approve and what we don't approve as a condition in my reading I've read that

56:11

they're looking for areas within a half mile of transmission lines and so do we make that one of our

56:20

conditions mean that narrows the field that much more

56:29

I mean I don't want to be too restrictive but you lose 5% in the transmission lines as it is of solar and

56:34

solar's already 20% efficient you know so it's like we're

56:40

kind of playing with their rules ideal rules maybe a little bit

56:47

**Dan Priestley**

again it kind of comes down to generally mapping I think that's definitely kind of a very helpful ideal as far as

56:57

placement I do think that you know there's there's land out there that may

57:04

may very well fit some criteria that we're looking for and I think that there's uh industry standards where they

57:11

where they want to be located and uh I'd like to know much more from the developer side you know what what is

57:20

what is your ultimate goal on these spots why would why would you seek out

57:25

certain areas certain land owners and see that be the prime ground on on put

57:31

putting it at that location I think that's that's helpful I think the more that becomes transparent I think that

57:37

makes their their process even more smooth in other counties because

57:43

it uh gives a sense of understanding and what folks are looking for

**Chris Zellmer Zant**

but on the

57:49

flip side that can be used against them so I can see where they're trying to

57:54

protect that information information

**Dan Priestley**

competition

**Chris Zellmer Zant**

competition yeah

**Tom Bride**

I mean I guess to answer your

58:02

question is put it putting the restriction on the distance for a transmission line I I I think they're

58:08

going to do what they're going to do that's going to work better for them for them [Chris Zellmer Zant: absolutely] so and if it is the case

58:14

that their half mile is their limit or their unless they put in their [Chris Zellmer Zant: ideal

58:21

Standard] or whatever you know a different transmission line you know I I think that'll fix

58:27

itself for that just that part of it I mean they're going to go where it's going to work best right and to say well

58:33

that has to be within a half mile of that I don't know that that's [Chris Zellmer Zant: necessarily has to be put in

58:40

writing] I I guess I don't know what that's going to fix okay because it still might be in an area where people

58:46

don't that you know the neighbor don't want that anyhow right if they're within that half mile but if they're outside

58:53

the half mile maybe the people are fine there and and they can go a little further I I don't know

**Dan Priestley**

I would probably

58:59

suggest to you all uh more scrutiny on separation distances those are more of

59:06

the feasibility things I think that the public has a a a greater understanding

59:12

for they know how far they want to be away from things that are affected in their neighborhood we've seen a number

59:19

of debates that come down directly to setbacks and separation distances we've

59:24

seen the center of rural Affairs offer us different ranges from 200 to 300

59:30

there some of the most uh counties that have had on the far end have used a 1000 foot setback specific to residential I

59:38

think if we're going to start kind of parsing specifically each area we're

59:44

going to want to look at how far do they need to be from a single family dwelling a house how far do they need to be from

59:50

the corporate line uh from the cities uh the cities uh offer us more detail on

59:57

that if they're in support of that or not that'd be helpful the uh we looking

1:00:03

at the wind ordinance that we did we had uh I think airport uh separation distances there was uh separation

1:00:10

distances from cemeteries uh from uh um conservation

1:00:15

areas and uh I know that the speaking a setbacks the conservation board did send

1:00:21

us it was in the back of the packet a recommendation of a mile setback uh from

1:00:26

the respective conservation areas so there are groups out there that want to

1:00:31

have a input on how far away they are from things and I I think that could be

1:00:38

helpful to the debate as well on when you know that okay I can only be so far

1:00:43

away from uh these respective points that offers us a bit more clarity as far

1:00:48

as citing where these can be as well so I I do think that the debate should

1:00:54

discuss if an overlay or if another form is adopted that we need to go into each

1:01:00

one of those setbacks specifically and decide which ones are the most

1:01:05

appropriate because setbacks are a mechanism used to try to create compatibility that's the whole goal of a

1:01:12

setback is to try to you know give you the ability to be there and give you the

1:01:17

ability to not be so impacted U generally so

**Tom Bride**

well it offers the

1:01:23

protection for the people who are already there that

1:01:33

**Dan Priestley**

yeah the the center of rural Affairs definitely offers something that they they promote as being reasonable um and

1:01:41

some may say they're not reasonable and I just want to highlight both ends of the debate because we've we've

1:01:46

definitely seen that

**Jeff Hanson**

one issue I see on the overlay

1:01:55

is and it can be fixed with the parameters that are established as part of that ordinance Amendment but is

1:02:02

setting the timing of the installation of the solar panels because I think it would come down to an issue where you

1:02:09

may have vendors apply for an overlay to get to the cap whatever that

1:02:15

cap may be established and then it never gets built for two three four five years whatever it may be I think a discussion

1:02:21

needs to be had in those parameters that if you request overlay it goes through the appropriate process it's approved

1:02:27

and you have X amount of days whether it's 365 days two years whatever may be

1:02:33

and then it becomes null and void to release that cap if if that's the

1:02:39

direction from the board supervisors to have an established cap because I can see someone just coming in and

1:02:46

grabbing so it has to be connected with the development

**Tom Bride**

and that could be tied into also the per you know like a permit

1:02:54

you have X time and if you don't start then you got to start the process

1:02:59

over again and that's a good idea so that somebody can't just lock it all up

1:03:04

and say oh there's nothing else available we got it you know yeah

**Dan Priestley**

and that you want that

1:03:11

enumerated with along with this versus relying on the building

1:03:18

permits

**Chris Zellmer Zant**

that's good point I don't remember seeing that in any of the other

1:03:25

development criteria that we went through I think I crossed it on one of

1:03:30

them did you 14 think 14 of our drop that down make sure it's in there

1:03:37

yeah yeah lot of other stuff

1:03:45

but project timeline yeah the yeah that was page 83

1:03:52

who's is that who did we use or a lot of a lot of the criteria

1:04:00

that's in here yeah combination of the counties that have a policy or have a have an

1:04:09

this was an overlay District utility skill system has her policy in

1:04:18

place project timeline is 6a [Dan Priestley: yeah that's within the proposed

1:04:26

overlay language]

**Jeff Hanson**

and what I'm thinking is you actually set start time you don't allow

1:04:33

for the flex you don't allow them to set their time I mean it's part of their application hey we expect to have this

1:04:38

constructed within x amount of months and then if it's not then

**Chris Zellmer Zant**

but we can

1:04:43

hold them to that too I mean without it actually being in writing we can say okay it's part of your application you

1:04:50

have to start it on that day and I think it could be done as part of the

1:04:55

the actual over

**Tom Bride**

overlay that that's the condition that when they apply apply

1:05:01

that that that's overlay it's 12 months and if you haven't I don't know if I

1:05:06

would say upon approval yeah upon yeah upon approval and then you and then I

1:05:11

guess you probably have to set if it hasn't if you haven't started by this date then this goes back to AP and you

1:05:20

have to start over again you lose and [Jeff Hanson: it'll it will still say AP just the

1:05:25

overlay right] right I mean it goes back it it's it loses the overlay Y and and

1:05:30

your bit your back with done yeah so that that's pretty important

1:05:36

that something like that's put in if if that's the route that

1:05:41

that's and I I mean I think if it's project and they're going to go forward with it it's reasonable to ask that you

1:05:48

know you don't start it within this timeline then you're back and then because like

1:05:54

you said somebody otherwise could just tie up all the land and not do anything do anything

1:06:00

or have the Monopoly on it well

**Dan Priestley**

if you you look kind of in the 89 and the

1:06:06

operation and maintenance plans and kind of decommissioning plans you'll see

1:06:11

various checkpoints they have to have a relationship the county and have tabs

1:06:21

on

**Chris Zellmer Zant**

yeah you know we're reporting in verification

1:06:35

scheduling

**Dan Priestley**

well again I would probably uh suggest you know uh you got the three

1:06:42

options there and it's kind of it's up to you as far

1:06:47

as uh what you're thinking as far as is an overlay feasible or is it uh uh the

1:06:55

other option was to strengthen the conditional use language uh from the existing district or move it over to the

1:07:02

development plan if uh you're to do something with this overlay though I would definitely suggest that uh the

1:07:09

language be kind of focused in the way that we want with some of these added concepts but brought into the

1:07:16

development plan as part of uh justifying

1:07:22

overlay

**Chris Zellmer Zant**

I know before when we talked about it the overlay was appealing because it had so many sets of eyes on

1:07:29

it had so many different [Tom Bride: yeah reviewed by all three] approval yeah supervisor Board of

1:07:36

adjustment Mission [Tom Bride: and then it can be condition specific to that area right]

1:07:43

**Dan Priestley**

you got to be aware that um you can run into lots of redundancy too and you've

1:07:49

got to have everything be uh practical feasible and many of these jurisdictions

1:07:55

that do the overlay um the overlay becomes the allowed use inside of so the overlay is

1:08:03

Project Specific so um I've tried to find an area where you put a conditional use

1:08:10

inside and double it up but there's it seems that the practicality and feasibility of

1:08:17

um you go to this permit criteria you go to this permit criteria and it becomes

1:08:23

very cumbersome as far as running through the process and those other jurisdictions like Linn

1:08:28

once you get through the grinder going through the zoning commission approving

1:08:34

the Board of Supervisors approving the overlay that would ultimately authorize the use so the conditional use would not

1:08:41

be a part of that so the the overlay would basically authorize that use and

1:08:47

so yes you would still have a level of public involvement but that would likely

1:08:52

remove the board of adjustment I'm just not seeing a clear pathway to do a

1:08:57

conditional use after you approve an overlay I think that that's probably way

1:09:02

too much from what I've read in some of the literature and I haven't found a jurisdiction but up because I originally

1:09:09

was thinking yeah we could probably do a real trim overlay District but then how

1:09:16

do you divide the responsibilities between the board of adjustment and from

1:09:21

the Board of Supervisors if the Board of Supervisors feel that this is good in this way and then the board of

1:09:26

adjustment we could run into a problem uh between both boards and so an overlay

1:09:32

is truly designed for the zoning commission and the board of

1:09:38

Supervisors to kind of come to a conclusion whether that fits or not and

1:09:44

so I I think ultimately what would happen is uh you would have a public

1:09:49

hearing uh scrutiny full level at the zoning commission level and that this would be brought up to the three public

1:09:56

hearings at the Board of Supervisors level so you would you would be at the four for sure on that or we could put

1:10:03

another mechanism in there if you wanted to have a multiple zoning commission ones but uh as far as uh pulling the

1:10:11

board of adjustment in I think that they might actually be out of the equation as

1:10:16

far as the the overlay District but if you were to continue with our current

1:10:22

policy um the other proposal in here um if the community is all set on it being in

1:10:30

industrial areas and not on the AG land I think it would make sense to have the

1:10:35

Zoning commission's Board of adjustment continue to do the hitting with added features if it's specific to industrial so

1:10:44

that's that's where all of these Concepts and proposals get kind of cumbersome

**Chris Zellmer Zant**

yeah

1:10:52

confusing m well that takes kind of the interesting

1:10:59

part of why we like the overlay away is that it had an extra set of eyes on

1:11:06

it does that change well it's it's I mean but I

1:11:12

**Tom Bride**

understand what you're saying just means the overlays got to

1:11:19

make sure everything's addressed and at that point once they [Chris Zellmer Zant: it doesn't make a

1:11:25

it's a major change as far as whether you think that's an effective] what does that allow if if the over you basically

1:11:31

have your conditions with overlay um either they meet them or they don't um

1:11:39

versus the conditional use site specific where maybe this is a little bit

1:11:45

different than this other one because it's it's a different piece of property

1:11:50

so there was some conditions you had to apply here that didn't by here how do you accomplish that with the overlay or

1:11:57

you

**Dan Priestley**

I think it could be very similar as far as the um the application process of

1:12:03

scrutinizing the neighborhood and having the ability for the supervisors to impose conditions that are recommended

1:12:11

**Tom Bride**

so those recommendations could still come from the zoning board then and and be be applied to that overlay District

1:12:19

differently than maybe a different overlay District that was

**Dan Priestley**

yeah and if if

1:12:24

you all have a process and we'll use the conditional use for an example you find

1:12:29

a deficiency or something that could be improved or meet the requirement based

1:12:36

on a condition we usually have a condition for the purpose of bringing an application up to par to be compatible

1:12:42

with the uh area and so um the zoning commission identifies anything that they

1:12:49

find that might be needing a condition worthy of a condition and uh present

1:12:56

that in the ultimate final report to the Board of Supervisors you are all doing an investigation for the Board of

1:13:03

Supervisors and a recommendation capacity to tell them that here is the

1:13:09

determination of this commission we feel that this is suitable for this area

1:13:14

however this item needs to be addressed this item needs to be addressed and um then they can have the ability to impose

1:13:21

that

**Tom Bride**

the ability is still there it's just that you don't have that the board of adjustment they basically are doing

1:13:28

the work of the board of adjustment

**Jeff Hanson**

okay I think one we address that too in the overlay

1:13:33

proposal is to add the requirement for site plan review and approval at pnz at

1:13:38

planning level and the the Board of Supervisors So Not only would you have to meet those criteria that next level

1:13:45

not going to the conditional use permit would be through site plan review so this body could actually review a site  
1:13:51

plan make the addition conditions as they see fit depending on the neighborhood the location the other

1:13:58

factors that come into play and also your public comment you're going to get public comment on each one of these that

1:14:03

are going to be differing right and so that site plan would then follow the overlay throughout the process yeah and

1:14:10

you wouldn't be dealing with the the legality of treating one different than the other because you

**Dan Priestley**

ultimately we

1:14:16

could have them sign off and do the building permit to and uh ultimately put it up as a board item to to really

1:14:23

assure the public and confirm that this is where the project is at this point

1:14:28

and they would they would basically approve it through a vote basically we could you know uh you have them be the

1:14:35

permitting body for that as well

**Chris Zellmer Zant**

so that was part of I with additional use it gives you that much more latitude and

1:14:42

flexibility with each application that's the beauty of it we don't want to lose

1:14:47

that so

**Dan Priestley**

but I will get back to and we're talking about this in theory but we're

1:14:52

still going to have to have that grand criteria right right what what it is

1:14:58

that will be the heart of a overlay District what threshold do they have to

1:15:05

meet

**Chris Zellmer Zant**

so included section 5.08 on page 55 in here and that's just ability scale

1:15:13

solar energy systems conditional use which is what the industrial

**Dan Priestley**

yeah let me explain page 55 and

1:15:21

forwarder um sorry show late leave early no page 55 and forward this this is an

1:15:30

amendment to keep the exact same process and the exact same area and keep the

1:15:35

zoning commission the board of adjustment permitting inside of General industrial okay that was one of the the

1:15:41

options available was that we've had concerns to uh strengthen the

1:15:48

conditional use of further criteria it allows the commission and the board of of adjustment to ensure that they do

1:15:56

things such as impose uh um decommissioning and and various road use

1:16:02

agreements various other agreements ensure that those get built in by en

1:16:08

numeration okay and so that that's the rationale behind uh the utility solar

1:16:14

scale conditional use okay so that that's separate from the overlay okay that's what that's another option for

1:16:20

your recommendation

**Chris Zellmer Zant**

which is 76 is the utility scale Energy System overlay districts and then it goes into kind of

1:16:27

a different format but it covers a lot of the same types of things and you had the other thing red type in here

**Dan Priestley**

the

1:16:35

other thing while I still have it up here is um inside of the overlay

1:16:40

District you'll see some references to Battery Systems too and that's something that should be on the radar in terms of  
1:16:47  
um um maybe having as part of a recommendation so whatever path you take  
1:16:53  
on a solar you might want to consider that as far as facilitating the the  
1:16:59  
permitting of these batteries so I would strongly suggest considering a form of  
1:17:04  
that language as part of the recommendation because we know if you're dealing with solar you're going to to very  
1:17:10  
likely be dealing with batteries  
**Kim Alexander**  
please forgive me for interrupting but you know what time  
1:17:16  
you're going to allow public questions  
**Chris Zellmer Zant**  
when we're done just  
1:17:23  
discussing I guess or we can do it whenever what do you guys want to do you  
1:17:28  
Do?  
**Barb Parker**  
you want to go now that'd be great yeah  
**Chris Zellmer Zant**  
I've got bit wind down are we ready to wind  
1:17:35  
down yeah I'm fine okay do we have more questions or something that's pressing okay I just wanted to clarify that we  
1:17:42  
had conditional language here use language and then we had the overlay language you're not suggesting  
1:17:47  
conditional use first part for just the industrial area and then this part for  
1:17:53  
**Dan Priestley**  
I'm I'm my S my suggestion is that we carefully examine what the public has to  
1:18:00  
say about um the priorities on solar as  
1:18:06  
far as the development plan I think it's been very apparent throughout the course of the debate and uh I think that the  
1:18:13  
development plan needs to coincide with this and so I I think ultimately you  
1:18:19  
could have multiple recommendations possibly routes they could take  
1:18:24  
supervisors could take and so I think that the the input is imperative as far  
1:18:30  
as potential areas I I think that uh we're we're of course being monitored  
1:18:35  
and being watched by developers and I and I and I encourage uh folks to  
1:18:41  
contact staff uh to to respond to our requests for comments because uh we need  
1:18:47  
more information as far as uh what kind of County we want to be and so  
1:18:53  
uh development plan needs to be a key part of it but I also think that uh um  
1:18:59  
you you have the ability to um strengthen the conditional use permit ordinance the problem is is if you do go  
1:19:06  
for an overlay how do you handle Industrial in the future too so are you going to be left with a different set of  
1:19:13  
policies for the industrial and so we're going to have to find a way to marry these two items together guess that's  
1:19:20  
what I was asking are we having two different policies for two different yeah  
**Dan Priestley**  
so if you're doing an overlay  
1:19:26  
and you're doing the the other one you're going to have to have something that mirrors it but it's suitable for  
1:19:32  
the industrial area um if you're doing agricultural mitigation you're probably not going to worry about it so much on



1:19:38

Industrial land so we we've just got to be able to keep everything prioritized

1:19:44

and divided

**Chris Zellmer Zant**

so okay easy what did you say Okay you may

1:19:53

speaking now great yes

**Kim Alexander**

my name is Kim Alexander I farm at Smithland and I

1:19:58

appreciate y'all's public service and doing this you could not pay me to do your job uh but I do appreciate what you

1:20:06

all are doing and I just want to ask a couple questions two or three questions

1:20:12

backing way up to the beginning on the fundamentals of this thing uh and and it

1:20:17

was very hard to hear I want to say that I appreciate the gentleman in the red shirt I could generally hear him but the rest of

1:20:23

you it was tough but so if I ask something that's already been answered please forgive me so uh gentleman said

1:20:32

something about a meeting with the Department of AG and the department of energy and they were

1:20:37

assessing communities and how they're coming along with their uh setting up

1:20:43

the framework for this whole uh green energy deal is that yeah um

**Dan Priestley**

basically as

1:20:50

you all know there's been some federal initiatives as far as this this renewable energy a lot of the literature

1:20:58

talks about the closing of the coals plant or uh plants and the replacement energy

1:21:04

and um one of the things uh that occurred at this meeting was uh they

1:21:09

wanted to um kind of understand concerns that we may have had from the local

1:21:15

level about the implementation of uh solar in the communities and this isn't

1:21:21

entirely a fresh brand new thing it's it's been out there for years but uh

1:21:27

they they want to know generally um what some of the challenges are whether it's

1:21:32

taking AG out of commission and placement Etc I understand so this is

1:21:37

this is first and foremost a topdown government intervention is that accurate

1:21:44

I I can't really directly say that as far as saying that um uh we we know that

1:21:52

there's information out there that there's a there's a compelling interest in Renewables for a future energy policy

1:21:58

**Kim Alexander**

especially from the government right and so the other question I so this is not

1:22:04

premarket Enterprise if I understood correctly again I apologize you're being so hard of hearing um this is not free

1:22:13

market uh Grassroots demand for this this is a another top down government

1:22:19

uh intervention in rural America rural Iowa uh and so I would submit to yall

1:22:28

The Challenge and the difficulty and again I appreciate what you all are doing you could not pay me to do your

1:22:35

job so I appreciate you all doing this uh I would submit to you that that the

1:22:40

biggest part of the challenge is trying to create something that there is no

1:22:46

grassroots demand for it is the is the problem that we can't make enough energy

1:22:52

from coal or natural gas no the problem is Big Brother government doesn't want

1:22:58

us to have that option and that ladies and gentlemen is a

1:23:04

recipe for disaster we're seeing these electric cars I read it a headline today

1:23:11

uh these electric cars in Chicago or wherever these big cities they they are frozen

1:23:17

robots premarket demand will take care of what we need not top down government

1:23:23

boondoggles paid for with non-existent tax money because they're just printing the stuff so um again I appreciate what

1:23:32

yall are trying to do but uh we do not need this there is no demand grassroots

1:23:39

demand for it it is government boondoggle and government uh to quote

1:23:44

that great western philosopher I think his name was Ringo Star he said everything government touches turns to

1:23:51

crap and that's what's going to happen folks if if you if you try to thread the

1:23:57

needle for big brother so any questions for me

**Barb Parker**

no thank you very much great thank

1:24:04

you all I appreciate it

**Chris Zellmer Zant**

thank you thank you check check do we have anyone [Barb Parker: what sorry I

1:24:13

Took] no no no you can say whatever you want whenever you want you know that

1:24:18

anyone else from the public want to comment

1:24:27

**Marty Dougherty**

Mary city city city plan the city city plan so we

1:24:34

and that go a little bit about this and we we just wanted to listen for a while

1:24:40

andbe make a few comments on behalf of Sioux Cityum he's the expert planer so I I I do

1:24:48

Economic and Development so but um

1:24:53

I I'll just start off Chris can had technical comments I guess but but

1:25:00

uh I do want to say thank you for the work we're doing obviously I'm impressed by how much detail depth we've gone into

1:25:06

here for for this getting some of the materials wow you guys spend a lot of time

1:25:13

studying this so know a whole lot more about it than than I be sure but um uh I

1:25:19

understand correctly the current process is in Woodbury County it's uh allowed solar these

1:25:25

large solar systems as a conditional use in industrial areas looking at AG and

1:25:33

you're looking at the whole thing so um and from the standpoint of the of

1:25:39

Sioux City Our concern is that and been brought up here a couple of times two mile area around the city is usually

1:25:45

where you have some interesting in jurisdiction in some areas Chris can explain but not in own we have some

1:25:52

things um subdivisions and so on and um we have been working very hard and

1:26:00

actually want to say um we don't necessarily U we're concerned with just

1:26:08

having it in industrial areas as well and and uh and I say that because in the

1:26:13

South we call the Southwood area which is the area south of the airport Port NE

1:26:18

um we city has actually worked for the county uh and we put a lot of infrastructure a

1:26:24

lot of investment in the area um we don't we're not growing like Des Moines or

1:26:30

something but we we have steady growth and that's an area we identified for industrial growth and uh we put a lot of

1:26:38

investment into water plants and streets uh water sewer utilities and so

1:26:44

on um and our concern is not necessarily the case but it's possible that if you

1:26:51

have thousand of Acres or hundreds of Acres going to solar um that will lose the

1:26:57

opportunity for other types of industrial growth um I don't want to say things I'm not know a a lot about but I

1:27:05

don't think there's a lot of jobs we're trying to build a you know factory or facility of some kind that employs

1:27:12

hundreds or thousands of people and and that's hard to do it doesn't happen overnight but we've been diligently

1:27:19

trying to to to have land available for them that I would also mention that the

1:27:24

C of su City Sergeant Bluff and wber County have gone in on the Interchange

1:27:29

which is taken several years to study and is now under design the cooperation with the Iowa DOT

1:27:34

of the I right in that same area which we think will lead to more industrial

1:27:40

growth um and we have some concern that a lot of that area was went to uh to

1:27:47

large solar Farms or large solar system arrays I'm not even sure the right terminology but that

1:27:54

might uh sort of impact what we think is going to be tremendous opportunity not

1:27:59

only for suity but for the Woodbury County and the whole region to see some significant growth um and so when you

1:28:07

say industrial ask you to consider different types of industrial growth um

1:28:14

energy production is one type but a lot of other kinds of of uh industrial

1:28:20

growth with kind of leading most concerned about so um and I also share

1:28:26

some concern of use of agricultural land uh Sioux City is we're larger City but

1:28:35

we're driven by Agriculture and that that's that drives our economy here Rich industrial Rich agricultural

1:28:42

land lots of livestock a lot of businesses industries that City and

1:28:47

majority I think are food production food related and so we have some concerns

1:28:52

too just in general about about taking really high quality farmland or

1:28:57

something that maybe should maybe maybe the solar and is not the highest best use of that land so so again I'll let

1:29:04

Chris comment a little bit on something may more technical but but our I

1:29:10

appreciate your consideration of this and um take into account not just City

1:29:16

but the other cities in Woodbury County and how they how they may we would likely be

1:29:21

impacted some of the residential areas too we've had again we're not growing as fast as Waukee or Ankeny or something but

1:29:27

we do have some good residential growth occurring um around the outskirts of

1:29:33

Sioux City we like that we' like that to continue as that we think without more

1:29:38

housing you don't have the people that don't have the job creation so I think it's vital to our whole

1:29:46

region

**Chris Madsen**

I think our main concern would be with the utility size that within two miles of a city's jurisdiction that

1:29:53  
 either those would be prohibited such like the wind uh turbine um I know that

1:29:58  
 was noted in your right up as well there's also some comment about a five mile or at least a FAA review within

1:30:07  
 certain distance of the airport we're working with our airport to get what their language would be on that with

1:30:13  
 their proposal they didn't know the five mile was really necessary just as long the

1:30:19  
 FAA um one thing that we do allow wind or solar energy in city as an

1:30:26  
 accessory that's something that obviously we would be in favor of if that's something you guys want to continue I'm not sure how your ordinance

1:30:33  
 addresses that infirm is accessory use or just the utility scale principle use

1:30:38  
 within miles is our major concern U we do appreciate the larger notification

1:30:43  
 here as well the one currently is about just a little over a mile outside city so we weren't aware of that one was

1:30:51  
 proposed but all that increased notification would being

1:30:56  
 for yeah

**Marty Dougherty**  
 on the airport deal we have talked to M CL airport

1:31:01  
 director we have we're going to submit a letter to you is that is that okay 'll

1:31:07  
 probably signed by the mayor he's been interested in this asked us to look into it so um but uh do you want to make sure.

1:31:15  
 we express the concern about the airport because um uh within a certain distance

1:31:20  
 of runways it can affect planes probably not big planes with

1:31:25  
 smaller ones pilot provide there are some rules there where we'll get those to you into what what their concerns

1:31:34  
 more specific it is there are some some new some approvals

1:31:39  
 that have over this

1:31:45  
 type cause issues

**Chris Zellmer Zant**  
 with I think that was uh with the mid- americ we spent a lot

1:31:51  
 of time evaluating that information and making sure that was accurate we did have the FAA

1:31:57  
 fation yeah we had their blessings yeah so we wouldn't have moved forward on it if we hadn't

1:32:04  
 so that's a big that's a big issue

**Jeff Hanson**  
 to answer your question Chris and Dan can

1:32:10  
 you clarify this does not impact any accessory use or personal use of solar

1:32:15  
 right so anyone that's currently or plans to or has pending applications to

1:32:21  
 energize their personal property with solar this is not directed towards that

1:32:27  
 use correct

**Dan Priestley**  
 yeah this uh just for the record this uh debate ended up split in

1:32:33  
 August uh we had a original proposal that went through that uh treated this

1:32:39  
 as a conditional use originally on AG land and uh we addressed the accessory solar

1:32:45  
 in fact we kind of uh U we were more restrictive than Sioux City on Accessory

1:32:50  
 we' had it as a conditional use permit and uh you have it as a permitted accessory and we we went back and uh we

1:32:57  
amended our ordinance uh to have the same designation as Sioux City has uh we did put some language in there for uh  
1:33:05

limited net metering opportunities uh because the way when when we ran it through the county attorney's office uh  
1:33:12

uh we wanted to make sure that um you could not convert an accessory situation  
1:33:17

into a utility uh situation so to up based on the definition and so um uh we  
1:33:26

do have a permitted accessory for use if somebody put one in the house or off City at this point

**Chris Madsen**

I guess from our

1:33:33

stance we would be only really concerned with the utility scale within that two miles there were accessories within two  
1:33:44

miles thank you thanks

**Chris Zellmer zant**

anyone

1:33:50

else question

**David Linn**

1:33:56

Eastern sh really curious why or if you guys

1:34:02

discussed just expanding the general industrial to

1:34:08

accommodate these industrial scale

1:34:13

solar arrays whatever you want to call I mean if we just had more room South C

1:34:20

obviously I should obviously I'm a farmer out in the county and I really I'm not a big fan of solar I wasn't a big

1:34:27

fan of sold leing but it seems to me like the best way to accommodate all of

1:34:34

this stuff would be to keep it within an industrial zone area that would be a simple thing now I understand that

1:34:39

there's going to be people down there within that industrial zone that probably don't want to be zoned

1:34:44

industrial but the way it sounded uh even the farmers that are

1:34:51

already there there that may actually increase it value what he was talking about earlier so

1:34:58

why don't we just consider increasing to so well we already know

1:35:03

that transmission lines are there and and leave the rest of us

**Chris Zellmer Zant**

I think one of the things that had

1:35:10

come up in our discussions too was that because when you changed that zoning to Industrial there's a lot of other things

1:35:17

that can happen in that Industrial Area not just solar [David Linn: that's right] there's a lot of things that aren't necessarily as

1:35:24

well compatible as they might be the farther you get away from that industrial area that we have right now I

1:35:31

mean we look at it when we have growth and we see that that's e that's definitely happened but right now well

1:35:37

but are some of the examples Dan that we have that go in industrial zones that may not be a priority

**Dan Priestley**

construction

1:35:44

contractor yards borrow pits all sorts of

**Chris Zellmer Zent**

heavy petroleum storage you know oh

1:35:52

don't we have room within the county I don't know sound like there's about 10 11,000 Acres 11,000 Acres now currently

1:35:57

**David Linn**

now currently it's in it's all West the of the interstate is is there is there

1:36:03

more Farmland just because that's less popular we have more ground in Woodbury

1:36:11

**Chris Zellmer Zent**

County out of s to the South and Highway 75

1:36:17

the there's a map yeah we got our m that's

1:36:22

why I have my paper clip on it maybe I can find it before you can you turned right to it before I did there it is

1:36:29

right there which one would you like existing

1:36:34

they V for either one

**Dan Priestley**

this is tough to see but the green

1:36:41

area there's predominantly all the ag L this is what's General industrial right

1:36:46

now actually it's a purple that that's south of the airport there okay I see

1:36:51

good yeah and so this

**David Linn**

this area right here would still be available it's west of the interstate it would be delineated

1:36:58

by the interstate or what well the and it's primarily agricultural land

**Dan Priestley**

the plan the plan right now as historically

1:37:05

referenced that it's open space or recreational uh under the is that the

1:37:11

**Chris Zellmer Zant**

green stuff yeah yeah that's all it's kind of that's all BRS

**Dan Priestley**

yeah yeah so

1:37:18

conservation areas and all those things have been in mind for that type of zoning designation and so we're trying

1:37:25

to preserve that ground down here and keep it away from industrial it appears so

1:37:31

**David Linn**

yes that's that's what they're trying to I'm from right here like I said I've got Farm here down here in whatnot and I've

1:37:38

got Farm ground right within that green area that that the concentration board keeps trying to buy from okay and

1:37:44

they'll never get make sense of that designation I

**Chris Zellmer Zant**

1:37:49

better hide my jacket

1:37:57

**David Linn**

but it just seems to me that would be

1:38:04

best and just uh

**Dan Priestley**

again that's definitely a good development plan discussion right

1:38:10

absolutely y I'm sure we'll hear that again too

**Chris Zellmer Zant**

yeah yes thank

1:38:16

you anyone else

**Elizabeth Widman**

well I wasn't prepare to talk

1:38:21

tonight I didn't realize people can say anything because last time we had work session it didn't allow people to say

1:38:26

things but I know there's a there's a a form in there I believe my son submitted

1:38:32

has talking about property values and it said overall if you consider the whole United States putting in silver facility  
1:38:40  
does affect your um value of your property but there were three um you  
1:38:47  
know and that was considering if you put it around urban centers on the east coast didn't affect anything but they  
1:38:53  
said there were three criteria that if you had it would decrease your property values 5% and that was um and I'm not  
1:39:02  
looking at it right now I don't remember exactly but it was the size of the project that um was going to be put in  
1:39:08  
and if it was in a rural setting and there was one more and I don't remember  
1:39:14  
if it was just in the midwest I don't remember what the third one was but on there somewhere and it says it'll  
1:39:20  
decrease your and um I appreciate Mr Alexander when he  
1:39:26  
said this has not been pushed by anybody and says he we're not getting enough energy um she looked up something on her  
1:39:33  
phone you're going to save \$15 a month by ruining all this ag land put in put in  
1:39:40  
solar it's very inefficient um and it's this has just  
1:39:46  
been pushed by people who have an economy who have a money incentive to do this  
1:39:52  
and there weren't those of us in the the AG community that said hey we want our AG taken away so we can have solar um  
1:40:01  
and I I just think it's really ironic that you want to take away ag  
1:40:06  
preservation land so the word preservation means you need to save it and and I think the the main uh one of  
1:40:14  
the the main Treasures of our county is the people and we don't chase away people  
1:40:22  
that want to live out in the in the county and people don't want to live by  
1:40:27  
these big sell of things and I have a vested interest because they want to put this down in my area where I've been and  
1:40:35  
and um I I love the country I love to see the country and I also have a  
1:40:40  
question you talked about well these things could have ag uses now if they sign a lease with the company and I  
1:40:48  
understand um I found out um you could look online on things this  
1:40:54  
company that um the big one they want to sign up with if you look up their  
1:41:00  
headquarters it's a lawyer's office in Ohio somewhere this isn't even like a  
1:41:05  
business you know whatever and um  
1:41:11  
forgot um sorry ag uses something about EG  
1:41:19  
uses oh yes if you have ag uses so if you're sign if you're signing an agreement with a company they're in  
1:41:27  
charge of what's going to go on the farmer is not going to say oh I signed this with you you know several years ago  
1:41:34  
I suddenly want to put make sure that it has an ag purpose well that person's  
1:41:40  
not in charge of it anymore my understanding is when you sign an agreement company they're the person  
1:41:46  
that's in charge of it so I think all this discussion about well it's going to to fit with a and the farmer wants to  
1:41:53  
have it a it's not the farmer that's going to decide these things it's that company that they've signed sign an  
1:41:59  
agreement with unless I'm misunderstand this but I don't see how the farmer has any say once you've  
1:42:06  
signed an agreement with the company  
**Chris Zellmer Zant**  
I don't have firsthand experience but my thought is that because of the contracts  
1:42:12

that they use a lot of these issues will be addressed in those contracts but we  
 1:42:18  
 can't control those the only way we can control it with what we do with ag I mean what we do with our zoning ordinances I  
 1:42:25  
 mean that's all we can do contract these contracts or contracts there's another  
 1:42:31  
 outside of us option sign options options already been signed yeah and uh  
 1:42:37

**Elizabeth Widman**

so I have a concern about this discussion about well fits with that because we're going to do this well um  
 1:42:44  
 you know these companies don't live here they don't you know they don't have a  
 1:42:50  
 concern with how our turned out so that's my on spot two sound so  
 1:42:57

sorry thank you and you're Mrs Whitman yeah I'm sorry I'm Elizabeth Whitman yes

**Chris Zellmer Zant**

1:43:02  
 yes thank you anyone

1:43:08

**Greg Jochum**

else um Greg Jokum um just wanted to uh um the old  
 1:43:15  
 saying location location location um there's purposes for uh why they didn't  
 1:43:22  
 go to General industrial um it's the transmission lines if the infrastructure is there um  
 1:43:29  
 it's already there for them to to use transmission lines um General industrial  
 1:43:35  
 does not have any transmission lines up in that area um that would double the  
 1:43:41  
 cost it make it makes it uh um not feasible for them to be in the general  
 1:43:47  
 industrial um the comment that um one of you said that you know General  
 1:43:55  
 industrial we don't have to worry about it because it's already Zone General industrial um you can still farm the  
 1:44:00  
 general industrial um I gu I'm farming ground in the general industrial but I also have  
 1:44:08  
 ag preservation ground I would much rather have a conditional use or the overlay for that than have you know  
 1:44:16  
 ground in the you know not close to  
 1:44:22  
 the highways the interstates and all that being deemed General industrial for  
 1:44:27  
 a project you know your spot I don't I don't see where that that be very  
 1:44:33  
 detrimental because ag preservation is good because in when the leases are up  
 1:44:39  
 and they decommission it to take everything out it goes back to farming you're not out anything whereas if it  
 1:44:45  
 goes to General industrial General industrial then it's stuck there and you know a concrete PL a  
 1:44:53  
 you know Warehouse can go up and there's nothing that anybody in the can do  
 1:45:01  
 can you know I I think if uh you know looking at you know going with  
 1:45:07  
 the the utility scales the scorecard uh you know that is something  
 1:45:13  
 if you go with an overlay or something using that uh which is it's designed for  
 1:45:19  
 the preservation and incentives gives you lots of options and lots of ways for them to score how these  
 1:45:25  
 projects are cited because you know obviously when it's done it goes back to the ag  
 1:45:36  
 production and and I think Linn County use the scorecard where we got that example  
 1:45:45  
 yeah and thank you for everything you guys do like Kevin



1:45:51

said it's t

**Chris Zellmer Zant**

but we appreciate your participation

1:45:57

in your comments and your thoughts and your ideas because it makes us think maybe outside the box too we haven't

1:46:02

thought about it you know it hasn't come up so if you don't say something we don't know your participation is greatly

1:46:10

appreciated surely anyone else uh

**Leo Jochum**

can I can I speak

1:46:18

[Chris Zellmer Zant: who who is speaking okay] this is Leo Yokum 1691 250th Street at seix and I I

1:46:28

kind of want to talk about Farmland the history what we had in Woodbury County and I'm going to back up

1:46:37

to what we had in Woodbury County Farm economy of the 70s we had a county that had a robust

1:46:45

live livestock industry it was supported in every small town in the county had a co-op elevator

1:46:53

farm machinery dealers livestock equipment dealers fuel Distributors local veterinary services

1:47:00

just to name a few this all fed into Sioux City and that

1:47:05

area had the major livestock yards had five or six slaughter houses and it also

1:47:11

brought along with it a tremendous amount of support businesses

1:47:17

now when the farm crisis of the 80s hit very few of these livestock

1:47:23

livestock producers in the county survived I know because I lived it and

1:47:29

at that time I was president of the Woodbury County pork producers our producer and Associate

1:47:36

membership went from over 300 members to under 30 in just three years that's how

1:47:42

fast and furious people were losing money as a result of that we had we had

1:47:51

some officials in Woodbury County and Sioux City that were really on the ball and today we have to applaud our

1:47:57

County and city leaders in the 80s and right up to our present time for their Insight their proactive response to

1:48:04

recruiting and attracting new businesses to offset the loss of the Agricultural

1:48:10

Revenue I want to share um I have some facts here from the

1:48:16

food and agricultural industry economic impact study and this study is put on by the United

1:48:26

stat States Department of energy along with the food and agricultural department and these facts are

1:48:34

considered in Congress they've got them now and it's considered for the new farm bill and I'm going to just touch on just

1:48:41

a three things this stretches out over every

1:48:48

county in the United States it's also broken down by the state each

1:48:54

County and I took Iowa all 99 States but I just separated out Woodbury Plymouth

1:49:01

and Sioux mainly because Plymouth and Sioux County was brought up as being strong ag just like Woodbury the difference is

1:49:10

I want to take a look at ag jobs Woodbury has in 2023 this is

1:49:17

2023 at 348 direct ag jobs Plymouth County had

1:49:24

1572 ag jobs Sue County had 3,000 ag

1:49:29

jobs Woodbury County ranked 85 out of 99 counties in the ag jobs Department ag

1:49:37  
wages Woodbury County 12,932 Plymouth County  
1:49:45  
7,283 Sioux County 17 I mean I'm I  
1:49:51  
got to back up 12,932 for Woodbury for Plymouth  
1:49:58  
7,283 mil Sioux County 176,50  
1:50:03  
195,000 compare that Sue County had 176 million to woodbury's 12 million in ag  
1:50:10  
wages ag output this is money coming from all of  
1:50:16  
the ag area that's Hogs cattle swine sheep Dairy and  
1:50:23  
crops Plymouth County had uh Woodbury yeah Woodbury County had  
1:50:30  
99,197,000 Plymouth County had 933 million  
1:50:37  
10 times the amount Sioux County had 1 billion 730 million  
1:50:46  
327,000 now to close this this impact study also showed that Woodbury County ranked real high very high in the  
1:50:54  
top 5% in manufacturing jobs and wholesale jobs in the  
1:51:00  
state that's direct correlation to the  
1:51:06  
leadership we had with the city officials and the county officials that saw how ag was  
1:51:12  
falling through no fall of its own but just through the ag economy it was tough Farmers went broke  
1:51:20  
Woodbury County needs industry so keep that Southbridge area for industry  
1:51:26  
open we also need other ways in the county in the ag economy in the ag  
1:51:32  
preservation area to bolster that we can bolster that with renewable energy with  
1:51:40  
utility solar it'll fit well we may be  
1:51:45  
we may be bringing agrivoltaics right into this it's it's a new one it it's coming on but the tax revenue coming in  
1:51:54  
the extra jobs that are going to be coming in from that on a normal basis after it's going after it's in operation  
1:52:02  
there's going to be eight very high paying jobs and there's going to be related businesses that are going to  
1:52:08  
have to help to maintain the grass maintain the equipment maintain the fences it's going to be a it's going to  
1:52:15  
be a plus for the economy it's clean it's efficient and it's very good for  
1:52:20  
the environment I I think the renewable energy lay overlay should be considered  
1:52:27  
and I think uh there's contracts out there that are very  
1:52:32  
solid and I I know you want to know where it's at but I know that once it's listed  
1:52:41  
where it's at it's a commitment you can't do anything about it once it's a  
1:52:46  
commitment just like somebody wanted to have a timeline on it  
1:52:52  
um if all of a sudden that company is in and has a contract going and they're ready to build it and all of a sudden we  
1:53:00  
get hit with something similar to covid then all of a sudden you got to  
1:53:05  
back up and you lose everything so we need yes put stuff in there that's  
1:53:13  
reasonable and I think we can have a very good um I think utility solar can  
1:53:19  
be very very good for the community uh it's safe

1:53:26  
 and I think it will just be good in general thank you  
**Chris Zellmer Zant**  
 thank  
 1:53:35  
 you anyone  
 1:53:41  
 else no Commissioners no going once  
 1:53:47  
 going twice all right I think that is going to  
 1:53:54  
 conclude our work session got all your notes yeah okay

## **Public Hearing #5 (Woodbury County Courthouse) – January 22, 2024**

On **January 22, 2024**, the Commission conducted the fifth public hearing at the Woodbury County Courthouse. Twenty-two (22) members of the public addressed the Commission on a range of issues in support and opposition to utility-scale solar on AG land. Below includes links to the audio and summaries and/or direct quote adaptations of the information shared by the public. The following is not intended to be a perfect transcript but is offered to provide context of the debate. The audio can be accessed on YouTube using the following direct link:  
<https://www.youtube.com/watch?v=9eSTtLzBTA8>

The list of Zoning Commission meetings inclusive of the agendas, packets with backup materials, minutes, and videos (Audio) may be accessed at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/)

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- [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/)

### **David Linn**

12:06  
 David Lynn 1410 Michigan Correctionville  
 12:14  
 I just wanted to stand in opposition of the solar in the AG  
 12:20  
 preservation land I think solar is very well suited to be in the industrial  
 12:25  
 ground and I wouldn't oppose that at all but in reading through a lot of the literature there uh from your last  
 12:31  
 packet you also stated that it would be there was one deal in there where was up to 5% slopes I think where where you  
 12:39  
 thought it would be appropriate and if you put a solar panel farm you know where they're right next to each other  
 12:44  
 on a 5% slope and we get a 2-inch rain you're going to have a mess I mean so I  
 12:50  
 really think this needs to be in the industrial area with the ground is pretty well flat or in river and creek  
 12:56  
 bottoms and that's why I think it should be in industrial area and not in the ag  
 13:01  
 Preservation. Thank you.

### **Dolf Ivener**

13:15  
 hello my name is Dolf Ivener I live at 3400 Talbot Road and I would like to  
 13:20  
 speak for solar installations in our county um I'm a solar  
 13:27  
 installer uh not on massive scale on little scales to address your concern um  
 13:33  
 I have really steep hills yellow dirt and I put solar systems on them they don't wash um there's plenty of sun that  
 13:41  
 goes underneath the solar system effectively it's  
 13:47  
 sun it hits the ground it's no different than photosynthesis it's effectively the  
 13:53  
 same thing now some neighbors don't like to look at it but I'm afraid is this a slippery slope where my neighbor who  
 13:58  
 grows beak seeds tell me oh no we got to just grow beak seeds here right we're not no you know we don't we don't want  
 14:05  
 Dick Cal or Pioneer this is this doesn't increase traffic this just sits on the land it

14:12  
 doesn't sit any taller than a corn plant I mean I raise good corn get 12 feet tall top of a solar panel isn't over 12  
 14:19  
 feet tall so and another issue I think there's a lot of  
 14:25  
 complaints about taxes right I mean if these guys were to put a big system in I  
 14:30  
 mean what would the tax base be like to all the neighbors be a significant amount of money um and another issue is  
 14:38  
 and I saw it happen with the wind turbines it's just pretty difficult I think uh I work pretty hard to pay my  
 14:44  
 mortgage payments on my farms and the idea my neighbor gets to take the right away from me for what I want to grow on  
 14:51  
 my ground because they're going to look at it it's it's a pretty steep it's you  
 14:56  
 know it's a pretty steep price for me to pay for my neighbors to take the rights away from me so um in closing solar will  
 15:04  
 be a good deal it'll bring money to our economy it won't create road traffic I  
 15:09  
 mean nobody goes to I mean they just sit there in the Sun and collect the Sun so anyways I'm for it as a member of the community.

**Renee Weinberg**

15:38  
 My name is Renee Weinberg 3905 Country Club Boulevard um I know people are concerned  
 15:46  
 about agriculture um or agricultural land being used um I think the proposal  
 15:52  
 was that they would be planting grasses and plants underneath which would be  
 15:58  
 helping the ground even if it had the solar on it so that eventually um that  
 16:03  
 dies down and fertilizes the land so it doesn't hurt the land there's nothing hurting the land or taking it away from  
 16:10  
 the future if this is ever moved solar panels can be moved and I believe it's also a proposal to have a fence around  
 16:18  
 the entire area which would block off the view if this upset somebody or is  
 16:23  
 concern with you know this being something that's going to block their view something um it's supposed to bring  
 16:31  
 it's a \$440 million project so I would think that would be a huge um tax  
 16:40  
 increase uh job increases um clean jobs clean energy which is kind of the future  
 16:47  
 that we're trying to work towards thank you.

**Daniel Segura**

17:09  
 hello my name is Daniel Segura I'm from uh 3114 Pierce Street uh Sioux City, Iowa  
 17:16  
 and I don't live in the area I have family that lives in the area um the way I see it um there's a reason uh why uh  
 17:24  
 there's this um ag conservation uh land how it's been zoned that way um I think  
 17:31  
 um for many the perspective of many and I I included in that um I think there there would need to be a very good  
 17:37  
 reason to change it um after so many years of um people in the public relying  
 17:43  
 on that I know that there's um in many ways a shortage of of farmers  
 17:48  
 mainly because there's lower incentives when we have um not all land is suitable  
 17:55  
 for use and farm uh we have a lot of land that the soil is just not good enough um and so I think to just slowly  
 18:02  
 be eating away at the soil and and um we we also know a few things that have been brought up in the past about how um  
 18:09  
 there's a question how these solar panels would be disposed of um I think there is a significant risk that um  
 18:16  
 since they don't know how to dispose of them properly a lot of that would end up um in the earth at some point um but uh  
 18:24  
 I think with the current uh situation that we have with ag conservation land uh that's necessary to

18:31  
incentivize um current farmers from buying more land and utilizing it as well as uh up and coming Farmers for  
18:37  
the next generation uh to want to continue farming um and I think that's an invaluable uh resource to have uh lots  
18:44  
of Farmland in use in Iowa that's all I have thank you.

**Will Dougherty**

19:08  
I'll go quick uh my name is Will Dougherty 1499 Northwest Urbandale Drive Urbandale  
19:13  
Iowa I work for Mid-American Energy um I've been at a few of these solar hearings and workshop sessions over the  
19:19  
past few months um I'll keep it brief uh a lot of the comments that we have for  
19:25  
the proposed um overlay districts ordinance that was in the packet for tonight um you all just accepted into  
19:32  
the the minutes for tonight's meeting so um I will have you know if you have any questions coming out of that as well um  
19:39  
I'd be more than happy to you know kind of answer why we we put some of those comments in there um overall I think just kind of after reviewing the  
19:46  
ordinance um we do just have some concerns if that is the path that the county wants to go down um just  
19:53  
with um some of the regulations within the the draft ordinance as it stands right now um  
19:58  
it appears that the draft ordinance was pulled largely from Linn County um Linn  
20:04  
County over the past prior to when they adopted this they spent a little over a year in the drafting process um with  
20:11  
several Community um volunteers industry experts um they brought in different  
20:16  
government agencies as well and they're they're a fairly um highly staffed County um the only concern that I really  
20:22  
have with is that the county that ordinance has not been uh vetted yet to to a full extent they do have two  
20:27  
projects there in the county that did get approved uh through a permit process over by the Dwayne Arnold plant that was  
20:33  
prior to the adoption of this ordinance that they have performed today um that's  
20:38  
really my only concern is just um I guess administratively how the county plans on keeping up with some of these  
20:44  
regulations that are in here um it is definitely one of the most thorough ordinances that I've seen across the state of Iowa for sure um I'm not saying  
20:51  
that you know this is an undevelopable ordinance by any means it's just kind of wanting to have a little bit of dialogue  
20:56  
with the county to see how some of these things are going to be enforced um to see what agencies or you know what  
21:02  
government uh staff is going to be in charge of either auditing it or reviewing the process and kind of the  
21:08  
administrative portions of it as well um but if you do have any questions regarding as you kind of go through your  
21:13  
drafting process reviewing the comments um any other comments here today you know from an operational side or a sighing  
21:20  
side as well um I'd be more than happy to answer any of those questions for you so thank you.

**Eric Nelson**

21:51  
Eric Nelson 1514 Jasper Avenue Merville, a couple points to make um I'm  
21:58  
kind of bookends on these hearings I was at the first one and um and now I'm at  
22:03  
this one and it looks like that the the number of participants um has doubled  
22:10  
from one to two I mean I think active people that are that are wanting to to  
22:16  
build is my understanding and now there's been some a few additional comments but not from people that are  
22:22  
actively wanting to build and so I just from where I'm sitting it looks like to me that the industrial zone that's  
22:29  
already been established with a lot of acres um is more than inclusive enough

22:34

for um a project or two um to be built on that property the other comment I

22:41

have is that it would look like to me you would set kind of a maybe a nasty

22:47

precedent to not do that when there's only a couple people that are asking to do the project and so you just think

22:53

about maybe kicking the door open to other projects that only have one or two people that are really interested um

23:01

and and obviously there have been hundreds that have shown opposition over time to the same to the

23:07

same projects and then thirdly uh I think it's kind of uh ingenious to have someone from the city um telling the

23:14

county what to do but I'm guessing that if the county tried to tell uh a city official what to do that they would

23:20

probably take offense at that so I think that uh uh where the county authority

23:26

lies the county Authority lies and where the city authority lies the city authority lies thank you.

**Doyle Turner**

23:52

Doyle Turner 2738 200th Street um

24:01

I think it makes a whole lot of sense at this point to wait for the development

24:06

plan um this is kind of going away from what our development plan says and if

24:13

we're going to do something that would make a lot more sense from a legal standpoint to deal with it with the

24:19

development plan first we're kind of getting the cart ahead of the horse here the other thing that I'd like to say is

24:25

people like to talk about tax revenue you cannot compare property taxes to the

24:31

taxes off of a solar farm because you're you're paid based off of

24:38

what that solar farm produces uh Will Dougherty had said before that I believe it

24:43

was 24 to 25% efficient is what the solar is at in this

24:48

area um the real thing that these these things are after is the transmission

24:56

lines and we pay get paid off of what goes through that transmission line uh I

25:01

know I've read articles that Mid-American is actually looking at some nuclear across the state we would be

25:08

much better to have something that was a lot more efficient going through those

25:13

utility transmission lines paying on a lot more than 24 to

25:19

25% so in order to truly get an apples to apples comparison on this you can't

25:25

compare it to farm property tax you have to compare it to what we could make off those transmission lines if we were

25:31

using a more efficient source of energy thank you

25:38

Chair Chris Zellmer Zant: Doyle Doyle you may want to disclose that you're on the Board of Adjustment Turner: what?

25:46

Zellmer Zant: do you want to disclose that you're on the board of adjustment. Turner: yeah that's fine okay. Zellmer Zant: I I just thought I'd want to make that public yeah that's fine thank you

**Tom Treharne**

26:02

yes this is Tom Treharne with Nextera Energy to can you hear me Zellmer Zant: we have someone on the phone you

26:09

get phone first yeah okay phone first please thank you so my name's

26:17

Tom yes my name's Tom Treharne with Nextera Energy um just one thing I in reading

26:25

the packet I wanted to clarify um if the recommendation of staff is to proceed

26:31

with the a retention of the current policy which is to allow um solar in the  
26:37  
as a conditional use only in the general industrial district or district I'd like to if that could be clarified at some point  
26:45  
um also I'm just as it relates to the proposal  
26:51  
ordinance that's been identified in the packet I would agree with what Mr. Dougherty  
26:56  
said and that you know the the overlay zone does  
27:02  
provide the opportunity for a project to move forward um the proposal does have a  
27:08  
lot of requirements um in it that were vetted to a longer process and I'm not  
27:14  
going to repeat everything he said but I do agree with that and um it's my  
27:21  
understanding that even coming out of this public hearing the recommendation would be how to proceed and there would  
27:26  
be additional time for comments relative to the ordinance so I'll save my  
27:32  
comments relative to a future ordinance for another time but I guess I I would like that clarification what staff's  
27:39  
recommendation is on moving this forward if I could ask that question thank  
Dan Priestley:  
27:53  
you um we we'll kind of continue with the public hearing and I'll I'll uh  
27:58  
clarify that at the end for a note so we can move on to the next  
**Bob Fritzmeier**  
28:05  
next okay I'm Bob Fritzmeier and at uh  
28:13  
2933 Leech here in Sioux City and I was I was authorized by the  
28:20  
executive committee of the Northwest Iowa Sierra Club to um speak on their  
28:27  
behalf also so actually there are five other members of that with myself and so  
28:33  
I'm speaking for the other six of us one of the most significant  
28:40  
uh benefits of of solar which I'm in favor of would be to reduce the  
28:47  
emissions of the carbon dioxide and that that has been uh proven  
28:53  
to be necessary you know for the good and the well-being of our community um  
29:01  
Woodbury County and the wider you know wider country  
29:07  
too carbon dioxide is and those kind of dangerous pollutants are come from you  
29:14  
know don't don't come from solar energy and by lowering those those  
29:20  
concentrations we'd be helping the future generations that are coming and  
29:25  
that need our help now and planning for the future another aspect of this is that  
29:33  
solar energy systems are conservative in the use of water they don't need the large volumes  
29:39  
of cooling water that's needed for the fossil fuels that are currently in use  
29:48  
you know here in in Woodbury County I think that the board would be well to adopt that overlay  
29:56  
system because it would help to conserve those precious water resources and we  
30:01  
know I mean just just in the last few months uh we've had drought conditions  
30:07  
not only here in this part of Iowa but in other you know states around here too  
30:14

so that would help the situation and one of the speakers

30:20

made a reference to the soil underneath these these

30:25

panels and those actually would foster with the solar panels in

30:31

there the grasses that would be allowed to grow there would be you know have the

30:36

rainfall soaking in absorbing and really rejuvenating the soil so that when you

30:43

know 30 years if in 30 years the solar installation would be retired then

30:49

the land could just well be restored then and returned to you know the

30:56

agricultural thank you for being here to listen to us

**Alan McGaffin**

31:15

My name is Alan McGaffin I live at 1122 South Paxton in Sioux City and I'm a

31:22

proponent of solar Farms as well I want to tag on what Bob just said I think and

31:28

this was mentioned earlier the portability of a solar farm

31:34

is above and beyond what we think of of a power source you can't pick up a

31:40

Coal fired plant or a uranium fired plant and move it it just doesn't happen

31:48

the same with a wind turbine a wind turbine can be deconstructed and torn

31:54

down raised and moved relocated if necessary but not as easily as a solar

32:01

panel can now I know an industrial solar farm would be sizable but nevertheless

32:07

as Bob said if we wish to convert that land in 20 or 30 years that land is

32:12

suitable it's undamaged and it can be used for other purposes it's not even been paved over so I think the

32:19

portability Factor the water conservation Factor as Bob pointed out

32:24

are just uh solar panels aren't pretty but

32:30

neither are our other power sources we've just got to make a choice of uh

32:36

of what what we can tolerate and what we can't and uh I I I would like

32:43

to have your board look favorably on solar panels thank you very

32:48

much thank

**Peter Widman**

32:54

you anyone else my name is Peter Widman I live on 1847

33:01

Old Highway 141 rural Sergeant Bluff and I just want to thank you for this opportunity to speak with you a little

33:06

bit um I think this ties in nicely to what the last two guys said I want to talk about Virginia a little bit and the

33:12

reason I want to talk about Virginia they're on The cutting edge of solar and where solar could be potentially going

33:17

and um and just as a fact I'm not for putting solar large industrial

33:24

solar complexes on ag land I think they should be in the industrial in Virginia in 2020 the

33:32

Virginia General Assembly and the governor signed the Virginia clean economic economy act um and in that act

33:41

their largest utilities by 2045 and 2050 need to be carbon neutral um by

33:48

2021 in the state there was more than 2,000 acres a week that would be take that were being taken out of a land and

33:55



put into solar farms and there's some more points I want to bring up here too  
 34:01  
 um you know the the a lot of the solar developers are  
 34:07  
 courting state and local leaders wanting to put on a land  
 34:13  
 um they want to focus on the short-term benefits some mention taxes  
 34:19  
 um and uh and they don't want to think about the future ramifications of allowing the industrial power plants on  
 34:25  
 land that is supposed to be res for ag ag use trading one form of environmental degradation for  
 34:32  
 another um Dr Rattan Lal distinguished professor of soil science at Ohio State  
 34:38  
 University points out that soil sequesters more than three times the amount of carbon locked in all the plants and animals on the earth yet  
 34:45  
 construction and maintenance of industrial size solar facilities prevent the natural process of soil replenishing from occurring they're taking out  
 34:51  
 thousands of acres of trees crop land acres that that sequester carbon dioxide  
 34:56  
 so if carbon dioxide is a pro is a problem some would say what about the  
 35:01  
 crops that are taking that out um it's it's ironic in in in Virginia um  
 35:10  
 to be become carbon free in less than 25 years means there would be a lot more carbon sequestering farmland loss to the  
 35:15  
 commonwealth how much solar farms require as much as six to eight acres to produce just one megawatt of electricity  
 35:20  
 up to 104,000 acres of forest and farmland would need to be sheathed in solar panels made of glass and highly  
 35:25  
 toxic metals like lead and cadmium toride to produce about 13,000 megawatts of electricity and that's only when the  
 35:32  
 Sun's shining um Chinese government is subsidizing  
 35:38  
 solar panels to make them cheaper they're using dirty coal to make  
 35:43  
 them and they're using forced labor to produce them less than 1% of the solar  
 35:48  
 panels in the United States are made in the US and over 85% of them are made in  
 35:53  
 China some to think about um  
 35:59  
 um if you think about it some of the solar farms are erected in 2021 in Virginia they will become head way sites  
 36:05  
 by 2036 and that's even before the Virginia clean economy act carbon free mandate kicks in uh once you deal with  
 36:13  
 the cost of waste electricity from solar ends up being four times higher than they had anticipated Virginia is on track to lose  
 36:19  
 a massive amount of food growing and carbon carbon sequestering farmland for inefficient and intermittent technology  
 36:25  
 that would quadruple electricity prices and create thousands of acres of toxic waste local officials who are thinking  
 36:32  
 about approving special use permits to allow more industrial size solar facilities to be built on a land in  
 36:37  
 their jurisdictions owe it to their constituents to think about all I also  
 36:42  
 would like to submit these two articles here for you guys just to read can I do  
 36:52  
 Motion to accept two articles by Meister. Second Bride. Motion approved 5-0. Documents available in the appendix.  
**Amber Widman**  
 37:25  
 Hi my name is Amber Widman I live at 1847 Old Hwy 141 and I'm here today to  
 37:34  
 tell you why I oppose changing the current regulations for ag preservation to allow um the large use uh scale  
 37:41  
 utility solar on ag land um I studied agricultural engineering at Iowa State University and I was in the soils and  
 37:48  
 structures department so this is kind of like my area I love technology I really do but um if you look at the things that

37:56  
 have been talked about in the meetings we've been talking about solar panels that fold up or um planting  
 38:01  
 pollinator things under them or alternative crops I have Purdue they're they're they are experimenting with this  
 38:08  
 stuff right now they're trying to get patents this is not in effect anywhere in the world okay the Iowa State they  
 38:15  
 are trying to do the alternative crops underneath and this is the first they said it is the first um of its kind and  
 38:23  
 they say this is unbiased research we will report on what we find and people can decide whether this is a system that  
 38:29  
 is feasible or not um here we've got uh get myself out of over here um  
 38:37  
 the costs of the agrivoltaics tend to be higher than traditional solar development due to modified system  
 38:42  
 structures and more complex design and installation so all these people are talking about this is going to be ag and energy at the same time it's not  
 38:49  
 there yet the technology is not there yet we cannot be making regulations for  
 38:54  
 something that hasn't even been figured out how they're going to do it they're still engineering it they're still  
 38:59  
 coming up with it they're still doing the research they're still they're they're building these research facilities and they're measuring what  
 39:06  
 does happen to the soil when we have these here what is the carbon what happens to the carbon what about these  
 39:11  
 pollinator farms do they actually increase the the bees and do they actually um help the crops that are on  
 39:17  
 there's a lot of claims out there guys that people are just putting out there they're still being researched and I  
 39:23  
 just um my engineering mind says let's not jump the gun here let's not get  
 39:28  
 the cart ahead of the horse let's not make regulations before we know what they are um one thing that's been  
 39:35  
 mentioned is to you know allow them this is a very specific thing like allow them up to 15 feet so that cattle can graze  
 39:41  
 on them nowhere do they let cattle graze under these because they damaged them cattle are too big that's what they  
 39:48  
 found out so if we have in our regulation where they can be up to 15 feet high that's on based on something  
 39:55  
 that's not even real yet and think about a 15 foot high solar panel and think  
 40:00  
 about the winds that we have in Iowa how much do you think is under the ground to hold it up I know they like to say that  
 40:06  
 these are movable but really what do they think they're on wheels they're not something has to hold them up right okay  
 40:14  
 and then just another point I got in trouble last time I got up here with some of our neighbors who  
 40:19  
 are for it and I just want to say that my position is not against their personal property rights okay the the  
 40:26  
 way I look at this I am not telling them what they can do with their land they are not just trying to build a greenhouse or hog confinement on their  
 40:33  
 property there are large utility companies trying to come into our county and install thousands of acres of  
 40:39  
 industrial solar panels these large projects would not happen without government subsidies and just to to wind up real  
 40:46  
 quickly don't be deceived it's not agriculture it's not good for the county thank  
 40:52  
 you oh and can I submit some documents too thank you.  
 Motion to accept documents by Parker. Second Meister. Motion approved 5-0. Documents available in the appendix.  
**Elizabeth Widman**  
 41:55  
 My name is Elizabeth Widman and I live at 1665 220th Street Sergeant  
 42:01  
 rural Sergeant Bluff and I've been before uh this committee already and one  
 42:08  
 of the reasons I came up here is because I want to make a correction on something that I said at one of the meetings I had  
 42:14  
 looked at a plat map and took the people that spoke at the meeting and I said

42:20  
there were signed agreements uh down by me and Sergeant Bluff which is correct but then I said there were signed  
42:26  
agreements by Rock Branch and that was not correct because there are not signed agreements right now so I just want to  
42:33  
correct that there there's interest in putting large utility out there but I  
42:38  
just wanted to correct that and uh the reason I found that out is because I discovered that in Dan Priestley's  
42:45  
office they have uh information on all the signed agreements that have been  
42:50  
done and there's 2,230.72 Acres that have been  
42:57  
signed up in rural Sergeant Bluff by where I live which is a would be a  
43:02  
huge uh utility facility put on agriculture land and uh at the last meeting your  
43:10  
work session you talked about there are unintended consequences to um things that you do  
43:18  
and in looking online one of the things that happens when you uh change these is  
43:24  
lawsuits you have lawsuits from people who want to put one in and you didn't  
43:31  
let them do it with your regulations you have people that don't want them in that  
43:37  
your regulations made and I think that has to be a consideration because it does cost money for the  
43:44  
taxpayers to um have legal help to you know defend on these  
43:51  
lawsuits and uh another unintended consequence um you're basically picking  
43:58  
and choosing uh among the farmers if you let you know this is just the start  
44:03  
2,230 Acres go into solar you have um those people that farm they're going to  
44:09  
be looking for new places to farm and they're going to have an infusion of money from uh these companies that want  
44:16  
to put in solar and they're going to be looking for new land to rent new land to buy and this will be detrimental for small  
44:24  
and medium family farmers and new farmers and um so I guess I never stated  
44:32  
I'm opposed to putting utility solar on ag preservation land I think it belongs  
44:39  
in the industrial the the way you have it right now and like I said it it kind  
44:46  
of tires me out to hear people say well in 30 years this can be put back into  
44:53  
farming I live out in the country I love being out in the country and I said in  
44:58  
time I will be 97 years old if I'm still around before this would be considered  
45:04  
put back in ag so thank you for all you do and I just ask that you leave um  
45:09  
industrial solar where it belongs and in industrial land  
45:24  
already  
**Jesus Cendejas**  
45:35  
Jesus Cendejas, Salix, IA, um just I've been here once before and kind of want to  
45:41  
make the same appeal to you guys today um as a lesser magistrates yourselves and those making this decision as you  
45:47  
guys are informing them um it is it's your it's your duty and and this shows it right there's been a lot of a lot of  
45:53  
discussion on on how we can make this work with the overlays and all that um but  
45:59  
one of the things I would still like for you guys to consider is you know some of us live in morningside some of us live out  
46:05

in the country so the ones most affected by this are the people that are going to going to be there I know it's been  
 46:11  
 brought up to you guys the effects on on soil you know if if there is degradation  
 46:16  
 um you know top soil takes doesn't take a couple of years to restore that takes a long time there's regenerative  
 46:22  
 practices that could be exercised to speed up that process but it's not going to be overnight um scripture talks about  
 46:29  
 leaving an inheritance to our children which is not just monetary that's important uh but it's also dealing with  
 46:35  
 what we have and making it better um so the idea of of again 20 30 years 40  
 46:41  
 years even depending on if you extend the use of these solar panels like it's not going to be the same thing they're working with right now and so as you  
 46:49  
 consider these things um again I know if I don't have to look at it it doesn't bother me because I'm I'm not living  
 46:55  
 there but there there are many who are there um so again just keep considering that as as not just as how you have this  
 47:01  
 project come into being but the fact that there are people I mean there's most of them are here a lot of them  
 47:07  
 aren't um but again there's different interests you know I understand if if I was approached and I had hundreds  
 47:13  
 thousands of acres and I said we'll give you 20 times more than than leasing it out there's a temptation there I  
 47:18  
 understand that and again love my neighbors that's one of the things I'm called to do but I just ask that you  
 47:24  
 would please consider um that it's it's not working around it again someone mentioned these are all models and and  
 47:31  
 and theoretical concepts that have not been proven and so you cannot alter the the life of people who live there based  
 47:38  
 on a theoretical concept or a model that's not been proven to be um again you're you're changing much and again  
 47:45  
 whether you're raising crops for for feed or or for ethanol whatever may be  
 47:50  
 those things that that are wasted they're actually not wasted a lot of that stuff that's that comes out of you know making an goes to to feeding  
 47:58  
 animals you know things that that we enjoy eating I like steak you know I like all these things so that's stuff  
 48:03  
 still being used so it's not just about energy it's about what are we taking away also right you're taking food you  
 48:10  
 know and we've seen that we've looked at the news when you know all of a sudden all these factories of chickens you know  
 48:16  
 caught fire or you know or things were destroyed like we know there's there's an attack in our food and again  
 48:22  
 ultimately um there's there is a I'm not saying that that my neighbors are are  
 48:27  
 being influenced by this but there is are you guys familiar with the song rich Richmond North of Richmond if not you  
 48:33  
 should go listen to it well there is this idea that there there are ideologies being pushed right and this  
 48:39  
 whole go green you know that belch and cows are the enemy that's not true but  
 48:44  
 there is an agenda that that that we're facing there and sub subsidizing these types of things that the government's  
 48:51  
 paying for would just tell us that it's it's much greater than how we how can we better Woodbury County right so if you  
 48:58  
 back this up you're also backing up these ideologies that are not just affecting us here but other counties are  
 49:04  
 attempting to do the same and ultimately a country so consider that as you're making decisions for this and again um  
 49:11  
 thank you for for your time and um for for listening hearing us  
 49:16  
 out  
**Amy Krogh**  
 49:38  
 My name is Amy Krogh 2381 Port Neal Road Sergeant Bluff Iowa um I'm not  
 49:45  
 here to say that I'm opposed to solar energy solar energy has its place solar

49:51  
 energy does not have its place on ag preservation ground my husband's family  
 49:56  
 is a fifth generation farmer we raise cow calf we also do row crop in this area  
 50:03  
 um so to say that a in Woodbury County is on a decline is not  
 50:08  
 true um when you take ground and take it out of its intended use which in this  
 50:14  
 case ag use very rarely does it ever go back into ag use planting cover crops  
 50:21  
 underneath solar panels is not ag use that might be soil conservation purpose  
 50:28  
 but it is not AG use I can tell you we raise cattle and there's no way that we  
 50:35  
 would put cattle underneath of solar panels absolutely no way it's a  
 50:41  
 non-starter it's not beneficial for the cattle they're going to get hurt it's not beneficial for the solar panels to  
 50:47  
 have you know 1,500 to 2,000 pound animals running around underneath solar  
 50:52  
 panels that's actually quite ludicrous to think that anybody would want to do that I would tell you that once ad  
 51:00  
 ground is gone you guys are worried about tax revenue and the increased revenue when ground comes out of tax  
 51:06  
 usage you're not only affecting the farmers' income you're affecting the implement dealers the seed dealers the  
 51:13  
 fuel producers the chemicals the fertilizer companies everybody that goes into making ag work you're dep you're a  
 51:21  
 detriment to their income and as far as if I'm if correct the way that the tax  
 51:27  
 revenue comes back to the county is regulated on these solar panels and these solar implementations by the state  
 51:34  
 in a formula that is state controlled it's not controlled at the county level so at any given time the county or the  
 51:41  
 state can choose that regulation to change how much actual revenue comes back to Woodbury County that's not in  
 51:48  
 our control that's at the state level it's no different if if some other state  
 51:54  
 government group has some special interest and chooses to choose to take that tax revenue and reappropriate it to  
 52:01  
 another project special pet project than Woodbury County is out when you take ag  
 52:07  
 ground and take it out of its intended purpose the people that lose is all of  
 52:12  
 us that choose to have food to eat gas to drive your cars all sorts of  
 52:19  
 different revenues that would be impacted by taking this and changing this ordinance to allowing this to be on  
 52:24  
 ag ground thank you  
**Naomi Widman**  
 53:01  
 okay sorry I had to pass my baby off um Naomi widman 1866 220th Street um rural  
 53:09  
 Bronson I um my family farms and we also  
 53:15  
 live right in the area where the proposed um where easements have been  
 53:20  
 signed for these large scale utility solar farms and so I am not necessarily opposed to solar  
 53:28  
 I want to make that clear but I want to specifically address um putting overlays  
 53:34  
 on agricultural protected land so I one thing that is um was  
 53:42  
 interesting to me I've been to a meeting before and then since then have done a little more research on how solar farms  
 53:49  
 affect the surrounding um properties and homeowners  
 53:55

um so I just wanted to discuss that a little bit um there was a recent large scale study done in the United States um  
54:02  
it was in 2022 and it shows that solar farms large solar farms do decrease surrounding home  
54:09  
values the study shows that the decrease is not as significant when you average in coastal areas like California  
54:15  
Connecticut when solar farms in your large urban areas so they pulled all of that data and if you Google it it'll say  
54:22  
it doesn't decrease it that much it's only slightly but when you look at the specific data for rural areas in the  
54:30  
midwest from this study where agricultural land was converted into solar farms the decrease in residential  
54:37  
property values is incredibly significant there was a 4 to 5% decrease in values so if you own a \$400,000  
54:46  
acreage out in the country your value could decrease by almost \$20,000 and this decrease in value was noted for  
54:52  
homes within a half mile of the solar farms it wasn't until you got over two  
54:58  
miles away that there was no effect seen and because of this potentially damaging effect it's crucial that Woodbury County  
55:04  
developed solar energy strategically so as to have minimal impact on the  
55:09  
surrounding homeowners and residents so I would encourage you guys to not grant overlays on ag produced land  
55:16  
particularly when it's benefiting a few select individuals and  
55:22  
I think we are all aware of that the easement that of been signed or are by a very small maybe two or three forgive me  
55:30  
if I'm wrong if it's four um people in in in our area it's a very  
55:36  
small amount so to to affect all of the surrounding home  
55:41  
owners um and acreage owners just to benefit financially these couple of  
55:48  
individuals or families I think it is is not fair I don't think it's strategic development of solar utilities in our in  
55:56  
our county um so if the county feels it is in the best interest of the general  
56:02  
public um to bring solar energy in and develop that I think it needs to be  
56:08  
strategically developed and not just handpicked out areas in the middle of  
56:14  
Ag land and Grant overlays to these people because they requested them I I don't personally think that makes sense  
56:21  
we have a 20-year development plan that's going to be finished this spring if I would encourage you guys to wait  
56:28  
until that's been finished and then we can visit it in the next development plan and see what would be best for the  
56:34  
county and the general public Zellmer Zant: Mrs Whitman your time is up I'm sorry. Widman: okay thank  
56:42  
you  
**Christopher Widman**  
57:06  
Ill go I'm Christopher Whitman uh 1866 210th Street Bronson Iowa 51007  
I'm a fifth generation farmer um I love living in the country and I have boys that lord willing I'll put my farm  
57:20  
on to later when they grow up and whatnot and I love that preservation land  
57:25  
and I don't I stand up here saying I don't think that solar utility has a place in ag preservation land um I think  
57:33  
one thing that's kind of stuck out to me is that there's two different kinds of people in the county there's the people  
57:38  
that live in the cities and they're getting their power from MidAmerican Energy there's the other citizens in the  
57:44  
county that they're connected to REC and the reality is you need I mean I haven't  
57:50  
heard anything about what REC is talking about this whether Rec wants it or not some people have gotten up here and said  
57:56

this is going to save residents money but the reality is if they hook into MidAmerican MidAmerican already has two power plants  
 58:04  
 in the county and they already have cheap electric if they don't hook into REC basically what we're going to do is  
 58:11  
 the REC residents they're not going to save any money because they're not getting power from it and so I think  
 58:17  
 that we just don't need it an ag land because the reality is REC is getting their power from NIPCO and NIPCO needs  
 58:23  
 to say whether they want this or not um and that the only thing that's really  
 58:28  
 going to go down for these individuals are their property values and not their power bills and it's not beneficial for  
 58:34  
 the people out in the county to do this the other thing I would like to also point out is the people that have come to these meetings in the past that the  
 58:41  
 people speaking in for this are the people that have signed contracts that's the reality at the last two meetings on  
 58:48  
 the 27th there was 13 people that got up and spoke six of them were in favor  
 58:55  
 one said they like solar but didn't say anything about ag preservation land one said they lived they were for it but  
 59:00  
 they lived in Monona County there were two representatives from energy companies and there were two land owners  
 59:08  
 and those land owners have signed contracts that I have right here that are public  
 59:13  
 information then the next meeting came on January 17th those two same land  
 59:19  
 owners showed up for it and here's their signed contracts again and the reality  
 59:26  
 is the public isn't really for this we don't have a lot of people showing up saying we want utility solar and a  
 59:32  
 preservation land the reality is we have these few residents that have signed  
 59:38  
 contracts and they want to make big out of it I think we need to tell them we have a 20 years owning plan let's stick  
 59:44  
 to it they need to sell their a land and go buy industrial land and if they love solar so much then they need to do that  
 59:52  
 and I'm sure that these individuals are going to come back up here after m tonight and they're going to tell you how great it is for the county but I  
 59:59  
 would like to submit this to the record these are public information's signed easement contracts with names of who has  
 1:00:08  
 these easements signed I'd like to Smith this to the  
 1:00:13  
 record  
 Motion to accept documents by Meister. Second Bride. Motion approved 5-0. Documents available in the appendix.  
**Tom Jochum**  
 1:00:49  
 Good afternoon I'm Tom Yokum 422 Huntington Drive Sergeant Bluff  
 1:00:55  
 Iowa and uh you know you've got a big decision there's a lot of pros and a lot of cons to this um I'm for  
 1:01:03  
 it okay as at the September 26 Board of Supervisors meeting Supervisor Taylor  
 1:01:09  
 and Nelson revisited considering allowing utility scale solar and discuss the two  
 1:01:16  
 different options were explored the discussion began with the possibility of reclassifying certain farmland to light  
 1:01:22  
 industrial which could basically take land out of agricultural preservation Mr  
 1:01:28  
 Priestley introduced the concept of renewable energy overlay which he stated would be situational and on a case by  
 1:01:35  
 case basis Mr Priestley also stated that this would allow for the preservation of farmland while still  
 1:01:41  
 allowing for solar while the supervisor's consideration for the light industrial could be applied I think the  
 1:01:48  
 overlay concept would be more appropriate especially at a time when research at our land grant  
 1:01:54  
 universities are studying the possibility of certain agricultural practices within the solar arrays  
 1:02:00

additionally when the solar lease expires the land and the overlay will revert back to agricultural production

1:02:07

in reality this is very similar to the 10 15 or 30-year CRP contracts that the

1:02:13

Farm Services Agency offers which is that when the CRP lease

1:02:19

expires the Farmland can go back into agricultural production the same as when a the solar lease expires according to

1:02:26

the map that was published in the packet there are about 330 Acres that are in the CRP program and are already out of

1:02:34

production so I do support adopting the renewable energy overlay for the AP Zone

1:02:40

as it will also allow for the land to return to production thank

1:02:48

you

**Greg Jochum**

1:03:30

uh Greg Yokum 1629 270th Street um I'm

1:03:36

in favor of the overlay on ag preservation uh main reason once if it

1:03:43

is zoned industrial or anything else it cannot go back into agricultural

1:03:48

production everything else can be um it can be changed if it if it staysag

1:03:55

preservation with an overlay I think that would be the optimum uh for the

1:04:02

county um I am uh a farmer I have um as

1:04:07

you probably will be looking at uh those leases I have a signed lease um it

1:04:14

doesn't say it's going to go in it still has to go through many many steps of approval before it can get approved um

1:04:22

this is just a first step in the process um I guess uh um there is power

1:04:31

lines transmission lines that go through my property two ways it goes through all the properties that's what they look at

1:04:39

and you know with Mid America looking at there being here in support of it with

1:04:44

the two power plants that they have and eventually um they'll be shutting one of

1:04:50

them down for sure um there is going to be a need for power power and uh um I

1:04:57

see as a great um benefit for the county to have

1:05:04

this um and that's all I have to say thank you for your time and your consideration thank

1:05:15

you

**Elizabeth Cendejas**

1:05:34

I'm Elizabeth Cendejas from Salix Iowa um and

1:05:41

I just want to read an article here by Robert Bryce you can find it on Forbes website it's called build it and they

1:05:47

won't come and Iowa farmer explains backlash against big solar it explains

1:05:53

some of the concerns that I have about big solar farming in this article we hear from Jessica Peterson a sixth

1:05:59

generation farmer from Benton County Iowa she talks about her family fight against solar project being pushed by

1:06:06

Chicago based in energy she says the land that this project is proposed on is

1:06:11

in the top 10 to 15% of farmland in the state of Iowa and is recognized as

1:06:16

nationally significant which the state of Iowa possesses a large amount of when it

1:06:22

comes to nationally significant pride agricultural land they are project

1:06:27



projecting this to be the largest utility scale solar project in the state as well as the largest battery storage  
 1:06:32  
 facility in the state of Iowa this project will most likely set a precedent for the entire state of Iowa  
 1:06:39  
 when it comes to utility scale solar there is strong opposition to this project from the community for a large  
 1:06:45  
 number of reasons there are people who have concerns about property value losses lack of mindfulness when it comes  
 1:06:51  
 to sifting uh sighting of the plant and the productivity of the soil they are citing solar panels on choking out small  
 1:06:58  
 town growth wildlife concerns taking away land from farmers who rent land for their livelihoods of farming drainage  
 1:07:04  
 issues while with tile damage lack of fire and disaster recovery plans lack of  
 1:07:10  
 proper setbacks from people's properties the county requires minimum of 50 feet from a property line the mental health  
 1:07:17  
 component with the construction phase and those who live amongst the project hurting small businesses and towns and so on homes in and around the  
 small  
 1:07:24  
 towns are already not selling as quickly as they once were due to the possibility of this project coming to fruition  
 1:07:30  
 renewable promoters claim that industrial scale solar will not hurt property values or the growth of the towns it will impact but we are already  
 1:07:37  
 seeing the re repercussions of it even before the project has been started people in the area are truly truly  
 1:07:44  
 living through a nightmare knowing that this may be the largest solar plant project in our beautiful state of Iowa  
 1:07:51  
 there are some that are finding out that they have the possibility of being being surrounded by solar panels on two three  
 1:07:56  
 if not all four sides of their properties we do see this as a community station statewide and nationwide  
 1:08:03  
 crisis the World Bank reports that the US has 18% arable land to grow crops on  
 1:08:09  
 our productive soil is Iowa's biggest asset and our most important natural resource that we have in this state and  
 1:08:14  
 to see industrial scale solar proposed on such rich soil is incredibly heartbreaking and  
 1:08:20  
 irresponsible they proposed that the land will be farmable when a project is decommissioned in 35 to 50 years but  
 1:08:27  
 there is no proof that that of that as there is not a solar project that has been decommissioned from productive  
 1:08:33  
 farmland after that long we also do not believe that industrial scale solar  
 1:08:38  
 projects belong where people live in surrounding communities that want to grow and prosper we are fighting for  
 1:08:44  
 much more than that we are fighting for the potential of the future of farming in Linn County and in our state the  
 1:08:49  
 ability for our community to live in a symbiosis with each other again the growth of smalltown Iowa the businesses  
 1:08:55  
 they want that want to stay successful in small communities the mental and physical health and safety of the people  
 1:09:01  
 who live here and their overall well-being the access of affordable energy to Consumers and so much more  
 1:09:07  
 Elizabeth thank you those are some concerns that that community had and I believe there are some that we have as  
 1:09:14  
 well thank you  
**Ann Johnston**  
 1:09:50  
 Ann Johnston Salix, Iowa um someone made a reference to CRP  
 1:09:59  
 land as CRP land does not have millions of ugly solar panels that need to be  
 1:10:05  
 disposed of when the years out of production are  
 1:10:10  
 up and may I also remind the panel and the people here that the solar  
 1:10:18  
 panels are made by women and children who who are  
 1:10:24

physically and sexually molested in the Chinese Communist land of

1:10:34

China

**Shari Zenor Kiple**

1:11:22

Hi I'm Shari Zenor Kiple I live at 811 Cottonwood Trail in Sergeant Bluff

1:11:27

my parents uh farm south of Moville and really wanted to be here tonight but could not so I would just like to

1:11:33

reiterate all of the things that from that Forbes article fully agree with that and I would just like to say that just because you call it a solar farm

1:11:41

doesn't mean that it has any like calling it a farm is crazy because you

1:11:46

can't and saying that it can go back into ag use after 30 or so years

1:11:52

doesn't mean you can wave a magic wand and then all of the damage that's been done or all of the the things that have

1:12:00

been um introduced into that Farmland that those will just go away that will still be there right it doesn't just it

1:12:07

doesn't just go away and it's not really a fair comparison as she had just stated too to compare it to CRP and say oh you

1:12:13

can have CRP ground and it you know after its lifespan it goes back into ag ground it's natural things that are in

1:12:21

the ground as I understand my dad farms and I'm not fully into farming as much as uh he

1:12:26

probably wished that I would have been but I do get that and I think that that that comparison to um to say that a

1:12:33

solar a solar farm can be converted back into ag use after that time it's not a

1:12:40

comparison um to CRP at all um because you can't just wave a magic wand and have all that damage undone so I think

1:12:47

all of the things that were have been stated about small small town life and

1:12:53

all the things that make our state and our county so rich you know this is all

1:12:58

about integrity and it's about the Legacy we want to leave for our kids and is

1:13:04

it is that really worth um is it really worth it I guess would be something to

1:13:10

consider I thank you for your time

**Chris Zellmer Zant**

thank

1:13:17

you anyone else

1:13:33

going once going

1:13:39

twice going three times we need a motion to go out of the

1:13:46

public hearing

## **Public Hearing #6 (Woodbury County Courthouse) – March 25, 2024**

On **March 25, 2024**, the Commission conducted the sixth and final public hearing at the Woodbury County Courthouse. Six (6) members of the public addressed the Commission on a range of issues in support and opposition to utility-scale solar on AG land. Below includes links to the audio and summaries and/or direct quote adaptations of the information shared by the public. The following is not intended to be a perfect transcript but is offered to provide context of the debate. The audio can be accessed on YouTube using the following direct link:

<https://www.youtube.com/watch?v=rpIVdwtKgFM>

The list of Zoning Commission meetings inclusive of the agendas, packets with backup materials, minutes, and videos (Audio) may be accessed at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/)

### **Summary of Comments:**

Rand Fisher, Center for Infrastructure and Economic Development, spoke on the benefits of renewable energy and the current restriction of allowing industrial solar only in General Industrial Zoning Districts. Fisher indicated that valuable existing infrastructure in that area would not be needed for industrial solar. Industrial solar in agricultural areas, if limited to certain areas, would be a more feasible approach. Fisher provided informational handouts to be received by the Commissioners. Motion to receive by Bride. Second by Hanson. Carried: 5-0.

Chris Madsen, City of Sioux City offered concerns with placement of utility solar within the corporate boundaries of the City and allowing utility solar in the Southbridge Industrial Park, which would not utilize the installed infrastructure that could be used for future development.

Daniel Hair stated industrial solar should only be allowed in industrial areas. Other areas of the state do not compare to Woodbury County.

Peter Widman stated we should not allow the mayor of the City of Sioux City to dictate what we do with land inside the County.

Tom Treiner, Nexstar Energy, spoke by telephone stating there should be another look at utility solar in agricultural areas with a conditional use permit process. Projects are voluntary to landowners, screening and buffering would address some issues. He thinks there are many landowners that support utility solar in agricultural areas, as seen by comments to the comprehensive plan, but some are hesitant to speak in support because it's a contentious issue.

Christopher Widman states no other location than industrial should be considered, pointed out only businesses, not residents, have spoken out in support tonight.

## **Review of Literature**

Adapted and reprinted from Zoning Commission Backup Materials – January 10, 2024

The purpose of this discussion is to consult a series of sources on topics associated with utility-scale solar systems and land use. The information presented herein is not exhaustive but attempts to shed light on this multifaceted debate. In recent years, the federal government has placed emphasis on the goal to promote renewable energies in hopes of reducing consumption of fossil fuels to tackle concerns of global climate change. The Biden Administration has set a goal for 100% carbon pollution-free electricity by 2035 (FACT SHEET, 2021). With that federal initiative in place, developers, utility companies, and interested landowners share a common interest to bring solar power to fruition which in-turn thrusts local communities into a position to determine whether or not they are ready for these renewable energy mediums including industrial utility-solar, utility-wind, utility-batteries, etc. Under the principle of federalism, local jurisdictions, in particular counties - for the purpose of this analysis, regulate their land use through comprehensive plans including future land use maps, zoning ordinances, floodplain ordinances, and subdivision ordinances. In Iowa, counties are empowered to exert zoning and land use authority through Iowa Code Chapter 335. Thus, the county plays a significant role in evaluating the merits of initiatives promoted by the other governmental partners.

Utility-scale solar energy systems appears to be one of the renewable answers if coal-fired plants around the country are phased out sometime in the future. In an article prepared by Ford (2023) in Reuters, there is a federal initiative to modify and extend the clean energy tax credit for developers of areas impacted by the closure of coal mines or coal-fired plants. The author asserts that “the Energy Community Tax Credit Bonus program provides 10% extra tax credits to solar and storage projects, on top of the 30% investment tax credits (ITCs) or \$26/MWh production tax credits (PTCs) available to all renewable energy projects through the inflation act” (Ford, 2023, p. 1). The author asserts that “coal plant closures have accelerated, offering significant opportunity for developers. Around 12 GW of coal plant capacity was retired in 2022 and a further 40 GW of closures are expected by 2029, according to EIA data” (Ford, 2023, p. 1). Additionally, Ford (2023) states that “coal plant sites can offer solar developers a large land area to maximise economies of scale, as well as transport and utility infrastructure” (Ford, 2023, p. 1)

As reported in the news, it is apparent with the initiatives promoting alternatives to coal, other sources of energy are sought to address the electrical needs of communities. Jaeger (2023) in an article for the World Resources Institute states that “phasing out coal power is the most important step the world can take to curb climate change” (p. 1). The author discusses ten countries that have worked toward coal reduction over an eight-year period. The leading country was Greece as they reduced coal production from 51% to 10% between 2014 to 2022 (Jaeger, 2023). The United States was in ninth place on the list which reduced its coal power capacity from 39% to 19% during the same time-frame (Jaeger, 2023). As recent as December 3, 2023, John Kerry, Special Presidential Envoy for Climate, participated in the UN Climate Change Conference COP28 where he announced that the United States is joining the Powering Past Coal Alliance. As reported by Borenstein of Fortune magazine and the Associated Press, Kerry stated “we will be working to accelerate unabated coal phase-out across the world, building stronger economies and more resilient communities” (Borenstein and Associated Press, 2023, p. 1). He

also said. “the first step is to stop making the problem worse: stop building new unabated coal power plants” (Borenstein and Associated Press, 2023, p. 1).

In an article prepared by Kristian (2021) of the Grant Plains Institute, there are various challenges for solar development. It is stated that “some solar development proposals are met with concern or suspicion as a new land use, and approval processes are frequently slow. Solar developments sometimes face moratoriums while local decisions makers try to sort out conflicting claims of harm. They frequently face a more restrictive set of development regulations than other kinds of development” (Kristian, 2021, p. 3). Using figures from the Energy Industries Association (*Land Use*, 2024) suggesting that it takes “10 acres to produce one megawatt (MW) of electricity,” Kristian (2021) offers a study of the “total percentage of county land used for solar electrical generation” (p. 4). The author suggests that “of all 2,870 counties in the contiguous US, only one-third have recorded principal-use solar installations of at least one MW. Of counties with solar installations, most (93.5 percent) have less than 0.5 percent of their total land area used for solar development” (Kristian, 2021, p. 5). Kristian (2021) asserts that within their analysis “solar development has not existed in conflict with cultivated agriculture land use at a large enough scale to risk county-level economic agriculture bases” (p. 7). The bottom line of this study is that “for no region does the average percentage of both existing and queued solar in a county surpass 0.6 percent of the county’s total land” (Kristian, 2021, p. 8).

The vast majority of unincorporated Woodbury County is made up of land designed in the Agricultural Preservation (AP) Zoning District which includes about 476,000 acres including areas already developed. The areas that comprise the General Industrial (GI) Zoning District, predominately south of the Sioux Gateway Airport and west of Interstate 29, include about 11,000 acres (Woodbury County Assessor’s Data, 2023). The inherent purpose of AP Zoning District is to “encourage the continued role of agriculture as the primary economic sector in the unincorporated areas of Woodbury County, thereby preserving its rural character. Land uses that are compatible with agriculture and farming are allowed...” (Woodbury County Zoning Ordinance, p. 24). The purpose and intent of the GI Zoning District is to enable the development of heavy commercial and industrial activities. Thus, it was determined with the adoption of the zoning ordinance in 2008 that electrical energy generation is an industrial use, thereby restricting placement to the industrial areas for the purpose of protecting farm ground.

It is noteworthy to point out that there are numerous uses including commercial and industrial activities that are either allowed outright or allowed for consideration through the conditional use permit process in the AP Zoning District. These uses include: vehicle repair; machine and welding shops; research and development laboratories; ethanol fuel distilling; aggregate crushing and screening; borrow pits for earth materials; gravel and stone quarries; fuel and lubricant distributors; sanitary landfills; waste composting; detention facilities; halfway houses for non-penal residents; airports and heliports; rail lines; telecommunication towers; sewage treatment plants; utility substations; sewage lagoons; water tanks; and various others. However, the distinguishing factor between these uses and utility-solar may rest in the total number of acres required (Woodbury County Zoning Ordinance).

In an article by Daniels and Wagner (2022), it is stated that agricultural areas are beneficial sites for developers because the open space areas place distance between property owners for conflict minimization (p. 1). The authors (2022) offer the following as quoted from YSG Solar (2022), “‘developers’ generally want land located within two miles of an electrical substation and within 1,000 feet of three-phase power (alternating current)...” (Daniels and Wagner, 2022, p. 2; as quoted in YSG Solar, 2022). In terms of capacity, according to the Solar Energy Industries Association (SEIA), a “five-megawatt (MW) facility requires between 5 and 10 acres per megawatt of electricity generated” (as quoted in Daniels and Wagner, 2022, p. 2).

Gross (2020) of the Brookings Institution, suggests that “wind and solar generation require at least 10 times as much land per unit of power produced than coal- or natural gas-fired power plants including land disturbed to produce and transport the fossil fuels” (p. 1). In terms of megawatts produced in comparison, coal fire plants can be in the 500 to 1000 MW capacity range. In an article offered by the Nuclear Regulatory Commission, entitled “What is a Megawatt, “a 1,000 MW coal energy plant “may average 750 MW of production over the course of a year...” (*What is a Megawatt?*, 2012, p. 1).

The authors assert that these systems are growing rapidly as the costs to produce them declines, however, there are also cons to the systems. Daniels and Wagner (2022) state that “utility-scale solar plants can cover up to hundreds of acres and can interfere with scenic views. Removing agricultural land from production can hurt local farm economies and leasing land for utility-scale solar can drive up land rents and prices” (Daniels and Wagner, 2022, p. 2). Daniels and Wagner (2022) also discuss concerns for the restoration of agricultural land after decommissioning. However, they reference that some landowners have continued limited agricultural practices along with the solar panels limited to sheep, pollinator space, and the raising of vegetables (Daniels and Wagner, 2022). Lastly, Daniels and Wagner (2022) state the importance of comprehensive plans, zoning ordinances, and subdivision regulations. They make it clear that the local jurisdictions have the authority to decide whether industrial solar is appropriate or not on farmland. In their study of 125 local governments nationwide, “11 counties and three municipalities banned solar plants from farmland” (Daniels and Wagner, 2022, p. 4). Their data suggests that 30 counties use the conditional use permit process and 32 use the special exception process.

Research about the appropriateness of utility-scale solar assets on agricultural land includes concerns about the impact to land values. Gaur and Lang (2020) from the University of Rhode Island, analyze the potential effects on nearby property values. The purpose is to discover whether solar installations over one megawatt in Massachusetts and Rhode Island impact residential property values within one mile. In analyzing over 400,000 land transactions within three miles of a solar site in the two states, their results indicate that “houses within one mile depreciate 1.7% following construction of a solar array, which translates into an annual willingness to pay \$279” (Gaur and Lang, 2020, p. 2). The authors further conclude that “the global benefits of solar energy in terms of abated carbon emissions are outweighed by the local disamenities” (Gaur and Lang, 2020, p. 2).

Coffey (2019), in a study prepared for the American Planning Association, discusses utility-scale solar energy facilities and their impact on land use. He suggests that while the clean energy created can be a positive, the impact of utility solar can be felt at the local level. Coffey (2019) asserts that “applicants often say that a particular project will ‘only’ take up some small percentage of agricultural, forestry, or other land-use category – but the impact of these uses extends beyond simply replacing an existing (or future) land use” (p. 10). He cautions communities by stating if the permitting is not done right, “these uses can change the character of an area, altering future communities for generations” (Coffey, 2019, p. 10).

The author emphasizes that local officials need to root their decisions in the community’s comprehensive plan for the purpose of carefully analyzing the ramifications of the individual project and its association with the proposed area it could impact. Coffey (2019) asserts the following: “A solar facility located by itself in a rural area, close to major transmission lines, not prominently visible from public rights-of-way or adjacent properties, and not located in growth areas, on prime farmland, or near cultural, historic, or recreational sites may be an acceptable use with a beneficial impact on the community” (Coffey, 2019, p. 10). Furthermore, Coffey states that “properly evaluating and, to the extent possible, mitigating the impacts of these facilities by carefully controlling their location, scale, size, and other site-specific impacts is key to ensuring that utility-scale solar facilities can help meet broader sustainability goals without compromising a community’s vision and land-use future” (p. 11)

In a study by Al-Hamoodah, Koppa, et al (2018), an investigation is conducted examining the impact of utility solar installations on nearby property values using a geospatial analysis and a survey of assessors. The purpose is to determine whether utility-solar is an amenity or disamenity. The analysis included 956 solar projects from 2016 across the county using data from the U.S. Energy Information Administration as well as 400 surveys of local assessors. The assessors were asked about utility-solar’s impact on home prices. It was discovered that there was minimal impact. Additionally, it was reported that the assessors indicated positive impacts of the solar panels that were placed in unappealing areas (Al-Hamoodah, Koppa, et al., 2018).

In an article by Elmallah et al. (2023), a study is presented analyzing the impact of large-scale solar on residential home prices in six states. Using over 1.8 million home transitions near solar assets, the authors address two questions: “(1) what effect do LSPVPs (large-scale photovoltaic projects) have on home prices and (2) does the effect of LSPVP on home prices differ based on the prior land use on which LSPVPs are located, LSPVP size, or a home’s urbanicity” (Elmallah et al., 2023, p. 1)? The authors “find that homes within 0.5 mi of a LSPVP

experience an average home price reduction of 1.5% compared to homes 2-4 mi away; statistically significant effects are not measurable over 1 mi from a LSPVP” (Elmallah et al., 2023, p. 1).

Elmallah et al. (2023) state that our measures have two implications for policymakers: (1) measures that ameliorate possible negative impacts of LSPVP development, including compensation for neighbors, vegetative shading, and land use co-location are relevant especially to rural, large, or agricultural LSPVPs, and (2) place- and project-specific assessments of LSPVP development and policy practices are needed to understand the heterogeneous impacts of LSPVPs. (p. 1)

Abashidze (2022) examines the sales of agricultural land around 451 solar farms in North Carolina. The author finds “no direct negative or positive spillover effect of a solar farm construction on nearby agricultural land values” (Abashidze, 2022, p. 19). However, it is learned that solar farms “may create a positive option-value for landowners that is capitalized into land prices” (Abashidze, 2022, p. 19). In particular, the author finds that “agricultural land that is also located near transmission infrastructure could increase in value. This latter result is also of note given the difficulty in siting transmission lines” (Abashidze, 2022, p. 19).

The author suggests agricultural land near transmission lines after the installation of a nearby solar may bring positive value (Abashidze, 2022). However, the author does clarify that the results are confined to the study and many not necessarily be applied to other areas. Abashidze (2002) does point out that “concerns have been expressed that as solar displaces traditional agricultural production in a region, local supply chains could suffer and lead to a negative cycle in which more farmers exit the industry and supply chains further weaken” (p. 19). It is emphasized that this would need to happen on a large scale and they cannot “empirically evaluate these concerns” (Abashidze, 2022, p. 19).

It is without a doubt that utility-scale solar is widely growing but not entirely embraced. Uebelhor, Hintz et al. (2021) offer an analysis of community reactions to solar developments in the Great Lakes region (Indiana, Michigan, Minnesota, and Wisconsin) using a content analysis of local newspaper articles gauging public sentiment. The issues discovered were ranked based on the frequency of mentions. The results suggest that utility-solar on farm ground was generally positive. Yet, there were numerous articles featuring opposition to projects. “Residents opposed to siting, solar projects on farmland often mentioned how a significant amount of local farmland was being taken out of production, which was a concern for the local economy, the reduction in locally produced food, aesthetics, and community values” (Uebelhor, Hintz et al., 2021, p. 10). The community members also offered concerns about land and soil degradation (Uebelhor, Hintz et al., 2021). The authors discuss differences between the four states as Michigan and Indiana have local control over solar siting while Minnesota and Wisconsin retain the authority in state hands. Under both scenarios, the Uebelhor, Hintz et al., 2021 suggest that it is key to ensure active community involvement in the utility-solar siting process to mitigate concerns.

In an article in Michigan’s nonpartisan, Michigan Bridge, Erin Hamilton, a mushroom grower, launched a petition to ban utility-scale solar on agricultural land. Hamilton was quoted stated that “our goal with this initiative is specifically to protect and preserve farmland for long term agricultural use” (House, 2023, p. 3). This push is for the proposed Michigan Agricultural Preservation Act which is a ballot measure to oppose the use of large tracts of land for renewable energy purposes. The objections cited in Michigan include “fears of declining property values, loss of productive farmland, and local environmental concerns over the materials used in solar panels” (House, 2023, p. 4). Hamilton pushed for this statewide ban because of actions in her local community in Livingston County’s Marion Township where their solar ordinance was revised thereby “shrinking areas allowed for solar development from thousands of acres to 170 amid opposition from farmland solar opponents...” (House, 2023, p. 4). The statewide ballot measure was withdrawn due to the vagueness of the language. Hamilton signaled that she planned to visit the efforts but there has not been an updated petition since.

In an article in the Harvard Business Review, Atasu, Duran, & Van Waqssenrove (2021) present concerns about the increased speed of solar replacement which in turn generates significant amounts of waste thereby placing pressure on the limited resources of local communities for resource cleanup. The authors argue that with the vast growth and innovative changes in solar technology, there will be decisions made for early replacement thus adding solar waste to the communities at rates higher than imagined. It is pointed out that developers may find it economically viable to replace panels earlier than expected. Atasu et al (2021) assert that recycling is

inadequate in numerous communities and the increased number of disposed panels can lead to problems including who is responsible for the cleanup costs (Duran and Van Wassenhove, 2021)?

Casey (2023) offers an article about agrivoltaics as a tool for a transition to renewable energies. It is stated that the “mindful cooperation between farming and energy poses a threat to the status quo fueling climate change, and is facing a sure of opposition, but the emerging field of agrivoltaics could help neutralize the critics and break down barriers to solar development” (Casey, 2023, p. 2). Casey (2023) discusses the importance of rural solar as a source of income for farmers and a support mechanism for supporting the agricultural industry. Opposition to rural solar is also discussed including the formation of groups on social media sites such as Facebook. Casey (2023) asserts that “these groups are larded with false claims about climate change, including claims that climate change is a hoax, and that solar panels can leach cadmium, a carcinogen, into the environment” (p. 4). Casey (2023) acknowledges that “opponents of farm-located solar have argued that utility-scale arrays are not an appropriate use of farmland” (p. 5). The author also cites a group, “Citizens for Responsible Solar” which has the message that “industrial-scale solar is not agriculture; it is a power plant” (Casey, 2023, p. 5).

The claim is made by Casey (2023) that the institution of solar panels helps improve the soils beneath as they can “revert to a natural state, enabling the potential for a transition to regenerative farming” (p. 6.). Hence, Casey (2023) claims this is “consistent with the Conservation Reserve Program, which pays farmers for taking sensitive land out of production and planting species that restore environmental health” (p. 6). The author concludes the article by discussing advantages of agrivoltaics, regenerative agriculture, carbon sequestration, and federal support.

There are a number of policy advocates for utility-scale solar including the Iowa Environmental Council who provide materials such as model solar ordinances to local governments. Guyer and Snell offer a model to facilitate utility-scale solar installations. This covers a range of issues including the application process, general requirements, operation and maintenance, and discontinuation and decommissioning of utility-solar systems. The ordinance uses a conditional use permit application process in zoning districts other than residential.

The Center of Rural Affairs also provides materials to local governments to assist with finding a balanced approach to regulation. The Center has provided their Iowa Solar Citing Resource Guide: A Roadmap for Counties which includes information about state and local benefits, major provisions that should be contained within solar ordinances such as the approval process and application, setbacks, siting standards, operations and maintenance planning, infrastructure and road use agreements, decommissioning, and other considerations. This guide recommends that property line setbacks should not exceed 50 feet. It also suggests that setbacks from occupied residences should be within 100 to 200 feet.

As part of the Center of Rural Affairs’ literature, Kolbeck-Urlacher (2022) offers a guide for the decommissioning of utility-solar systems. The analysis presented includes information for understanding the scope of the solar project including the awareness of the end-of-life options. These options include the extension of the performance period where reuse, refurbishment, and repowering standards are considered. Information about full decommissioning with recycling and disposal options of the panels are discussed. Components of the decommissioning plan are presented including how to address the estimation of costs. Decommissioning cost examples are presented along with final assurance mechanisms. Kolbeck-Urlacher (2022) offers several recommendations including:

- Require project developers to submit a decommissioning plan that defines the obligations of the project developer to remove the solar array and restore the land when the project is retired.
- Require the project developer to notify the county of its intent to stop using the facility once it has been determined the system will be retired...
- Ensure that decommission plans include expected timelines for completion of tasks...
- Include a provision that the project owner is responsible for the costs of decommissioning ensuring the county and landowners do not bear these costs.
- Work with developers to ensure decommissioning cost estimates are made by a third-party professional who can provide a location and project specific cost estimate, and plan for these cost estimates to be reviewed every 5 to 10 years to accommodate changes.
- Encourage recycling or repurposing of solar components rather than disposal in a landfill.

(Kolbeck-Urlacher, 2022, p. 6)

Additionally, in a 2023 Center for Rural Affairs publication, Kolbeck-Urlacher offers a report to give policy makers an option for utility-solar and agriculture to co-exist. The author asserts that solar can coexist with different crop types such as “vegetables and berries, utilizing livestock grazing for managing vegetation, beekeeping, and planting native vegetation and pollinator habitat” (Kolbeck-Urlacher, 2023, p. 4). It is asserted that agrivoltaics offers economic benefits such as “new revenue streams for farmers, increased pollinators, wildlife habitat, enhanced soil health, reduced erosion, and carbon storage” (Kolbeck-Urlacher, 2023, p. 4).

The Center for Rural Affairs also authors a fact sheet advocating for the solar grazing. They present a planning process for developers to have a grazing management procedure in place that sets goals, sets the livestock species and population, determines site conditions, and establishes a rotational grazing and vegetation management plan for the site (Making the Case for Solar Grazing, p. 2).

The research suggests there are a number of ways to permit utility-scale solar energy systems. These include allowed uses through the building permit process alone, conditional use permit, special use, rezone, etc. Typically, local jurisdictions have established frameworks within their ordinances to address permitting. In the *Solar@Scale: A Local Government Guidebook for Improving Large-Scale Solar Development Outcomes* (2023), the concept of special-purpose districts is addressed. The purpose of these districts are to “address the unique characteristics of a specific area or to promote unified large-scale development” (Improving, 2023, p. 78).

“Local officials may map these districts to specific properties at the time of adoption, or they may hold off on mapping until they approve an owner’s request for a rezoning to the special-purpose district” (Improving, 2023, p. 78). If the district is not initially mapped, it can be construed as a floating zone or an overlay district (Improving, 2023). The authors suggest that “local officials can use floating zones to ensure the highest level of scrutiny for large-scale solar development proposals” (Improving, 2023, p. 78). Furthermore, it is asserted that there are downsides of a specific mapped location. This includes changes to the developers’ plans. Additionally, there could be factors beyond the local government’s control “such as the available capacity on distribution or transmission lines and the costs associated with interconnection, can impede efforts to steer solar projects to target locations” (Improving, 2023, p. 78).

The guidebook also addresses the establishment of development standards including dimensional standards, use permissions by district, site conditions, environmental performance, and decommissioning. Additionally, procedural standards are analyzed including the use of pre-application meetings, application materials, and permitting fees. As a whole, the guidebook offers a wide-scope of considerations that are imperative for local officials to appreciate.

In an article prepared for the Michigan State University Extension, Reilly (2023) asserts that “overlay zoning districts is a valid tool in some conditions. But be careful not to overuse it when more traditional zoning techniques can do the job” (p. 1). Reilly (2023) describes the overlay as an “additional zoning district that is laid over the top of two or more zoning districts – usually to introduce an additional standard(s) or regulation(s) along some feature” (p. 1). The standards could include “building setbacks, density standards, lot sizes, impervious surface reduction, vegetation requirements, and building floor height minimums (Reilly, 2023, p. 3). Reilly (2023) offers the following example:








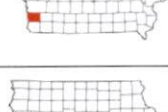
An overlay district along the entire length of a river, that flows through several different zoning districts, may require a vegetation buffer and larger setback from the riverbank. The overlay district text in the zoning ordinance is where the larger setback and requirement for the vegetation buffer is written. The alternative would be to add those two regulations into each underlying zoning district – often making it necessary to have the same text in the zoning ordinance several times, once for each zoning district the river flows through. (Reilly, 2023, p. 1)




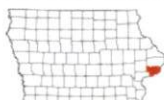
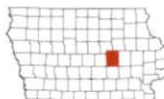
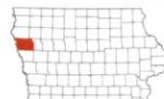
Reilly (2023) cautions “if a proposed overlay district is only on top of one underlying zoning district, then creating an overlay district may not be the best approach” (p. 3). Reilly suggests that the ordinance would be more standardized to just add the proposed regulations to the underlying zoning district. However, if the proposed overlay is meant to change a use, then it would be appropriate to establish the overlay (Reilly, 2023).



As Reilly (2003) points out the merits of overlay districts, in terms of utility-scale solar energy systems, there must be a unit-of-analysis or some particular standards that establish an area within a community as suitable or not suitable for the overlay. The determination of those standards can be based on a number of factors not limited to soil quality and separation distances from other land uses.

Several counties in Iowa have adopted ordinances to address utility-scale solar. It is apparent there is not a one-size-fits-all solution for the permitting of such systems. It appears that some of the counties do tend to have a some pathway for the permitting of utility-scale solar in agricultural districts. Some counties have their Board of Supervisors consider the permits while others employ the Board of Adjustment. The following table includes fifteen counties in Iowa that have some mechanism in place to address utility-solar.

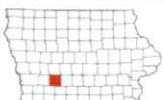
| County  | Location  | Population (2023) | Status         | Permitting Body      | Permit Type   | Zoning District  |
|---------|---|-------------------|----------------|----------------------|---|--|
| Adair   |    | 7,439             | In effect      | Board of Supervisors | Board of Supervisors Permitting                     | No designation   |
| Clayton |    | 16,716            | In effect      | Board of Adjustment  | Special Exception Use Permit                        | Consumer Scale referenced in R-1, C-1, & A-1 Districts   |
| Clinton |   | 45,662            | In effect      | Board of Adjustment  | Special Exception Permit                            | A-1, AR-1, C-1, C-2, M-1, M-2  |
| Dubuque |  | 100,949           | In effect      | Board of Adjustment  | Special Use Permit                                  | A-1 (Agricultural District); Permitted in M-1 (Light Industrial) and M-2 (Heavy Industrial)                  |
| Johnson |  | 159,445           | In effect      | Board of Adjustment  | Conditional Use Permit                              | Agricultural District  |
| Linn    |  | 236,020           | In effect      | Board of Supervisors | Rezone to Overlay                                   | Renewable Energy Overlay Zoning District   |
| Louisa  |  | 10,672            | Draft Proposal | Board of Adjustment  | (Ordinance Status unknown) Special Exception Permit | Special Use Exception in the A-1 (Agricultural District); B-1 (Business District); I-1 (Industrial District) |
| Mills   |  | 14,310            | In effect      | Board of Adjustment  | Conditional Use Permit                              | AG (Agricultural Zoning District); AR (Agricultural/Residential Zoning District)                             |
| Monona  |  | 8,604             | In effect      | Board of Adjustment  | Special Use Permit                                  | A-1; A-2 – Agricultural Districts  |






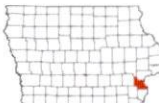
|           |  |         |                     |  |                        |   |
|-----------|--|---------|---------------------|--|------------------------|---|
| Muscatine |   | 43,382  | In effect           | Board of Adjustment                                  | Special Use Permit     | A-1 (Agricultural District); Permitted use in I-1 & I-2 (Light and Heavy Industrial)                              |
| Polk      |   | 510,929 | In effect           | Board of Adjustment                                  | Conditional Use Permit | AG (Agricultural Zoning District); LI (Limited Industrial Zoning District); HI (Heavy Industrial Zoning District) |
| Ringgold  |   | 4,522   | In effect           | Board of Supervisors                                 | Construction Permit    | No designation  |
| Scott     |   | 177,501 | In effect           | Board of Supervisors                                 | Rezone Procedure       | US-F Floating District  |
| Tama      |   | 16,946  | Under Consideration | Solar Access Regulatory Board / Board of Supervisors | Solar Access Easement  | No designation; capped by 25 Megawatts (MW).  |
| Woodbury  |  | 105,941 | In effect           | Board of Adjustment                                  | Conditional Use Permit | General Industrial (G1)   |






As noted, each county is distinct and has their own specific reasons for why they chose their respective mechanism to permit utility-solar project. Each county offers information that can be helpful to the consideration of a utility-solar policy in Woodbury County. In terms of setbacks or separation distances, the Center for Rural Affairs in their Iowa Solar Siting Resource Guide: A Roadmap for Counties offer the following recommendations:


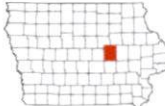
- Property line setbacks should not exceed 50 feet; setbacks from occupied residences should stay within a range of 100 to 200 feet. (p. 11)
- Counties should include waiver provisions allowing for the county to waive the mandated setback distance with the consent of the participating landowner and adjacent property owner. (p. 11)
- No setbacks should be required if a property line is shared by two participating landowners. (p. 11)

The following table includes ordinance excerpts of the setbacks or separation distances used by the sample counties. It appears that many have chosen to follow the setback standards for their controlling zoning districts. However, there are some counties such as Adair, Ringgold, and Scott that have implemented setbacks of 1,000 feet from occupied residences. It is imperative to note that several metrics beyond the Center for Rural Affairs recommendation can be employed addressing: Occupied Residences; Occupied and Unoccupied Structures; Public Rights-of-Way; Public Intersections; Airports; Cemeteries; Public Conservation Areas, etc.

| County | Location  | Protected Area               |  | Setback Requirement                                    |  |
|--------|---|------------------------------|--|--|--|
| Adair  |  | Occupied Residence           |  | 1,000 feet from occupied residence                     |  |
|        |   | Any non-participating parcel |  | 250 feet from property line                            |  |
|        |   | Public road right of way     |  | 50 feet from road right of way                         |  |
|        |   | Public road intersections    |  | Radius of 150 feet from the center of the intersection |  |
|        |   | Public Airports              |  | 5 miles from property line                             |  |

|         |   |   |
|---------|---|---|
| Clayton |    | a) <b>Setback.</b> Setbacks for all structures (including solar arrays) must adhere to the minimum principal use setback standards for the zoning district where the project is located; greater setbacks may be recommended absent a solar access agreement.   |
| Clinton |    | <b>Site and Structure Requirements</b><br>1. <b>Setback.</b> Setbacks for all structures (including solar arrays) must adhere to the minimum principal setback standards for the zoning district where the project is located; greater setbacks may be required by the Board of Adjustment.   |
| Dubuque |    | <b>Setbacks.</b> Setbacks for all structures (including solar arrays) shall be the same as what is required for residences in the A-1 Agricultural District unless the Board of Adjustment finds that less is warranted. All structures shall observe listed setbacks in the M-1 and M-2 Districts. No setbacks are required where a property line is shared by two participating landowners. Mandated setback distances may be waived with the consent of participating landowners and adjacent property owners.   |
| Johnson |    | 1. Setback Standards. All structures, including solar arrays, shall adhere to the primary structure setbacks for the district where the system is located.  |
| Linn    |    | (5) <i>Site and structure requirements.</i><br>a. <i>Setback.</i> Setbacks for all structures (including solar arrays) must adhere to the minimum principal setback standards for the zoning district where the project is located in addition to dwelling and stream corridor setbacks<br>1. Solar panels, structures, and electrical equipment, excluding fences and power lines for interconnection, shall be kept a minimum of three hundred (300) feet from dwellings, unless the property owner waives the setback. Waiver must be in writing and recorded.<br>2. Solar panels, structures, and electrical equipment, excluding fences and power lines for interconnection, shall be kept a minimum of one hundred and twenty (120) feet from the centerline of all stream corridors and open ditches containing perennial flow throughout the majority of the growing season.  |
| Louisa  |  | 2) <i>Setbacks.</i><br>a. The front yard setbacks shall be a minimum of fifty (50) feet from the edge of the right of way which form the outside perimeter of a SGES or SFES project area and one hundred (100) feet from a residence that is a part of the SGES or SFES project area. The Board of Adjustment may grant an exception to the setback requirement if the proposed or existing buffer is sufficient to screen the project from view of adjoining property or public rights-of-way, if the owners of the adjoining properties agree in writing to waive these setback requirements<br>b. In the case of a SGES or SFES to be built on more than one parcel and parcels are abutting, a zero (0) side or rear setback shall be permitted to the property line in common with the abutting parcel(s).<br>c. Solar panels shall be least three hundred (300) feet from a residence that is not part of the SGES or SFES project area. The Board of Adjustment may grant an exception to the setback requirement if the proposed or existing buffer is sufficient to screen the project from view of adjoining property or public rights-of-way, if the owners of the adjoining properties agree in writing to waive these setback requirements<br>d. Solar panels shall be eighty (80) feet from the State Right of Way and sixty (60) feet from County Right of Way. |

| <p>Mills</p>      |   | <p>(2) <b>Setbacks.</b> The front yard setbacks shall be a minimum of fifty (50) feet from the edge of the right-of-way to the closest solar panel of a SESUS project and three hundred (300) feet from a residence that is not a part of the SESUS area. If a SESUS is to be built on more than one parcel and the parcels are abutting, a zero (0) foot side or rear setback shall be permitted to the property line in common with the abutting participating parcel(s).</p>   |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
|--|---|---|----------------|---------------------|--------------------|------------------------------------|------------------------------|-----------------------------|--------------------------|---|---------------------------|--|-----------------|----------------------------|--------------------|----------------------------------|------------------------------|---|--------------------------|--|--------------------|--|
| <p>Monona</p>     |   | <p>No setbacks reported or reverts to controlling zoning district.</p>  |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
| <p>Muscatine</p>  |   | <p>e. <b>Setbacks.</b> Setbacks for all structures (including solar arrays) shall be the same as what is required for residences in the A-1 Agricultural District unless the Board of Adjustment finds that less is warranted. All structures shall observe listed setbacks in the I-1 and I-2 Districts. No setbacks are required where a property line is shared by two participating landowners. Mandated setback distances may be waived with the consent of participating landowners and adjacent property owners.</p>   |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
| <p>Polk</p>       |   | <p>No setbacks reported or reverts to controlling zoning district.</p>  |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
| <p>Ringgold</p>  |   | <p>1. <b>Setbacks.</b> All US-SES and any upgrades to existing solar energy systems shall observe the following setbacks, to be measured from the edge of the solar panels and equipment (not underground facilities such as cable or fencing):</p> <table border="1"> <thead> <tr> <th>Protected Area</th> <th>Setback Requirement</th> </tr> </thead> <tbody> <tr> <td>Occupied Residence</td> <td>1,000 feet from occupied residence</td> </tr> <tr> <td>Any non-participating parcel</td> <td>250 feet from property line</td> </tr> <tr> <td>Public road right of way</td> <td>75 feet from road right of way for paved roads<br/>50 feet from road right of way for gravel roads</td> </tr> <tr> <td>Public road intersections</td> <td>Radius of 150 feet from the center of the intersection</td> </tr> <tr> <td>Public Airports</td> <td>5 miles from property line</td> </tr> </tbody> </table><br><table border="1"> <tbody> <tr> <td>Occupied Structure</td> <td>300 feet from occupied structure</td> </tr> <tr> <td>Any non-participating parcel</td> <td>100 feet from property line to solar panels</td> </tr> <tr> <td>Public road right of way</td> <td>75 feet from road right of way for paved roads<br/>50 feet from right of way for gravel roads</td> </tr> <tr> <td>Recreational Areas</td> <td>A view shed analysis needs to be completed and the setback should be consistent with said study.</td> </tr> </tbody> </table> | Protected Area | Setback Requirement | Occupied Residence | 1,000 feet from occupied residence | Any non-participating parcel | 250 feet from property line | Public road right of way | 75 feet from road right of way for paved roads<br>50 feet from road right of way for gravel roads | Public road intersections | Radius of 150 feet from the center of the intersection | Public Airports | 5 miles from property line | Occupied Structure | 300 feet from occupied structure | Any non-participating parcel | 100 feet from property line to solar panels | Public road right of way | 75 feet from road right of way for paved roads<br>50 feet from right of way for gravel roads | Recreational Areas | A view shed analysis needs to be completed and the setback should be consistent with said study. |
| Protected Area   | Setback Requirement   |   |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
| Occupied Residence   | 1,000 feet from occupied residence  |   |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
| Any non-participating parcel   | 250 feet from property line   |   |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
| Public road right of way   | 75 feet from road right of way for paved roads<br>50 feet from road right of way for gravel roads |   |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
| Public road intersections  | Radius of 150 feet from the center of the intersection  |   |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
| Public Airports  | 5 miles from property line  |   |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
| Occupied Structure   | 300 feet from occupied structure  |   |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
| Any non-participating parcel   | 100 feet from property line to solar panels   |   |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
| Public road right of way   | 75 feet from road right of way for paved roads<br>50 feet from right of way for gravel roads      |   |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |
| Recreational Areas   | A view shed analysis needs to be completed and the setback should be consistent with said study.  |   |                |                     |                    |                                    |                              |                             |                          |   |                           |  |                 |                            |                    |                                  |                              |   |                          |  |                    |  |

|  |  |  |
|--|--|--|
| <p>Scott</p>  |  | <p>3. Setbacks: Setbacks for all structures (including the solar arrays themselves) must adhere to the minimum principal setback standards for the zoning district where the project is located; greater setbacks may be recommended based on the application.</p> <p>a. All buildings, accessory buildings, and other infrastructure shall be located the following distances from the nearest boundary of each zoning district:</p> <p>A-P: 500 feet<br/> A-G: 500 feet<br/> R-1: 1,000 feet<br/> R-2: 1,000 feet<br/> CAD-R: 1,000 feet<br/> C-1: 100 feet<br/> C-2: n/a<br/> CAD-PVC: 100 feet<br/> I: n/a<br/> I-F: n/a<br/> SW-F: n/a</p> <p>b. All buildings, accessory buildings, and other infrastructure shall be located 1,000 feet from any residential dwelling unit not within in the land area leased or owned by the applicant.</p> <p>c. When a solar array is to be built on two or more parcels that are abutting, a zero (0) side or rear setback shall be permitted to the property line in common with the abutting parcels.</p> |
| <p>Tama</p>   |  | <p>Draft ordinance. Data not reported.</p>   |

In terms of soil quality, in Iowa, the Corn Suitability Rating 2 (CSR2) is the present standard employed to assess farm ground. In an article prepared by the Iowa State University Extension and Outreach office by Miller and Burras (2015) “Corn Suitability Rating 2 remains an index to the inherent soil productivity of each kind of soil for row crop production. The index is scaled from 100, for the most productive soils, to 5 as the least productive” (Miller and Burns, 2015, p. 1). The CSR2 can be broken down into three tiers including high, medium, and low. A high tier CSR2 is construed as very productive soils with a rating of 83 and above. A medium tier includes a rating within the range of 65-82 and is considered to have productive soils “with some properties that limit yield to remain below the excellent ones” (Mandrini, 2023, p. 1). A low tier includes a rating below 65 to 5, again with some limited properties (Mandrini, 2023). Mandrini (2023) asserts that “the CSR2 was created to classify soils based on production capacity. Since yield is one of the main variables determining a farm’s economic outcomes, CSR2 is also associated with economic variables like cropland values and rents” (p. 3).

The research also suggests that comprehensive planning is an appropriate step for introducing renewable energy to the community. The American Planning Association offers a guide in their Planning Advisory Service Memo Addendum (2019). The association offers the following criteria for comprehensive plan amendments:

- Identification of major electrical facility infrastructure (i.e. transmission lines, transfer stations, generation facilities, etc.)
- Identification of growth area boundaries around each city, town, or appropriate population center.
- Additional public review and comment opportunities for land-use applications within a growth area boundary within a specific distance from an identified growth area boundary, or within a specified distance from identified population centers (e.g., city or town limits)
- Recommended parameters for utility-scale solar facilities such as:
  - maximum acreage or density (e.g., not more than two facilities within a two-mile radius) to mitigate the impacts related to the scale of these facilities
  - maximum percentage usage (i.e., “under panel” or impervious surface) of assembled property to mitigate impacts to habitat, soil erosion, and stormwater runoff
  - location adjacent or close to existing electric transmission lines.
  - location outside of growth areas or town boundary or a specified distance from an identified growth boundary

- location of brown fields or near existing industrial uses (but not within growth boundaries)
- avoidance of or minimization of impact to prime farmland as defined by the USDA
- Avoidance of or minimization of impact to the viewshed of any scenic, cultural, or recreational resources (i.e., large solar facilities may not be seen from surrounding points that are in line-of-sight with a resource location)
- Identification of generation conditions to mitigate negative effects, including the following:
  - Concept plan compliance
  - Buffers and screening (e.g., berms, vegetation, etc.)
  - Third-party plan review (for erosion and sediment controls, stormwater management, grading)
  - Setbacks
  - Landscaping maintenance
  - Decommission plan and security

(Specific Planning and Zoning Recommendations for Utility-Scale Solar, 2019, p. 1)

The American Planning Association (2019) also suggests that in addition to the comprehensive plan, the zoning ordinance should also be amended to define a thorough permitting process. The recommended contents include a pre-application meeting, application requirements, public notice standards, minimum development standards, coordination of local emergency services, decommissioning, site plan, building permit, site maintenance, signage, compliance, interconnection agreement, documentation and conditions, severability, infractions, property access, etc.

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**Appendix**

**Direction from the Board of Supervisors – August 8, 2023**

**WOODBURY COUNTY BOARD OF SUPERVISORS AGENDA ITEM(S) REQUEST FORM**

Date: 8/2/2023 Weekly Agenda Date: 8/8/2023

**ELECTED OFFICIAL / DEPARTMENT HEAD / CITIZEN:** Supervisor J.Taylor/M. Nelson

**WORDING FOR AGENDA ITEM:**

Upon Striking Agricultural Preservation as relates to Amendment 2 (Utility-Scale Solar), a Motion to Give Direction for a New Proposed Ordinance in Regards to Utility-Scale Solar

**ACTION REQUIRED:**

Approve Ordinance       Approve Resolution       Approve Motion

Public Hearing       Other: Informational       Attachments

**EXECUTIVE SUMMARY:**

The Board of Supervisors unanimously has voiced support for adding solar energy systems (private use) as accessory use in each zoning district and affirming support of solar energy systems (utility scale) in the G1 Zoning District. However, given that AP constitutes roughly 75% of Woodbury County's 875 sq. mi and inherent to Agricultural Preservation is the preservation of agriculture, we have an interest in doing what is inherent in the name: preserving agriculture. Toward that end, we are not against solar but think that the following strikes a very reasonable and thoughtful balance, something that can feel rushed in the readings and end up making solar development projects so loose as to not know the desired saturation, legal implications (at least 2 other counties are in lawsuits based on the conditions set after the fact), and how we want to grow the next 25, 50, and 100 years.

Iowa Farm Bureau states regarding energy policy: "Iowa should maintain a balanced electrical energy generation portfolio to ensure energy reliability and resilience at an affordable cost" (2023) and "Iowa's electrical energy policy should not promote new wind and solar energy generation on viable and productive agricultural ground. Existing structures and nonproductive ground should be utilized to expand our energy production" (2023).

**BACKGROUND:**

Iowa Cattlemen land use policy states: "Whereas the issue of land use in Iowa becomes increasingly important as Iowa population grows and the use of land becomes more intensified, and whereas the cattlemen of Iowa have distinctive problems and interests in the use of land for production of beef cattle; and whereas the complexities of the many issues and interests involved are substantial, not the least of which are the preservation of private property rights and the location of control over land-use decisions. Therefore, be it resolved, land suitable for the grazing of livestock should be deemed agricultural land worthy of preservation and that grazing and be given over recreational and/or urban uses. Be it further resolved, public lands should be subject to the same rules and regulations as privately owned lands."

As the two supervisors representing the most rural areas, we deeply desire the preservation of agriculture while at the same time understanding the need for balance: private property rights, economic development, clean energy, and freedom. Therefore, if the county was to engage in utility-scale solar, at minimum, the county should consider this only if the following is met:

- + A conditional use permit for AP "C" with Planning and Zoning and the Board of Adjustment to be able to site-specifically take into consideration the concerns of neighbors, land/soil, and other factors when approving permit.
- + A slope of no more than 5% in order to preserve the land and to account for soil erosion, compaction, and future land stewardship.
- + A maximum height of no more than 20' for panel structures.
- + Of all AP, no more than 49% can be in such a project. In short, 51% must be for agricultural production or no longer considered "AP."
- + Utility solar can be no more than 2% of all AP "agricultural preservation," preserving 98% of AP. This equates to approximately 8,540 acres of the 427,000 acres of ag land, ag land constituting 75% of the 570,000 total acres in Woodbury County.

**FINANCIAL IMPACT:**

(cont...)

- + Current notification for utility-scale solar shall be 1 mile for public comment instead of 500 feet.
- + A requirement (or at least strong consideration) that the utility-scale solar project either be on a landowner's property or that the owner of the land be a resident of Woodbury County.

**IF THERE IS A CONTRACT INVOLVED IN THE AGENDA ITEM, HAS THE CONTRACT BEEN SUBMITTED AT LEAST ONE WEEK PRIOR AND ANSWERED WITH A REVIEW BY THE COUNTY ATTORNEY'S OFFICE?**

Yes  No

**RECOMMENDATION:**

Upon Striking Agricultural Preservation as relates to Amendment 2 (Utility-Scale Solar), a Motion to Give Direction for a New Proposed Ordinance in Regards to Utility-Scale Solar

**ACTION REQUIRED / PROPOSED MOTION:**

Upon Striking Agricultural Preservation as relates to Amendment 2 (Utility-Scale Solar), a Motion to Give Direction for a New Proposed Ordinance in Regards to Utility-Scale Solar

**Direction From the Board of Supervisors – September 26, 2023**

**WOODBURY COUNTY BOARD OF SUPERVISORS AGENDA ITEM(S) REQUEST FORM**

Date: 9/21/2023 Weekly Agenda Date: 9/26/2023

**ELECTED OFFICIAL / DEPARTMENT HEAD / CITIZEN:** Supervisor J. Taylor/M. Nelson

**WORDING FOR AGENDA ITEM:**  
 Give Direction to Planning and Zoning/BOA for Further Considerations During Public Hearings Regarding Utility-Scale Zoning

**ACTION REQUIRED:**

Approve Ordinance       Approve Resolution       Approve Motion

Public Hearing       Other: Informational       Attachments

**EXECUTIVE SUMMARY:**

The Board of Supervisors unanimously has voiced support for adding solar energy systems (private use) as accessory use in each zoning district and affirming support of solar energy systems (utility scale) in the GI Zoning District. However, given that AP constitutes roughly 75% of Woodbury County's 875 sq. mi and inherent to Agricultural Preservation is the preservation of agriculture, we have an interest in doing what is inherent in the name: preserving agriculture. Toward that end, we are not against solar but think that the following strikes a very reasonable and thoughtful balance.

During the last item, we asked that consideration of adding utility-scale solar be considered in AP with limitations such as slope (<5%, no more than 2% of all AP be for solar, a "C" for conditional use, notification from 500 ft to 1 mi, at least 51% maintained in agricultural production.)

Upon public hearing comments and further reflection, we offer an alternative to be considered that might be preferable, namely the expansion of "Light Industrial." We would ask that landowners who desire such utility-scale solar be rezoned to this presently constituting only 101 acres of Woodbury County's 570,000 acres. Landowners could continue to farm the land but open up an avenue that would be far preferable than Agricultural Preservation and much more appropriate.

**BACKGROUND:**

- + A conditional use permit for AP "C" with Planning and Zoning and the Board of Adjustment to be able to site-specifically take into consideration the concerns of neighbors, land/soil, and other factors when approving permit.
- + A slope of no more than 5% ONLY for fixed arrays (most technology is now movable arrays) in order to preserve the land and to account for soil erosion, compaction, and future land stewardship.
- + No more than 1% of industrial land conversion every 4 years for reclassification, roughly 5,700 acres.
- + Current notification for utility-scale solar shall be 1 mile for public comment instead of 500 feet.
- + A decommissioning plan from solar companies reviewed by P&Z/BOA subject to approval by the Woodbury County Board of Supervisors.

**FINANCIAL IMPACT:**

None

**IF THERE IS A CONTRACT INVOLVED IN THE AGENDA ITEM, HAS THE CONTRACT BEEN SUBMITTED AT LEAST ONE WEEK PRIOR AND ANSWERED WITH A REVIEW BY THE COUNTY ATTORNEY'S OFFICE?**

Yes  No

**RECOMMENDATION:**

Move to give direction for a new proposed ordinance in regards to utility-scale solar

**ACTION REQUIRED / PROPOSED MOTION:**

Move to give direction for a new proposed ordinance in regards to utility-scale solar

*Approved by Board of Supervisors April 5, 2016.*

## Zoning Commission Minutes

### Minutes - Woodbury County Zoning Commission Special Meeting – September 11, 2023

The Zoning Commission (ZC) special meeting convened on the 11<sup>th</sup> of September at 5:00 PM at the Merville Community Center in Merville, Iowa. The meeting was also made available via teleconference.

|                       |   |
|-----------------------|---|
| ZC Members Present:   | Chris Zellmer Zant, Corey Meister, Jeff O'Tool, Tom Bride   |
| County Staff Present: | Dan Priestley, Dawn Norton  |
| Public Present:       | Angie Heck, Tony Heck, Kim Luze, Rich Luze, Vicki Atwell, Steve Mrla, Leo Jochum, Bev Jochum, Janet Yanak, Tony Yanak, Dennis Ragan, JoAnn Sadler, Zach Hummel, Wally Wagner, John Johnston, Jeremy Taylor, Kevin Heck, Kyle Gates, Eric Nelson, Elizabeth Widman, Rebekah Moerer, Genise Hallowell, Kalyn Heetland, Josh Heetland, Elisabeth Cendejas, Jesus Cendejas, Robert Knaack, Greg Jochum, Brad Jochum, Tom Jochum, Bob Fritzmeier |

#### Call to Order

Chair Chris Zant formally called the meeting to order at 5:00 PM. Four Commissioners were present. Commissioner Parker was absent.

#### Public Comment on Matters Not on the Agenda

None

#### Approval of Previous Meeting Minutes – July 24, 2023

O'Tool motioned to approve the minutes from July 24, 2023. Second: Bride. Motion carried: 4-0.

#### Formal approval of Zoning Commission Rules of Procedure

At the July 24, 2023 meeting of the Zoning Commission, the rules of procedure were approved and sent to the Board of Supervisors who voted to approve the rules on August 8, 2023. Motion to formally adopt the rules and authorize the chair to sign the Rules of Procedure by Meister. Second: O'Tool. Motion carried: 4-0.

#### Public Hearing: Proposed Janet Heck Subdivision (Parcel #874724300005)

Priestley read the preliminary report and staff recommendation into the record. Kevin Heck, executor for Janet K. Heck has filed for a one (1) lot minor subdivision on the property identified as Parcel #874724300005. This subdivision is being completed to separate the house location from the farm ground. This agricultural subdivision proposal has been properly noticed in the Sioux City Journal legal section on August 29, 2023. The neighbors within 1000 FT have been duly notified via an August 23, 2023 letter about the September 11, 2023 Zoning Commission public hearing. Appropriate stakeholders including government agencies, utilities, and organizations have been notified and have been requested to comment. The Woodbury County Engineer found the proposal in compliance with Iowa Code closure requirements and found that the lot(s) have adequate access. This property is located in the Agricultural Preservation (AP) Zoning District and is located in the Special Flood Hazard Area (SFHA) – Zone A. The City of Salix waived their extraterritorial review authority with the approval of Resolution No. 2023-20. The area of the subdivision is less than 5 acres and the Base Flood Elevation (BFE) data is not required. Based on the information received and the requirements set forth in the Zoning and Subdivision Ordinance, the proposal meets the appropriate criteria for approval. Motion to close public hearing: O'Tool. Second: Bride. Carried: 4-0. Motion to recommend the approval to the Board of Supervisors as proposed: O'Tool. Second: Meister. Motion carried: 4-0.

#### Public Hearing: Proposed Zoning Ordinance Map Amendment (Rezone) (Parcel #884506200006)

Priestley read into record the preliminary report and staff recommendation. Richard and Kimberly Luze (Applicants/ Owners) have filed a Zoning ordinance Map Amendment application with Woodbury County to request their property (Parcel #884506200006) be rezoned from Agricultural Preservation (AP) Zoning District to the Agricultural Estates (AE) Zoning District. The applicants are making this request to pursue an eventual split of their parcel to facilitate the ability to add a neighboring single-family dwelling in the future as there are presently two houses located within the existing quarter-quarter section. The split will likely consist of approximately three acres from the existing 18+ acres. This will be initiated at a future date. The neighbors within 1000 FT have been notified via an August 23, 2023 letter about the September 11, 2023 Zoning Commission public hearing. Appropriate stakeholders including government agencies, utilities, and organizations have been notified and have been requested to comment. This property is located in the Agricultural Preservation (AP) Zoning District and is not located in the floodplain. This requested zoning change is compliant with the future land use map of Woodbury County's development plan as this area is designated within the rural residential area. Based on the information received and the requirements set forth in the Zoning and Subdivision Ordinance, the proposal meets the appropriate criteria for approval. Staff recommends approval. Priestley has received some phone inquiries regarding future land uses. A Neighboring landowner spoke with concerns of possible subdivisions and increasing density. Priestley stated with Hwy 20 abutting the land, the state

would likely not allow more driveways off Hwy 20. If additional land splits were requested through a subdivision application, there would be public conversations and meetings. Ms. Atwell expressed concerns if a subdivision would go in and how it could affect her cattle farming. Bride stated it would have no impact on what she is currently doing and stated communication between landowners is important. Steve Mria stated DOT could build a frontage road which would allow more access. Bride discussed how eliminant domain should not be used for private use. Bride motioned to close public hearing. Second: Meister. Carried: 4-0. Motion to recommend the approval to the Board of Supervisors as proposed: Meister. Second: Bride. Motion carried: 4-0.

**Public Hearing: Utility-Scale Solar Systems – Consideration of Solar Ordinances for Recommendation(s) to the Board of Supervisors**

Priestley read into the record the direction by the Woodbury County Board of Supervisors that occurred on August 8, 2023 for Planning and Zoning and the Zoning Commission to establish/examine a new ordinance as it relates to utility-scale solar systems. The purpose of this public hearing is to receive comments from the public about solar energy systems not limited to utility-scale solar systems, agrisolar or agrivoltaics, and community solar systems as the Commission works toward preparing a recommendation for a proposed ordinance or amendments to the Woodbury County Zoning ordinance to address the permitting process for such systems in industrial and/or agricultural areas. The Board of Supervisors have indicated that "if the county was to engage in utility-scale solar, at minimum, the county should consider this only if the following is met":

- A conditional use permit for AP "C" with Planning and Zoning and Board of Adjustment to be able to site-specifically take into consideration the concerns of neighbors, land/soil, and other factors when approving permit.
- A slope of no more than 5% in order to preserve the land and to account for soil erosion, compaction, and future land stewardship.
- A maximum height of no more than 20' for panel structures.
- Of all AP, no more than 49% can be in such a project. In short, 51% must be for agricultural production or no longer considered "AP."
- Utility solar can be no more than 2% of all AP "agricultural preservation," preserving 98% of AP. This equates to approximately 8,540 acres of the 427,000 acres of ag land, ag land constituting 75% of the 570,000 total acres in Woodbury County.
- Current notification for utility-scale solar shall be 1 mile for public comment instead of 500 feet.
- A requirement (or at least strong consideration) that the utility-scale solar project either be on a landowner's property or that the owner of the land be a resident of Woodbury County.

Priestley identified additional comments/resources that were received after the printing of the Zoning Commission agenda packet with backup materials. In particular, resources were received from the Center of Rural Affairs, the Northwest Iowa Power Cooperative (NIPCO), the Woodbury County Rural Electric Cooperative, and the Iowa Land & Liberty Coalition. Additionally, Priestley provided a copy of a map illustrating soil content with less than 5% slopes in comparison with soils with CSR2 ratings greater than 65 and 75. Priestley then offered a summary of potential approaches that could be taken to craft an ordinance including which entity would be in charge of the permitting. Looking at other counties, there is a mix of permitting utility-scale solar based on a conditional use permit via the Zoning Commission and Board of Adjustment in comparison with a standalone home rule ordinance where the Board of Supervisors are the permitting body. Priestley indicated that the following concepts would be up for discussion as an ordinance is considered: Certified Abstractor's Listing – Public Notification Area; Site Plan; Setbacks; Height; Protected Areas; Slope; Landscaping/Buffer/Screening; Fencing/Security; Signage; Lighting; Noise; Outdoor Storage; Utility Plan / Utility Connections / Agreements; Floodplain; Habitat and Natural Resource Considerations; Solar Glare Minimization; Weed Control; Grading Plan; Compliance with applicable laws (local, state, federal); Access; Road Use; Aviation Protection; Maintenance, Repair, or Replacement / Repowering; Waste; Soil Erosion / Sediment Control; Stormwater Management; Administration / Enforcement / Violations; Emergency Management; Timeline; Safety; Abandonment / Cessation of Operations; Decommissioning and Reclamation; Fees; Agrivoltaics / Agrisolar; Community Solar Systems; Concentrating Solar Power; Solar definitions; Etc.

The following paraphrased public comments were offered:

Greg Jochum (Salix) addressed the Commission regarding the differences between CSR1 and CSR2 as well as height.

Brad Jochum (Plymouth County) addressed the Commission regarding out of county ownership.

Tom Jochum (Sgt. Bluff) addressed the Commission regarding the advantages of solar.

Eric Nelson (Moville) addressed the Commission regarding solar as a commercial/industrial entity.

Ron Wood (Salix) addressed the Commission regarding the need for solar power generation for growth.

Elizabeth Widman (Sgt. Bluff) addressed the Commission regarding the stewardship and protection of agricultural land from solar development.

Bob Fritzmeier (Sioux City) addressed the Commission regarding how solar installations help soil to rejuvenate and help the wildlife population.

Leo Jochum (Salix) addressed the Commission regarding renewable energy rates, vegetation for screening, capping AP land at 2%, and soil rejuvenation.

Kim Alexander (Smithland) addressed the Commission regarding money as a principal purpose for solar.

Will Dougherty (Urbandale) addressed the Commission on how MidAmerican works with various stakeholders as they pursue solar projects and offered an opportunity to tour the Port Neal solar site.

Ann Johnston (Salix) addressed the Commission with concerns on the impact of the farm ground and keeping the land the way it is.

Wally Kuntz (Merville) addressed the Commission inquiring about the tax income.

Supervisor Jeremy Taylor (Sioux City) addressed the Commission and responded to Mr. Kuntz's inquiry about generation usage tax.

Bride asked Will Dougherty from MidAmerican where the largest project was in Iowa, Dougherty stated Holiday Creek, north of Fort Dodge has an 800-acre, 100 M/Watt project. 8 acres generally produces 1 M/Watt.

Bride asked if there have been any requests to the Iowa Utilities Board for eminent domain for a commercial solar project.

Eric Nelson asked Dougherty about storage of excess power. Dougherty stated it is not an on-demand system. The grid goes where needed first, then to next load center. Port Neal is an on-demand system. Dougherty stated coal system is used as a back up to solar.

Motion to close public hearing: Meister. Second: O'Tool. Carried: 4-0.

Priestley thanked the attendees for their comments and questions. The information gathered will be taken into consideration as a proposal is prepared and possibly recommended by the Zoning Commission that would eventually go to the Board of Supervisors for up to three hearings. The next meeting of the Zoning Commission will be held on Monday, September 25 at 5:00 PM in the basement meeting room of the Woodbury County Courthouse where the Board of Supervisors meet.

**Public Comment on Matters Not on the Agenda**

None.

**Commissioner Comment or Inquiry**

None.

**Staff Update**

Priestley stated that the minor subdivision and rezone that were recommended this evening will be sent to the Board of Supervisors for consideration at future meeting(s).

**Adjourn**

Motion by Bride to adjourn; Second by O'Tool. Carried: 4-0. Adjourned: 6:34 p.m.



### Minutes - Woodbury County Zoning Commission – September 25, 2023

The Zoning Commission (ZC) meeting convened on Monday, September 25 at 5:00 PM in the Board of Supervisors' meeting room in the Basement of the Woodbury County Courthouse, 620 Douglas Street, Sioux City, IA. The meeting was also made available via teleconference.

ZC Members Present: Chris Zellmer Zant, Corey Meister, Jeff O'Tool, Tom Bride, Barb Parker  
 County Staff Present: Dan Priestley, Dawn Norton  
 Public Present: Greg Jochum, Gwen Brunk, Roger Brunk, Russell Petersen, Tom Jochum, Brian Jochum, Leo Jochum, Blair Ulery, Jarrod Ulery, Bill Jochum, Tony Ashley, Dan Bittinger, Alan Fagan, Rebekah Moerer, Elizabeth Widman, Deb Harpenau, Kevin Alons, Jenny Barber, Rex Barber, Jesus Cendejas, Peter Widman, Sophia Widman, Emily Segura, Ann Johnston  
 Will Dougherty

Telephone:

#### Call to Order

Chair Chris Zant formally called the meeting to order at 5:04 PM. All five (5) Commissioners were present.

#### Public Comment on Matters Not on the Agenda

None

#### Approval of Previous Meeting Minutes – September 11, 2023

Meister motioned. Second: O'Tool. Motion carried: 5-0.

#### Public Hearing: Townley Addition, Minor Subdivision Proposal on Parcel #894607100007

Priestley read the preliminary report into the record. Donald J Townley, in his capacity as Trustee of the Derrill J. Townley Revocable Trust has filed for a one (1) lot minor subdivision on the property identified as Parcel #894607100007. This subdivision is being completed to separate the house location from the abutting ground. This proposal has been properly noticed in the Sioux City Journal legals section on September 14, 2023. The neighbors within 1000 FT have been duly notified via a September 11, 2023 letter about the September 25, 2023 Zoning Commission public hearing. Appropriate stakeholders including government agencies, utilities, and organizations have been notified and have been requested to comment. The Woodbury County Engineer found the proposal in compliance with Iowa Code closure requirements and found that the lot(s) have adequate access. This property is located in the Agricultural Preservation (AP) Zoning District and is located in the Special Flood Hazard Area (SFHA) – Zone A. The City of Sioux City conducted extraterritorial review with the acceptance and approval of the final plat with the approval of Resolution No. 2023-0696. The area of the subdivision is less than 5 acres and Base Flood Elevation (BFE) data is not required. Based on the information received and the requirements set forth in the Zoning and Subdivision Ordinance, the proposal meets the appropriate criteria for approval. The Woodbury County Engineer recommended an easement which was prepared. Motion to close public hearing: Bride. Second: O'Tool. Carried: 5-0. Motion to recommend approval to the Board of Supervisors as proposed: O'Tool. Second: Bride. Motion carried: 5-0.

#### Review of Conditional Use Permit Application: Proposed Telecommunication Tower 120 FT Monopole on Parcel #874316300005

Priestley read the preliminary report into the record. AGM Technology Investment Group DBA Nextlink have filed a conditional use permit application to request to install a 120-monopole communication tower to supply high speed internet to surrounding areas on the property designated as Parcel #874316300005. The proposed location is around 2.5 miles south of Anthon and about 4.2 miles northeast of Oto. This proposal has been noticed in the Sioux City Journals legal section on September 14, 2023. The neighbors within one (1) mile were duly notified via a September 13, 2023 letter about the October 2, 2023 Board of Adjustment public hearing. Appropriate stakeholders including government agencies, utilities, and organizations have been requested to comment. This property is located in the Agricultural Preservation (AP) Zoning District. Based on the information received and the requirements set forth in the Zoning Ordinance, the proposal meets the appropriate criteria for approval of the conditional use request. It is the recommendation of staff to approve the proposal. Motion to recommend the proposal to Board of Adjustment: O'Tool. Second: Parker. Motion carried 5-0.

#### Public Hearing: Solar Energy – Utility-Scale Solar Systems – Consideration of Solar Ordinances for Recommendations(s) to the Board of Supervisors

Priestley summarized the utility-scale solar energy system process including eight topics to be discussed at this meeting. The Woodbury County Zoning Commission has been directed by the Board of Supervisors on August 8, 2023 to establish/examine a new ordinance as it relates to utility-scale solar systems. The purpose of this public hearing is to receive comments from the public about a potential ordinance that could facilitate the permitting of utility solar in the Agricultural Preservation (AP) Zoning District in addition to the General Industrial Zoning District. The Zoning Commission held their first public hearing at the Moville Area Community Center on September 11, 2023. The Board of Supervisors have indicated, through their direction on August 8, that "if the county was to engage in utility-scale solar, at a minimum, the county should consider this only if the following is met":

- o A conditional use permit for AP "C" with Planning and Zoning and Board of Adjustment to be able to site-specifically take into consideration the concerns of neighbors, land/soil, and other factors when approving permit.
- o A slope of no more than 5% in order to preserve the land and to account for soil erosion, compaction, and future land stewardship.
- o A maximum height of no more than 20' for panel structures.
- o Of all AP, no more than 49% can be in such a project. In short, 51% must be for agricultural production or no longer considered "AP".
- o Utility solar can be no more than 2% of all AP "agricultural preservation," preserving 98% of AP. This equates to approximately 8,540 acres of the 427,000 acres of ag land, ag land constituting 75% of the 570,000 total acres in Woodbury County.
- o Current notification for utility-scale solar shall be 1 mile for public comment instead of 500 feet.
- o A requirement (or at least strong consideration) that the utility-scale solar project either be on a landowner's property or that the owner of the land be a resident of Woodbury County.

Priestley also informed the Commission and the public that the Board of Supervisors have an agenda item for their September 26, 2023 meeting that may update the previous direction. The potential new direction would include the following:

- o A conditional use permit for AP "C" with Planning and Zoning and the Board of Adjustment to be able to site-specifically take into consideration the concerns of neighbors, land/soil, and other factors when approving permit.
- o A slope of no more than 5% ONLY for fixed arrays (most technology is now movable arrays) in order to preserve the land and to account for soil erosion, compaction, and future land stewardship.
- o No more than 1% of industrial land conversion every 4 years for reclassification, roughly 5,700 acres.
- o Current notification for utility-scale solar shall be 1 mile for public comment instead of 500 feet.
- o A decommissioning plan from solar companies reviewed by P&Z/BOA subject to approval by the Woodbury County Board of Supervisors.

Matt Countryman (Renewable Energy Equity Partners) addressed the Commission regarding the importance of mitigation and ag restoration of land, and support of an overlay district.

Deb Harpenau (Salix) addressed the Commission supporting utility solar as a clean source of electrical generation.

Wally Wagner (Salix) addressed the Commission about progress, and change he has seen regarding his land, and types of land that would not be good for solar.

Jerrod Ulery (Ulery Energy) addressed the Commission supporting solar energy.

Kevin Alons (Salix) addressed the Commission regarding the use of solar on agricultural land as not an ag use, heavily subsidized, and questioned revenue for county.

Rebecca Moerer (Sioux City) addressed the Commission about not supporting solar in agriculture areas as it disturbs wildlife, and questions whether revenue would go.

Jesus Cendejas (Salix) addressed the Commission expressing concern for landowner stewardship, land depreciation, and impact of solar on neighbors.

Elizabeth Widman (Sergeant Bluff) addressed the Commission offering environmental concerns, impact on neighbors, glare, and noise issues.

Leo Jochum (Salix) addressed the Commission in favor of utility solar indicating that solar can co-exist with reasonable setbacks.

Ann Johnston (Salix) addressed the Commission opposing utility solar and questioning its recyclability

Will Dougherty (MidAmerican Energy) addressed the Commission indicating that there is not a one size fits all approach, plans could be put in place for decommissioning, buffers, and screening.

Leo Jochum submitted information sheet to Commissioners. Motion to accept: O'Tool. Second: Parker. Carried: 5-0. See received content beginning on Page 4 of the minutes.

Priestley presented photo of the utility solar system abutting Port Neal Road. He also should example photos of agrisolar or agrivoltaics.

Priestley provided a range of topics as an overview for a potential ordinance including: appropriate locations; ordinance type(s); process type(s); information collection; permitting requirements; and definitions. Priestley also discussed the concept of an "overlay district" which could be used in conjunction with the existing underlying zoning district. In particular, an overlay district is not intended to be a free-standing zoning district. It is applied to the

project area or footprint via the Zoning Ordinance Map Amendment (rezone) process. Specific standards or requirements can be directly tied to the overlay district. Thus, it is possible to create a series of requirements in which a proposed location would have to be met in order to be considered for the rezone to the overlay district. Therefore, as a hypothetical, the Zoning Commission and Board of Supervisors could consider a Zoning Ordinance Map Amendment (rezone) application to the Utility-Scale Solar Energy Systems Overlay District following the procedures set out in the Ordinance. This overlay could be applied over Agricultural Preservation (AP) zoned land while retaining its base uses. Once, the overlay district has been applied, conditional use permit application could be considered for the footprint of that area by going through a review by the Zoning Commission and consideration of the permit by the Board of Adjustment.

Priestley suggested that the Commission schedule a work study public meeting where the public and commissioners can discuss issues and form a preliminary ordinance or amendments to present to the Board of Supervisors as a recommendation.

Daniel Segura (Sioux City) addressed the Commission questioning the effectiveness of the overlay district as an added step.

Priestley indicated that specific requirements or conditions can be added to the rezone consideration process.

Bride motioned to close public hearing. Second: Parker. Carried: 5-0.

Zellmer Zant stated different applications are considered through different processes. Priestley explained that the overlay district would use the rezone process which requires a public hearing before the Zoning Commission and up to three public hearings before the Board of Supervisors. The Zoning Commission would offer a recommendation to the Board of Supervisors who ultimately would decide the appropriateness of the location. The Conditional Use Permit process would require review by the Zoning Commission and approval by the Board of Adjustment. The Board of Supervisors would be involved with special agreements such as road use and decommissioning. In terms of preparing an ordinance, both the rezone and conditional use processes will need to be defined including the approval/disapproval requirements for both.

**Public Comment on Matters not on the Agenda**  
None

**Staff Update**

There will be a Board of Adjustment meeting on October 2, 2023 in the basement meeting room of the courthouse. The topic of solar will be shared with the Board only as an information item. The Board of Adjustment does not have a role as to the creation of new ordinances. The Zoning Commission formulates recommendations that are considered by the Board of Supervisors.

**Adjourn**

Motion by O'Tool to adjourn; Second by Meister. Carried: 5-0. Adjourned: 7:50 p.m.

**RECEIVED FROM LEO JOCHUM (SALIX) – 6 PAGES**

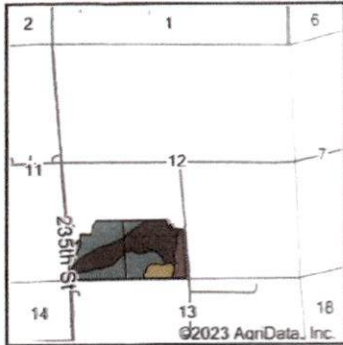
The first sheet is three farms located north of CF industries in the GI zone. Notice the CSR1 is 58 to 60, CSR 2 is around 10 to 12 points higher. This will be consistent throughout the higher quality soil in this area.

The left side of the next sheet shows where the Mid-America solar project is located with a CSR 1&2 of 61.9 and 71.1 respectively

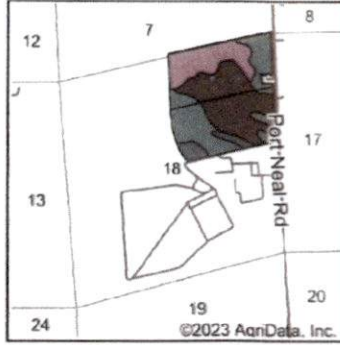
The right side of the page shows over 600 acres between hiway 75 and Interstate 29 with very high CSR1 and CSR2. The farms on these two sheets are within a large area which spans about six miles from east to west and are very consistent in quality. The land being discussed for solar is East of this area which has heavier soils and lower elevation.

The last three sheets represent farms located North and East of Salix that have CSR 1 ratings in the mid 40s with the exception of one. However the CSR2 increases by 30 plus points. The CSR1 rating is more relevant for land quality in that area because CSR2 has removed the rainfall factor. For this reason I don't think CSR should be considered for conditional use.

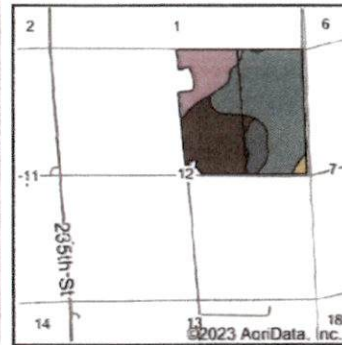
0 1



State: **Iowa**  
 County: **Woodbury**  
 Location: **12-87N-48W**  
 Township: **Liberty**  
 Acres: **72.02**  
 Date: **9/18/2023**



State: **Iowa**  
 County: **Woodbury**  
 Location: **18-87N-47W**  
 Township: **Liberty**  
 Acres: **150.28**  
 Date: **9/18/2023**



State: **Iowa**  
 County: **Woodbury**  
 Location: **12-87N-48W**  
 Township: **Liberty**  
 Acres: **150.89**  
 Date: **9/18/2023**



| Irr Class | Irr Class *c | CSR2** | CSR | *n NCCPI Soybeans | Irr Class | Irr Class *c | CSR2** | CSR  | *n NCCPI Soybeans | Non-Irr Class | Irr Class *c | CSR2** | CSR  | *n NCCPI Soybeans |
|-----------|--------------|--------|-----|-------------------|-----------|--------------|--------|------|-------------------|---------------|--------------|--------|------|-------------------|
| lw        | lw           | 77     | 63  |                   | lw        | lw           | 77     | 63   |                   | ls            | ls           | 72     | 65   | 80                |
| llw       | llw          | 72     | 57  |                   | ls        | ls           | 72     | 65   |                   | lw            | lw           | 77     | 63   | 58                |
| ls        | ls           | 72     | 65  |                   | lls       |              | 49     | 33   |                   | lls           |              | 49     | 33   | 37                |
| llw       | llw          | 45     | 51  |                   | lw        |              | 89     | 74   |                   | lw            | lw           | 91     | 70   | 74                |
| lllw      |              | 58     | 51  |                   | 1.42      | *.           | 70.2   | 58.1 |                   | llw           |              | 5      | 37   | 2                 |
| lls       |              | 46     | 44  |                   |           |              |        |      |                   | 1.36          | *.           | 70.1   | 59.2 | *n 65.7           |
| 1.44      | *.           | 70.7   | 60  |                   |           |              |        |      |                   |               |              |        |      |                   |

Nid America Selgr Farm



State: **Iowa**  
 County: **Woodbury**  
 Location: **18-87N-47W**  
 Township: **Liberty**  
 Acres: **123.17**  
 Date: **9/18/2023**



Maps Provided By:



| nd         | Non-Irr Class<br>*c | Irr Class<br>*c | CSR2**      | CSR         | *n NCCPI Soybeans |
|------------|---------------------|-----------------|-------------|-------------|-------------------|
|            |                     | ls              | 72          | 65          | 80                |
|            |                     | lw              | 77          | 63          | 58                |
|            |                     | llw             | 58          | 51          | 49                |
| <b>age</b> | <b>1.35</b>         | <b>*-</b>       | <b>71.1</b> | <b>61.9</b> | <b>*n 67.7</b>    |



State: **Iowa**  
 County: **Woodbury**  
 Location: **21-87N-47W**  
 Township: **Liberty**  
 Acres: **646.76**  
 Date: **9/18/2023**



Maps Provided By:



| Non-Irr Class<br>*c | Irr Class<br>*c | CSR2**      | CSR         | *n NCCPI Soybeans |
|---------------------|-----------------|-------------|-------------|-------------------|
| lw                  | lw              | 77          | 63          | 58                |
| ls                  | ls              | 72          | 65          | 80                |
| lw                  | lw              | 94          | 79          | 83                |
| llw                 |                 | 86          | 65          | 60                |
| llw                 |                 | 58          | 51          | 49                |
| llw                 |                 | 81          | 47          | 52                |
| lw                  |                 | 89          | 84          | 75                |
| llw                 | llw             | 72          | 57          | 50                |
| llw                 | llw             | 74          | 65          | 61                |
| lw                  | lw              | 91          | 70          | 74                |
|                     |                 | 5           | 5           |                   |
| lw                  |                 | 89          | 74          | 71                |
| <b>*-</b>           | <b>*-</b>       | <b>77.8</b> | <b>64.5</b> | <b>*n 66</b>      |



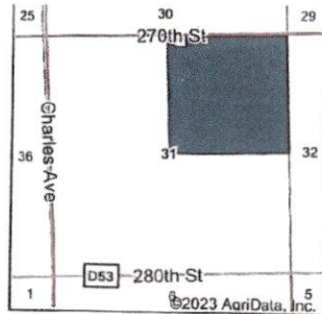
State: Iowa  
 County: Woodbury  
 Location: 36-87N-47W  
 Township: Liberty  
 Acres: 75.03  
 Date: 5/22/2023



Maps Provided By:



|        | Non-Irr Class<br>*c | Irr Class<br>*c | CSR2** | CSR  | *n NCCPI<br>Soybeans |
|--------|---------------------|-----------------|--------|------|----------------------|
|        | llw                 |                 | 86     | 65   | 60                   |
|        | lllw                |                 | 81     | 47   | 52                   |
|        | lllw                | lllw            | 67     | 42   | 51                   |
|        | lw                  | lw              | 77     | 63   | 58                   |
|        | lw                  | lw              | 94     | 79   | 83                   |
| verage | 2.27                | *-              | 82.5   | 67.9 | *n 58                |



State: Iowa  
 County: Woodbury  
 Location: 31-87N-46W  
 Township: Grange  
 Acres: 153.97  
 Date: 4/27/2023



Maps Provided By:



|        | Non-Irr Class<br>*c | Irr Class<br>*c | CSR2** | CSR | *n NCCPI<br>Soybeans |
|--------|---------------------|-----------------|--------|-----|----------------------|
|        | llw                 |                 | 81     | 47  | 52                   |
|        | lllw                | lllw            | 67     | 42  | 51                   |
| verage | 3.00                | *-              | 81     | 47  | *n 52                |

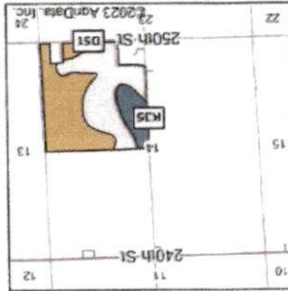
Similar to the original CSR, the CSR2 assumes a SMU is adequately managed, artificially drained where required, and there is no land leveling or terracing. A major difference between the CSR and the CSR2 is the CSR included a rainfall correction factor where the CSR2 does not.

One of the key differences between CSR and CSR2 will be the climate factor. CSR2 will not have a climate factor in its calculations. In the original CSR values, soil scientists made an adjustment based on the geographic region of a soil map unit (SMU). For example, SMUs in Northwest Iowa were adjusted downward more than SMUs in Southeast Iowa. Without a climate adjustment, CSR2 values will have an upward bias in counties located in Northwest Iowa.

| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
|------------|---------------|-----------|--------|-------------|------------|
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |



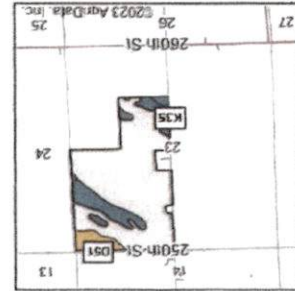
State: Iowa  
 County: Woodbury  
 Location: 14-87N-47W  
 Township: Liberty  
 Acres: 140.07  
 Date: 4/26/2023



| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
|------------|---------------|-----------|--------|-------------|------------|
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |
| SR2 Legend | Non-Irr Class | Irr Class | CSR2** | CSR % NCCPI | % Soybeans |



State: Iowa  
 County: Woodbury  
 Location: 23-87N-47W  
 Township: Liberty  
 Acres: 187.71  
 Date: 4/26/2023



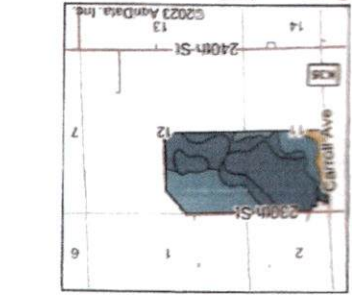


| Non-Irr Class | Irr Class | CSR2 | CSR | % NCCPI | % Soybeans |
|---------------|-----------|------|-----|---------|------------|
| 195           | 83.2      | 64.2 | 71  | 49      | 52         |
| Irr           | Irr       | Irr  | Irr | Irr     | Irr        |
| 7.1           | 7.1       | 7.1  | 7.1 | 7.1     | 7.1        |
| 55            | 63        | 63   | 63  | 63      | 63         |
| 83            | 79        | 79   | 79  | 79      | 79         |
| 52            | 51        | 51   | 51  | 51      | 51         |

Map Provided By  
 AgData, Inc. 2023  
 www.AgData.com



State: Iowa  
 County: Woodbury  
 Location: 12-87N-47W  
 Township: Liberty  
 Acres: 306.46  
 Date: 4/26/2023

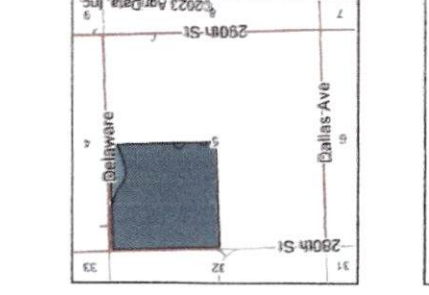


| ID               | CSR2 Legend | Non-Irr Class % | CSR2 | CSR  | % NCCPI | % Soybeans |
|------------------|-------------|-----------------|------|------|---------|------------|
| 2%               | Irr         | 81              | 47   | 52   | 52      | 52         |
| 2%               | Irr         | 74              | 51   | 52   | 52      | 52         |
| 5%               | Irr         | 89              | 74   | 71   | 71      | 71         |
| Weighted Average |             |                 |      |      |         |            |
|                  |             | 2.95            | 80.7 | 47.4 |         | % 52.1     |

Map Provided By  
 AgData, Inc. 2023  
 www.AgData.com



State: Iowa  
 County: Woodbury  
 Location: 5-86N-46W  
 Township: Sloan  
 Acres: 153.5  
 Date: 4/26/2023



## Minutes - Woodbury County Zoning Commission Special Work Session – October 16, 2023

The Zoning Commission (ZC) meeting convened on Monday, the 16th of September, at 5:00 PM in the Board of Supervisors' meeting room in the Basement of the Woodbury County Courthouse, 620 Douglas Street, Sioux City, IA. The meeting was also made available via teleconference.

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### Meeting Audio:

For specific content of this meeting, refer to the recorded audio on the Woodbury County Zoning Commission "Committee Page" on the Woodbury County website:

- County Website Link:
    - o [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/)
  - YouTube Direct Link:
    - o <https://www.youtube.com/watch?v=IJAj6Xh3cSU>
- 

### ZC Members Present:

Chris Zellmer Zant, Corey Meister, Jeff O'Tool, Tom Bride, Barb Parker  
Dan Priestley, Dawn Norton

### County Staff Present:

Elizabeth Widman, Bill Jochum, Ann Johnston, Leo Jochum, Bev Jochum,  
Deb Harpenau, Jenny Barber, Emily Segura, Rebekah Moerer, Doyle  
Turner, Tom Jochum, Paula Wright, Jesus Cendejas Family, Daniel  
Segura, Will Dougherty

### Public Present:

### Call to Order

Chair Chris Zellmer Zant formally called the meeting to order at 5:03 PM. All Commissioners were present.

### Public Comment on Matters Not on the Agenda

None

### Work Session for Proposed Utility-Scale Solar Energy Systems Zoning Ordinance Amendment(s).

Prior to this meeting, the Zoning Commission has held two public hearings to collect comments from the public (Merville – 9/11/23 & Courthouse – 9/25/23). Subsequently, a follow up public hearing will be held on Monday, October 23 at the regular meeting of the Commission that begins at 5:00 PM.

Priestley offered an overview of the evening's proceedings including five considerations for a potential utility-scale solar energy systems ordinance that could be considered by the Zoning Commission in preparation for a recommendation to the Board of Supervisors.

#### Consideration 1

Consider updating the General Development Plan and/or Future Land Use Map to facilitate the potential expansion of the General Industrial (GI) and Limited Industrial (LI) Zoning Districts and consider adding additional requirements to the conditional use permitting process to make expectations clear for the applicants, area landowners, and the general public.

#### Consideration 2

Consider retaining the current permitting procedures in the Woodbury County Zoning Ordinance but add additional requirements to the conditional use permitting process to make expectations clear for the applicants, area landowners, and the general public. Consider retaining the General Industrial (GI) Zoning District as the only allowed location for the consideration of a conditional use.

#### Consideration 3

Consider establishing a utility-scale solar energy systems overlay zoning district that requires a rezone application to be reviewed by the Zoning Commission and considered for approval by the Board of Supervisors that must meet specific criteria for the appropriateness of whether a particular area in the Agricultural Preservation (AP) Zoning District is suitable for utility-scale solar energy systems. Consider adding additional requirements to the conditional use permitting process to make expectations clear for the applicants, area landowners, and the general public.

#### Consideration 4

Consider establishing an agrisolar utility-scale solar energy systems overlay zoning district for the specific purpose to coincide with an existing farming operation where each parcel of land shall include over 51% of its usage for farming purposes.

#### Consideration 5

Consider retaining the current policy for utility-scale solar energy systems (No changes).

The Commission discussed the current process for the permitting of utility-scale solar on agricultural land including the issue of spot zoning and its relationship with the comprehensive plan's future land use map. Priestley referenced the future land use map as a tool for justifying future industrial areas that could facilitate the permitting of utility-solar. He indicated that industrial

areas could be expanded on the map for future consideration of solar. However, it would take going through the comprehensive map approval process of amending the map to reflect additional industrial areas that could later justify additional areas.

Priestley discussed the concept of overlay districts as used by both Scott County and Linn County. Scott County relies on a CSR2 average of 60 or higher to authorize the rezone while Linn County uses a score card or rubric which identifies a number of issues not limited to CSR2, grading, vegetation, and good neighbor payments in order to obtain a permissible score. Priestley indicated that the rezone to an overlay is similar to a conditional use, however, it adds the Board of Supervisors to the process of determining whether or not an area of the county is appropriate for solar. Therefore, the Zoning Commission and Board of Supervisors would be involved in the overlay district rezone process. Additionally, the Zoning Commission and Board of Adjustment would be involved with the conditional use permit process. The Board of Supervisors would be involved with authorizing each individual agreement such as decommissioning, road use, agricultural mitigation, etc.

Zellmer Zant indicated that she likes the involvement of the Zoning Commission, Board of Adjustment, and Board of Supervisors as it gives the public more opportunities to participate in the process. She also questioned whether the overlay district is permanent or temporary. Priestley indicated that depends on how the overlay district is designed. The goal of the district is to allow a new use but retain the base use. The policy for a decommissioning plan will be a determining factor as to whether the specific use of the overlay can continue or conclude.

Bride inquired as to whether there would be any issues if separate overlay districts associated with other projects were treated differently than others. Priestley indicated that there must be clear consistent expectations in the requirements for establishing the district, however there can be some room for conditions if information is identified that should be addressed. Priestley stated there must be a balance, but various options must be exhausted as applicants/developers must know what they are getting into from the start. Priestley discussed other considerations such as separation distances, setbacks, setback waivers, and the floodplain.

Priestley discussed a potential application process and expectations of staff, associated county departments, the commission, and boards. He discussed the concept of the solar-ordinance conditional use as being portable for either the industrial or overlay district. If the overlay district is not used, then an added feature conditional use permit process can be used for the general industrial areas. If the overlay district is used, there would need to be a set of parameters for determining how the overlay gets approved.

Bride shared a concern that if the Commission recommends no changes that the Supervisors might consider going with a stand-alone ordinance which does not involve zoning. Priestley indicated that a stand-alone ordinance does not include the zoning districts. Priestley stated that the Zoning Commission has the right to offer any reasonable recommendation to the Board of Supervisors. He indicated that everyone is mindful of the harvest season, and we will continue to offer multiple opportunities for input.

O'Tool inquired about the downside of using the overlay district. Priestley explained the debate of exclusively relying on CSR which could offer limitations for landowners. Meister mentioned in a previous public hearing questions about the reliability of CSR. He indicated that he likes Linn County's rubric as including CSR and other items. He also inquired who would be monitoring or policing the rubric for items such as grass species. Priestley responded that additional regulations create the need for more bureaucracy or more resources.

Mesiter inquired about how the Board of Supervisors arrived at 2% use of agricultural land. Is that enough or too much? He would like to see more information on how this equals to an existing power plant. Bride indicated that 2% is around 8,400 acres and stated that the Supervisors may be looking for a cap. Will Dougherty of MidAmerican discussed the acres on some existing projects in other counties. Meister offered concerns about the 2%. O'Tool inquired with Will Dougherty about the comparison of solar and wind in terms of megawatt capacity.

Bride inquired about the setbacks and if any of the allowed uses expand outside of the property lines. Priestley indicated the existing zoning ordinance does not include separation distances beyond the lot lines. Setbacks are determined by the zoning district dimensional standards in the zoning ordinance. Bride offered concerns about the impact of setbacks on other property owners. Priestley indicated that setback waivers could be used, and he cautioned about the law of unintended consequences.

O'Tool referenced the 5% slope proposed requirement. Bride inquired as to where the Supervisors arrived at that number. Priestley said it has been offered as part of the consideration for the Commission to research as a possibility. Zellmer Zant referenced the importance of comparing practices with other counties and not necessarily reinventing the wheel. Zellmer Zant also referenced the needs of the cities including community solar. Bride used Moville as an example using an overlay to facilitate solar. He also referenced the use of the percentage as an issue. Priestley indicated that the 51/49% solar ratio is meant to ensure agriculture remains a primary function on ag land.

Mesiter inquired about the proposed one mile notification area. Priestley responded that the purpose is to increase public awareness.

Zellmer Zant inquired with Will Dougherty as to whether these contracts are 10 years and questioned the rapid change of technology. Dougherty discussed maximizing efficiencies as a driving factor of change. He referenced ISU's study pertaining to the coexistence of agriculture and solar with aspects such as grazing. Bride inquired about damage to panels as a result of grazing. Dougherty referenced sheep as an option over others.

Bride inquired about how the land can be put back the way it was through decommissioning and referenced concrete left in the ground as result of wind turbines. Dougherty indicated that solar concrete footings are not being used. Zellmer Zant asked about the Port Neal solar field's footings. O'Tool asked Dougherty about buried power lines and if they can be buried in the floodplain. Priestley indicated that electrical assets must be elevated above the BFE. Bride and Zant indicated there are locations where lines are likely buried in the floodplain.

Zellmer Zant asked Dougherty about how much power gets lost from arrays through distribution. Bride asked Dougherty about the driving factor for locating solar parks.

Zellmer Zant inquired with the Commission about what they like/don't like in the packet considerations.

Parker referenced the Supervisors' discussion point of Light Industrial. Priestley indicated that the limited industrial use can be associated with Consideration #1 which would entail revising the development plan.

O'Tool referenced having a list of bullet points to follow to determine where an area is appropriate or not.

Zellmer-Zant stated that she prefers to not go with the map change as referenced in Consideration #1 because there are other systems in place. She indicated that she likes the conditional use and overlay district format as it includes multiple entities. Bride questioned the ability to accurately be able to paint/assign the industrial areas through mapping.

O'Tool indicated that the overlay could be used in AP areas. Bride discussed the flexibility of the overlay district and the permitting routes. Priestley discussed the creation of the overlay district on a project by project basis. He indicated that an acre cap could be instituted in the ordinance. Zellmer Zant stated that one of the counties she researched had a cap of 400 acres.

Zellmer Zant indicated that the Commission appears to be leaning toward Consideration #3. Priestley indicated that Consideration #4 is not field tested and was only brought into the discussion to discuss the relationship or co-existence of solar and agriculture. Agrisolar could be a part of Consideration #3. Priestley also discussed how battery systems should also be brought into the debate with the growing technology. He made reference to its inclusion in Linn County's ordinance. Will Dougherty discussed batteries in Iowa.

Zellmer Zant inquired if Consideration 5 is off the table. Bride indicated that not doing anything is not what the Supervisors are looking for. Priestley indicated the Commission has the latitude to make a recommendation as you see fit as long as it has an explanation and rationale behind it.

Zellmer Zant referenced the overlap between Considerations 2 and 3. Priestley discussed the overlay district and the overlay rezoning process.

Parker inquired if the county currently has an overlay district. Priestley stated that there is a conservation overlay district that could be petitioned for.

Zellmer Zant questioned the reference to the 10,000 acre limitation, dimensional standards, etc. between Consideration #3 and #4. She referenced the relationship between the 51% agricultural use and the CSR2 rating.

O'Tool questioned whether the CSR2 should be prohibited or not. Meister questioned the inconsistency and reliability of the CSR2.

Doyle Turner offered comments about the accuracy of CSR2. Leo Jochum referenced the difference in rainfall between CSR1 & CSR2.

Zellmer Zant indicated that CSR's may be over 65 in industrial areas. Priestley suggested the comprehensive plan and map allows for industrial areas to include areas of high CSR if the county plans for those areas to be industrial. Meiser is concerned with CSR being the sole factor. Priestley indicated that CSR has traditionally been a part of this county's determination of land use.

O'Tool indicated that it would be appropriate to spell out that a lower CSR would be preferable. Bride indicated that CSR is presently considered in the rezone decision process.

Zellmer Zant inquired about 5% slope for fixed arrays and whether there should be a range. Bride offered concerns about the fixed percentage and discussed erosion. Doyle Turner commented about farming practices across the state and discussed soil erosion including highly erodible land (HEL).

Zellmer Zant inquired about the policy toward the special flood hazard area (floodplain). O'Tool suggested that the standard floodplain regulations could be followed.

Zellmer Zant referenced the conditional use language as being included along with the overlay. Priestley replied that it would need to be discussed and debated.

Zellmer Zant inquired about the definitions and the remaining concerns in the conditional use and overlay section. Priestley suggested that the concepts must continue to be vetted through the County Attorney's office. It will be shared with both parties. Priestley recommended that future work sessions be held following next week's public hearing.

Leo Jochum offered concerns about the comparison between Scott County and Woodbury County and the use of CSR2. Jochum made reference to other counties such as Louisa County, Mills County, Johnson County, and Linn County. He referenced the scorecard as used by Linn County and the role of using seed mixes.

Doyle Turner suggested that elected people should have a say on the locations of the solar parks. Turner offered concerns that parameters set could limit the amount of land available for these projects. He recommends giving the Supervisors more than one recommendation which could include the industrial areas. As part of the conditional use, he offered questions about the hurdle of being necessary and desirable.

**Public Comment on Matters Not on the Agenda**

None

**Staff Update**

Priestley announced the statewide County Zoning Officials conference in 2024 will be hosted by Woodbury County May 22 – 24 at the Hilton Garden Inn in Sioux City. May 23, Woodbury County has the opportunity to showcase our area, suggestions are welcome, commissioners are encouraged to attend.

**Adjourn**

Meeting adjourned at 7:30 p.m.

### Minutes - Woodbury County Zoning Commission Meeting – October 23, 2023

The Zoning Commission (ZC) meeting convened on Monday, 23rd of September, at 5:00 PM in the Board of Supervisors' meeting room in the Basement of the Woodbury County Courthouse, 620 Douglas Street, Sioux City, IA. The meeting was also made available via teleconference.

|                       |   |
|-----------------------|---|
| ZC Members Present:   | Chris Zellmer Zant, Corey Meister, Jeff O'Tool, Barb Parker   |
| County Staff Present: | Dan Priestley, Dawn Norton  |
| Public Present:       | Leo Jochum, Bev Jochum, Dan Bittinger, Ann Johnston, Daniel Segura, Elizabeth Widman, Emily Segura, Bob Fritzmeier, Roger & Gwen Burnett, Elizabeth Cindy Haase, Russell Petersen, Hope Lynam |
| Telephone:            | Chad Swanger  |

For specific content of this meeting, refer to the recorded video on the Woodbury County Zoning Commission YouTube channel: <https://www.youtube.com/watch?v=qNpK3atf1k0>

#### Call to Order

Chair Chris Zant formally called the meeting to order at 5:08 PM. Tom Bride was absent.

#### Public Comment on Matters Not on the Agenda

None

#### Approval of Previous Meeting Minutes – September 25, 2023 and October 16, 2023

O'Tool motioned. Second: Meister. Motion carried: 4-0.

#### Public Hearing: Back Acre Estates, Second Filing, Minor Subdivision Proposal on Parcel #884702200009

Priestley read the preliminary report and staff recommendation into the record. Chad Swanger, Trustee Terry V. Swanger Trust has filed for a one (1) lot minor subdivision on the property identified as Parcel #884702200009. This subdivision is being completed to separate the house location from the abutting ground. This proposal has been properly noticed in the Sioux City Journal legal section on October 10, 2023. The neighbors within 1000 FT have been duly notified via an October 6, 2023 letter about the October 23, 2023 Zoning Commission public hearing. Appropriate stakeholders including government agencies, utilities, and organizations have been notified and have been requested to comment. The Woodbury County Engineer found the proposal in compliance with Iowa Code closure requirements and found that the lot(s) have adequate access. This property is located in the Agricultural Preservation (AP) Zoning District and is NOT located in the Special Flood Hazard Area (SFHA). The City of Sioux City have accepted and approved the file plat with the approval of Sioux City council resolution No. 2023-0962. Staff recommends that a pavement agreement be signed with Woodbury County as a condition of approval of this final plat. Based on the information received and requirements set forth in the Zoning and Subdivision Ordinance, the proposal meets the appropriate criteria for approval. Owner has signed a pavement agreement which will be recorded with the final plat. O'Tool motioned to close public hearing. Second: Meister. Motion carried: 4-0. Motion to recommend acceptance and approval to Board of Supervisors by Meister. Second: Parker. Carried: 4-0. Item will be presented to the Board of Supervisors on October 31, 2023.

#### Public Hearing: Grays First Addition, Minor Subdivision Proposal on Parcel #884209200009

Priestley read the preliminary report and staff recommendation into the record. Marlis A. Gray, has filed for a one (1) lot minor subdivision on the property identified as Parcel #884209200009. This subdivision is being completed to separate the house location from the abutting ground. This proposal has been properly noticed in the Sioux City Journal legal section on October 10, 2023. The neighbors within 1000 FT have been duly notified via an October 6, 2023 letter about the October 23, 2023 Zoning Commission public hearing. Appropriate stakeholders including government agencies, utilities, and organizations have been notified and have been requested to comment. The Woodbury County Engineer found the proposal in compliance with Iowa Code closure requirements and found that the lot(s) have adequate access. However, there is a rounding error on the plat that must be corrected prior to recording. Priestley confirmed that the rounding error has been corrected and shared with the County Engineer who concurred. This property is located in the Agricultural Preservation (AP) Zoning District and is NOT located in the special Flood Hazard Area (SFHA). Exterritorial review is not required by a city as the property is further than two (2) miles from the closest incorporated jurisdiction. Based on the information received and the requirements set forth in the Zoning and Subdivision Ordinance, the proposal meets the appropriate criteria for approval. Motion to close public hearing: Meister. Second: O'Tool. Carried: 4-0. Parker inquired about a pavement agreement. Priestley indicated that pavement agreements are required when referenced/requested by the County Engineer. Zant asked about the well and septic location and Priestley indicated that the well and septic were on the lot. Motion to recommend acceptance and approval to the Board of Supervisors by Meister. Second: Parker. Carried: 4-0.

#### Public Hearing: Solar Energy – Utility-Scale Solar Systems – Consideration of Solar Ordinances for Recommendations(s) to the Board of Supervisors

Priestley summarized the purpose of the public hearing. The Woodbury County Zoning Commission has been directed by the Board of Supervisors on August 8, 2023 to establish/examine a new ordinance as it relates to utility-scale solar systems. The purpose of the public hearing is to receive comments and put together a proposal as a possible ordinance or amendments for

solar energy systems not limited to utility-scale systems, agrisolar or agrivoltaics, and community solar systems, together with the Commission addressing the permitting process for such systems in industrial and/or agricultural areas. The Zoning Commission held their first public hearing at the Merville Area Community Center on September 11, 2023. The second was held in the basement of the Woodbury County Courthouse on September 25, 2023. Both public hearings included constituents who offered comments both in support and opposition to the expansion of utility-scale solar in the Agricultural Preservation (AP) Zoning District. Audio of meetings may be accessed for review by visiting the Woodbury County Zoning Commission "Committee" page on the Woodbury County website at: [www.woodburycountyiowa.gov](http://www.woodburycountyiowa.gov). The Zoning Commission conducted a work session on October 16, 2023 to discuss the considerations for an ordinance. The audio for this meeting may be obtained by using the following link: <https://www.youtube.com/watch?v=1JAJ6Xh3cSU> or <https://tinyurl.com/Zoning101623>

Emily Segura (Sioux City) addressed the ZC about the impact of utility-scale solar on area farmland. She discussed the importance of taking care of the land and questioned the disposal and the economics of sending the panels to the dump. Segura recommended for the ZC to read the article "The Dark Side of Solar Power" by Atalay Atasu, Serasu Duran, and Luk N. Van Wassenhove from the Harvard Business Review which discusses a number of topics including the high cost of solar trash and disposal. She offered concerns about the emittance of toxic waste from the decommissioned panels.

Ann Johnston (Salix) addressed the ZC with concerns about slave labor groups in foreign countries such as the Uyghurs in China who are part of the supply chains that make up 95% of the solar panels worldwide. She referenced that much emphasis has been placed on Scott and Linn Counties but not enough on the western counties in Iowa. Johnston indicated that Sioux County is under a moratorium from solar renewables.

Elizabeth Widman (Sergeant Bluff) addressed the ZC indicating that two of the Board of Supervisors voted against putting solar on ag protected land. She asserted this is not a mandate from the board to ensure solar encroaches on ag land. Putting solar on ag land fundamentally changes the ag protected areas and should only be put in industrial zones. MidAmerican's largest Iowa project is 800 acres but they stated they do not have immediate plans to locate solar in Woodbury County. Widman indicated that the farming between solar panels is experimental and not done in America. MidAmerica stated that cattle grazing underneath solar panels would not work because they would rub against the panels and knock them down. Grass planted underneath would not help wildlife because fences need to be around these areas to protect the public. Widman questioned Daniel Priestley's comment at the previous work session that if applicants were to apply to the county to establish utility-solar they would have to be forthright in the application. However, at the public meetings it has not been mentioned that the pro-solar speakers have already signed contracts with an outside company, and we should be told who the company is. If you add up the acres in the plat book owned by these individuals in my area, it comes out to 2,600 acres or 4 square miles in comparison to the City of Sergeant Bluff which is only 2.11 square miles. All the remaining cities in Woodbury are less than one square mile. Four square miles is about the size of 1,936 football fields. Widman indicated that contracts are for 30 years. If these are the same, she will be 97 years old before the possibility of decommissioning them back to solar and her family will grow up to not see agriculture land. Widman asserted that utility-solar is not agriculture. Widman referenced a 3,000 acre solar project near Rock Branch that will be near her ground. She stated that agricultural preservation is meant to preserve agriculture. Widman asserted these utility-scale solar facilities belong on industrial land.

Elizabeth Cindy Haase (Salix) addressed the ZC offering concerns about the radiation caused by solar panels. She indicated that the electronic magnetic sensitivity causing, headaches, dizziness, nausea, cancer risk has been reported by people who reside close to solar systems.

Motion to close public hearing: Parker. Second: O'Tool. Carried: 4-0.

Zant commented there have been great comments from both sides, wants verification on some facts, Commission will work on collecting and reviewing more information. O'Tool appreciates feedback, good to hear all sides.

#### **No Public Comment on Matters Not on the Agenda**

#### **Commissioner Comment of Inquiry**

Due to harvest, O'Tool suggested waiting until regular November 27<sup>th</sup> meeting instead of scheduling a work session, all present commissioners agreed.

#### **Staff Update**

Priestley noted subdivisions recommended tonight will be presented to the Board of Supervisors on Oct 31, 2023. Woodbury County Community and Economic Development will be hosting the COZO conference in May of 2024.

#### **Adjourn**

Motion to adjourn: Meister. Second: O'Tool. Carried: 4-0.

## Minutes - Woodbury County Zoning Commission Meeting – November 27, 2023

The Zoning Commission (ZC) meeting convened on Monday, November 27, 2023, at 5:00 PM in the Board of Supervisors' meeting room in the Basement of the Woodbury County Courthouse, 620 Douglas Street, Sioux City, IA. The meeting was also made available via teleconference.

### Meeting Audio:

For specific content of this meeting, refer to the recorded video on the Woodbury County Zoning Commission "Committee Page" on the Woodbury County website:

- County Website Link:
  - o [https://www.woodburycountyia.gov/committees/zoning\\_commission/](https://www.woodburycountyia.gov/committees/zoning_commission/)
- YouTube Direct Link:
  - o [https://www.youtube.com/watch?v=Me\\_SPKOFaHM](https://www.youtube.com/watch?v=Me_SPKOFaHM)

### ZC Members Present:

### County Staff Present:

### Public Present:

Chris Zellmer Zant, Corey Meister, Jeff O'Tool, Barb Parker  
 Dan Priestley, Dawn Norton  
 Roger Brink, Gwen Brink, Russ Petersen, Bob Fritzmeier,  
 Christopher Widman, Leo Jochum, Bev Jochum, Naomi Widman,  
 William Widman, Ezra Widman, Eliyanah Widman, Aliza Widman,  
 Steve Corey, Denise Knaack, Robert Knaack, Bill Jochum, Tony  
 Ashley, Doyle Turner, Greg Jochum, Tom Jochum, Mike Wright,  
 Jeanette Williams, Mark Wetmore, Bethany Widman, Kalyn  
 Heetland, Josh Heetland, Deb Harpenau, Kevin Alons, Rebekah  
 Moerer, Ann Johnston, Emily Segura, Daniel Segura, Elizabeth  
 Widman, Jenny Barber, Genise Hallowell  
 Tom Treharne, Robert Wilson

### Telephone:

### Call to Order

Chair Chris Zellmer Zant formally called the meeting to order at 5:02 p.m. Tom Bride was absent.

### Public Comment on Matters Not on the Agenda

None

### Approval of Previous Meeting Minutes – October 23, 2023

Motion to approve the minutes: Parker. Second: Meister. Motion carried: 4-0.

### Public Hearing: Solar Energy – Utility-Scale Solar Systems – Consideration of Solar Ordinances for Recommendations(s) to the Board of Supervisors

Priestley offered background about the utility-scale solar energy system proposals. Staff and the Commission have been mindful these past several weeks about the harvest season and have used the available meeting opportunities to collect resources and input from the public. During this timeframe, three potential concepts for consideration have been established including: 1) Consideration of a new utility-scale solar energy conditional use process for the General Industrial (GI) Zoning District only; 2) Establishment of an overlay district to facilitate utility-scale solar within the Agricultural Preservation (AP) Zoning District; 3) Adoption of the first concept and then transfer the utility-scale solar debate on agricultural land to the "Comprehensive Plan" adoption process that will likely occur in early 2024.

Priestley stated that he received materials Alex Delworth from the Center for Rural Affairs and asked that they be received into the record. Motion to receive O'Tool. Second by Parker, Approved 4-0. Copy available for review in the appendix.

**Bob Fritzmeier (Sioux City)** addressed the Commission offering support for a utility-solar overlay district and the evaluation scorecard by referencing positive benefits to the environment. Fritzmeier indicated that 75% of flowering plants are dependent on pollinators, native grasses and plants would provide good habitat, pollination, improve environment, and air quality. He requested that information from USDA, National Institute of Food and US Department of Energy be received and placed into record. Motion by Meister to receive. Second by O'Tool. Carried 4-0. Copy available for review in the appendix.



**Kevin Alons (Salix)** addressed the Commission offering his opposition to the utility-solar overlay district over agricultural land. He indicated that utility-solar is not compatible with agriculture. He referenced the fall of or degrading of production of solar as systems degrade and he questioned how long they operate. Alons referenced concerns with federal subsidies and indicated that most of the proposed solar options about the City of Salix.

**Robert Wilson (Rangeland Energy Management)** addressed the Commission in support of solar projects by discussing the changing nature of projects and compatibility with agriculture with agrivoltaics. He referenced practices such as sheep herding for vegetation control and made reference to CRP land and decommissioning and bond requirements. Wilson addressed solar as replacement when coal plants are retired.

**Doyle Turner (Moville)** addressed the Commission in support of completing the comprehensive plan for 2040. He indicated that solar doesn't create revenue from property tax, it creates revenue from the electricity that is produced. Turner said that the overlay is something that is worth looking at but not until after the comprehensive map has been developed.

**Christopher Widman (Bronson)** addressed the Commission indicating that solar does not have a place on agricultural preservation land. He indicated that utility-solar should stay on industrial. Widman referenced the comprehensive plan and said it could be taken into consideration to increase industrial parks and not cherry pick out in the middle of the county. He indicated that contracts signed by landowners in areas are not compatible with the comprehensive plan and should be for the general welfare of the county and not a few. Widman encouraged waiting until the comprehensive plan is complete. Widman made a request that materials including questions be received and placed into record. Motion by O'Tool to receive. Second by Parker. Carried 4-0. Copy available for review in the appendix.

**Elizabeth Widman (Sergeant Bluff)** addressed the Commission urging them to delay the decision until the comprehensive plan is completed. She indicated that the comprehensive plan is a guide for the next 20 years and that board members and others come and go. Widman asserted that utility-solar belongs on industrial land and the agricultural preservation district is meant to protect ag.

**Tom Treharne (NextEra Energy)** addressed the Commission inquiring about the consideration of a specific proposal. He requested that in the development of a proposal that it consider issues that would pose challenges such as the 1000 ft. setbacks from dwellings, grading limitations, and the restriction to industrial ground only. Treharne indicated that the restriction to industrial land would create a host of challenges to industrial areas. He indicated that the overlay district is a good way to go and used Linn County as an example.

**Roger Brink (Onawa)** addressed the Commission indicating that government is paying farms to set aside CRP land and suggested that spraying field is worse than solar panels would be. Brink stated that the solar farms in Monona County don't seem to bother anyone.

**Leo Jochum (Salix)** addressed the Commission in support of Option #2 to allow for the overlay district. He offered concerns about the discrepancies with CSR1 vs. CSR2 because of the rainfall factor. Jochum discussed compatibility with grass and plant selection to ensure soil quality will be preserved. He stated that no concrete and blacktop is used which allows for transition back to agriculture. Jochum discussed setbacks of 150 to 300 ft from residences and questioned the two mile setback from the cities and the distances from the county right-of-way. He requested for material be received and placed into record by the Commission. Motion to receive Parker. Second by O'Tool. Carried 4-0. Copy available for review in the appendix.

**Naomi Widman (Bronson)** addressed the Commission and suggested that the motivations of people for ag solar need to be looked at, individuals will profit, not the county as a whole. Widman indicated that she is not opposed to solar, just not on ag land or an overlay district. She stated that the solar debate should be delayed until the comprehensive plan is completed. She indicated that it is important to the best interest of the entire community versus particular individuals who have a very significant financial interest. Widman stated that cherry picking parcels in the middle of ag land is not the best route.

**Steve Corey (Salix)** addressed the Commission indicating that Salix is in the dark in this debate. He offered concerns with what the county has to deal with as far as carbon sequestration, wind farms, and solar. Corey indicated that he is concerned about subsidies and the weight on the taxpayers and the Pandora's box this creates.

**Greg Jochum (Salix)** addressed the Commission offering support for the overlay on the Agricultural Preservation (AP) Zone. He indicated that the infrastructure is already in place with area transmission lines. Jochum is in favor of the overlay scorecard in place of the CSR2 rating that he explained at the Merville meeting. He suggested that the scorecard encourages more desirable native grass, plants, and pollinators. The NRCS would be involved in the selection of the best seed.

**Rebekah Moerer (Sioux City)** addressed the Commission asking about the benefit to those who live in the cities and to the people who own the land. She offered information about her experience of potentially equipping her property with solar and offered concerns about the expense. Moerer offered concerns about the costs to taxpayers with decommission fees. She suggested that utility-solar should be subject to land restrictions.

Motion to close public hearing by Parker. Second by O'Tool. Carried 4-0.

Priestley discussed the three utility-solar options and suggested for a work session in preparation of a recommendation to the Board of Supervisors.

Parker expressed interest in having a work session to prioritize the concepts before the Commission. She suggested streamlining this with the development plan process. Meister concurred. O'Tool indicated that it would be important to look into whether you expand industrial areas which would be part of the development plan versus an overlay district. He also stated it would be important to get more valid information about land values near solar. O'Tool indicated he would support another work session and expressed the importance of getting this right the first time. Zellmer Zant facilitated a scheduling discussion that resulted in January 17, 2023 at 5:00 PM for the work session. The regular meeting will be held on January 22, 2023 at 5:00 PM.

**Public Comment on Matters Not on the Agenda**

None

**Commissioners Comment or Inquiry**

None

**Staff Update**

None

**Adjournment**

Motion to adjourn Meister. Second by O'Tool. Carried 4-0. Meeting conclude 6:12 p.m.

APPENDIX

**Received from Alex Delworth, 11-27-23 - Woodbury County Zoning Commission Meeting**

**From:** Alex Delworth <alex@cfra.org>  
**Sent:** Monday, November 27, 2023 10:58 AM  
**To:** Daniel Priestley  
**Subject:** Utility - Scale Solar Zoning  
**Attachments:** Policy Approaches for Dual-use and AgriSolar Practices.pdf; making-the-case-for-solar-grazing-web.pdf; Environmental Impacts of Renewable Energy.pdf; Woodbury Zoning Comment.docx.pdf

**CAUTION:** This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. **If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.**

Good Morning Daniel,

I am reaching out to provide a comment on behalf of the Center regarding the zoning meeting on utility-scale solar. Attached is our comment and a few resources that we shared earlier but may still be useful.

Feel free to reach out if you have any questions.

Thank you,

--  
 Alex Delworth | Clean Energy Policy Associate  
 Center for Rural Affairs  
 1400 Fawcett Pkwy, Suite D2 | Nevada IA 50201  
 (402) 687-2100 x 1016  
[alex@cfra.org](mailto:alex@cfra.org) | [cfra.org](http://cfra.org)

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11/27/23

Daniel Priestley  
620 Douglas Street, 6th Floor  
Sioux City, IA 51101

Re: Utility-Scale Solar Ordinance

The Center for Rural Affairs is a private non-profit organization that advocates for policies that strengthen rural communities to create a more vibrant future. Renewable energy projects have demonstrated significant potential to bring in new tax revenue, provide additional income for landowners, and create new jobs in rural areas. Given these benefits, we think ordinances regarding wind and solar should be fair and balanced. We commend the zoning board for their time and invitation for public input in this process for the two main proposals.

The first proposal being considered for the Utility-Scale Solar Energy Systems (US-SES) includes prudent requirements around the native vegetation and decommissioning sections. Planting native or perennial vegetation under the panels can increase soil health and provide pollinator habitat over the lifespan of the US-SES. Decommissioning plans ensure that the county won't bear any of the costs when projects are deconstructed and allowing the financial surety to be paid in intervals allows project owners to absorb the expense as an operating cost.

The second proposal for the US-SES Overlay District includes a few items that the commission may want to consider. The setback of 1,000 feet away from occupied dwellings is far greater than the distances we have seen most often, which are between 50-300 feet. However, the inclusion of a waiver will allow impacted landowners the flexibility to make decisions that affect their land.

Finally, the inclusion of a restriction on development on lands with a CSR2 of 65 or more for the US-SES Overlay District will severely limit the potential for solar development in Woodbury County. Using CSR2 designation restricts private property rights for landowners with higher-quality land. Renewable energy facilities can help keep the family farm financially sustainable by providing supplemental income to the operation. Additionally, restricting development on lands with a CSR2 of 65 or more would automatically eliminate almost 50% of land in Woodbury County for potential development.

Solar projects generally have minimal impact on land quality, and land can be returned to farming at the end of the project's life cycle if desired. Practices such as planting native or perennial vegetation under the panels can increase soil health and provide pollinator habitat. Site vegetation can also be managed through grazing, offering local farmers additional income opportunities and providing an avenue for the land to stay in agricultural use at the same time. Additional dual-use practices such as beekeeping and crop production under the panels offer additional opportunities to combine solar and agriculture, demonstrating that clean energy and agriculture do not require an either/or approach.

1400 FAWCETT PKWY SUITE D2 | NEVADA, IA 50201 | 402.687.2100 EXT. 1016 | CFRA.ORG



This letter includes a few of our solar energy siting resources we hope you will find useful during discussions. One of our recent reports, *Policy Approaches to Dual-Use and Agrisolar Practices* might be especially helpful given the central discussion around CSR and preserving agricultural lands. Additionally, our full clean energy siting library can be viewed at [cfra.org/cleanenergysiting](http://cfra.org/cleanenergysiting).

Sincerely,

Alex Delworth  
Policy Associate  
402.687.2100 EXT. 1016  
[alexdl@cfra.org](mailto:alexdl@cfra.org)

Resources:  
[Policy Approaches for Dual-Use and Agrisolar Practices](#)  
[Amplifying Clean Energy with Conservation](#)  
[Native Vegetation and Solar Projects in Iowa](#)

1400 FAWCETT PKWY SUITE D2 | NEVADA, IA 50201 | 402.687.2100 EXT. 1016 | CFRA.ORG

Received from Alex Delworth, 11-27-23 - Woodbury County Zoning Commission Meeting



By Heidi Kolback-Uracher, Center for Rural Affairs  
April 2023



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## Policy Approaches for Dual-Use and Agrisolar Practices



address concerns about solar on agricultural land.<sup>1</sup>

Agrisolar, also called agrivoltaics, is the co-location of agriculture and solar within the landscape. It includes solar co-located with crops, grazing, beekeeping, pollinator habitat, aquaculture, and farm or dairy processing. In addition to photovoltaics, it also includes concentrated solar installations.<sup>2</sup> The practice of combining agriculture and solar energy systems can provide numerous economic and environmental benefits. This includes improving economic viability for landowners and agricultural entities, providing beneficial ecological services, and expanding siting

1. Marco Dugan, "Dual-use Solar in the Pacific Northwest: A Very Forward," Renewable Northwest, 2019. Accessed March 2023.  
 2. Personal communication, Stacie Peterson, Energy Program Director, National Center for Appropriate Technology, March 2023.

### Policy Approaches for Dual-use and AgrSolar Practices



opportunities for solar deployment.<sup>3</sup>

The purpose of this report is to provide decision makers and others an overview of policy approaches to combining solar with agriculture and offer considerations on how regulations can facilitate dual-use.

First, we will look at land use and solar, examining the impact expected by the rapid increase of solar development in the near future, and the varying level of responses occurring around clean energy siting regulations and guidance. Next, we will explore the types of dual-use applications and the benefits associated with them, and then move into an overview of policy mechanisms at the federal, state, and local levels that facilitate dual-use. Lastly, we will take a closer look at how local governments have the most impact on solar development, and offer considerations for decision-makers who are interested in creating ordinances or incentives around dual-use.

#### LAND USE AND SOLAR

##### How Much Land Will Be Needed?

As the U.S. moves toward setting ambitious decarbonization goals, solar energy is

forecasted to grow considerably. Based on solar deployment scenarios by the U.S. Department of Energy (DOE), ground-based solar technologies may require a land area equivalent to 0.5% of the contiguous U.S. However, it is estimated that this requirement could be met using less than 10% of already disturbed or contaminated lands.<sup>4</sup>

By county, it does not appear that current or planned solar projects would require significant land allocation as a proportion of local area. In an analysis of all counties in the contiguous U.S., the Great Plains Institute found that existing solar development comprises on average 0.04% of land per county and that if all proposed solar projects were built, development would average 0.22% of land per county. As of 2021, no county in the U.S. had more than 4% of total county area in solar development. In contrast, cultivated lands comprise up to 75% of the total county area in much of the central Midwest.<sup>5</sup>

Some state and local governments have created restrictions around using farmland for solar development. However, clean energy development does not appear to pose an immediate threat to the availability of farmland. As of 2022, Iowa had 30.6 million acres of farmland, about 17.5 million of which meets the U.S. Department of Agriculture's (USDA) definition of "prime."<sup>6</sup> If all of the 2,290 MW of proposed solar projects in Iowa were sited on prime farmland, it would use only 0.11% of prime farmland in the state.<sup>7</sup> According to Minnesota Solar Pathways, powering 70% of Minnesota's electrical load by 2050 would require adding 22 gigawatts of solar,

4. "Solar Futures Study Fact Sheet," U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, September 2021. Accessed March 2023.  
 5. Wyatt, Jessi, and Maggie Kristian, "The Iowa Lead Footprint of Solar Energy," Great Plains Institute for Sustainable Development, Sept. 14, 2021. Accessed March 2023.  
 6. "Prime Farmland Definition," Nature Resources Conservation Service, March 2015. Accessed March 2023.  
 7. "Iowa Solar and Agriculture Fact Sheet," Clean Grid Alliance, Accessed March 2023.  
 8. Ibid.



which would use 220,000 acres of land. Even if all of this solar were to be sited exclusively on prime farmland, it would still only use 1.32% of prime farmland in the state.<sup>9</sup>

**Alternatives to Land-use Restrictions**

Even though the land needed for solar development is proportionally low, many state and local governments have enacted or are considering enacting restrictions on clean energy development on farmland. In Iowa, some counties have considered using Corn Suitability Ratings (CSR) to restrict development,<sup>10,11</sup> and state legislators have introduced bills prohibiting solar development on farmland.<sup>12,13,14</sup>

In Minnesota, the Public Utilities Commission's administrative rules restrict large electric generation plants from being located on prime farmland.<sup>15</sup> In Midwest states where a large percentage of the land qualifies as farmland, blanket restrictions such as these can severely impact opportunities for clean energy development.

However, some organizations concerned about the land use impacts of clean energy development have developed siting guidance that mitigates impacts to sensitive areas. For



example, the American Farmland Trust, an organization dedicated to the preservation of farmland, has created a series of Smart Solar principles, which they believe meet three goals: accelerate solar energy development, strengthen farm viability, and safeguard land well-suited for farming and ranching.<sup>16</sup>

These principles include:<sup>17</sup>

**Prioritize solar siting on buildings and land not well suited for farming**  
Including buildings, irrigation ditches, brownfields or other marginal lands.

**Safeguard the ability for land to be used for agriculture**  
If developed on farm or ranch land, policies and practices should protect soil health, especially during construction and decommissioning.

**Grow agrivoltaics for agricultural production and solar energy**  
Agrivoltaics sustain agricultural production under/between the solar panels.

**Promote equity and farm viability**  
Farmers and underserved communities

9. Saffel, Lori. "Growing Renewable Energy While Strengthening Farm Viability and Safeguarding Healthy Soil." American Farmland Trust, Sept. 22, 2022. Accessed March 2023.  
10. Saffel, Lori. "Growing Renewable Energy While Strengthening Farm Viability and Safeguarding Healthy Soil." American Farmland Trust, Sept. 22, 2022. Accessed March 2023.  
11. Saffel, Lori. "Growing Renewable Energy While Strengthening Farm Viability and Safeguarding Healthy Soil." American Farmland Trust, Sept. 22, 2022. Accessed March 2023.  
12. Senate Bill 1077. Iowa Legislature, Jan. 24, 2023. Accessed March 2023.  
13. Senate File 2123. Iowa Legislature, Jan. 26, 2022. Accessed March 2023.  
14. Senate File 252. Iowa Legislature, Feb. 17, 2022. Accessed March 2023.  
15. Minnesota Administrative Rules. Minnesota Legislature, Sept. 18, 2009. Accessed March 2023.

should benefit from solar development and should be included in stakeholder engagement processes

This type of siting guidance offers a more nuanced approach to clean energy development. By taking a wider array of factors into consideration, including economic impacts and dual-use, this approach demonstrates that clean energy siting does not require an either/or mindset.

Through thoughtful planning, local decision makers can craft policies that respect the property rights of local landowners and allow them to take advantage of opportunities to diversify their income, while at the same time encouraging dual-use practices that preserve the agricultural values of the local community.

**TYPES OF DUAL-USE**

There are several types of dual-use practices that can be combined with solar energy sites including cultivating different types of crops such as vegetables and berries, utilizing livestock grazing for managing vegetation, beekeeping, and planting native vegetation and pollinator habitat. These practices can create environmental and economic benefits such as new revenue streams for local farmers, increased pollinators, wildlife habitat, enhanced soil health, reduced erosion, and carbon storage. These projects are not mutually exclusive, however, and multiple activities can occur simultaneously, or at different times of the year.<sup>18</sup>

**Crops**  
A variety of agricultural crops can be grown in co-location with solar installations, including fruit, vegetables, and berries. Any crops that are



successful in a region are likely to be suitable for co-location with solar projects. Crops can be grown under the panels, between rows, or outside the perimeter of the installation. Panel height, spacing, water access, equipment needs, and whether the system is fixed or tracking, all will play a role in the success of integrating specific types of crop production into a solar installation. Research is ongoing to better understand the performance and feasibility of co-locating crops with solar energy systems.<sup>19,20</sup>

Iowa State University recently announced it will kick off a \$1.8 million, four-year research project on dual-use and food crop production.<sup>21</sup> Similar food crop-focused research is ongoing through the Sustainably Colocating Agricultural and Photovoltaic Electricity Systems (SCAPES) projects at University of Illinois Urbana-Champaign, University of Arizona, Colorado State University, Auburn University, and

18. Macknick, Jordan, et al. "The SCAESCAPES: Sustainably Colocating Agricultural and Photovoltaic Electricity Systems." National Renewable Energy Laboratory, 2022. Accessed March 2023.  
19. "Sustainable Agricultural Communities Using Energy Solar Development." INSPIRE, Aug. 11, 2022. Accessed March 2023.  
20. Macknick, Jordan, et al. "The SCAESCAPES: Sustainably Colocating Agricultural and Photovoltaic Electricity Systems." National Renewable Energy Laboratory, 2022. Accessed March 2023.  
21. "Iowa State University Announces \$1.8M Research Project on Dual-Use and Food Crop Production." Iowa State University, Feb. 15, 2023. Accessed March 2023.



University of Chicago.<sup>22</sup>

Outside of food crops, researchers are also looking into whether more traditional row crops can be co-located with solar installations. For example, Purdue University is conducting field trials combining traditional crops like corn and soy with raised solar panels.<sup>23</sup>

#### Grazing

Solar grazing is the utilization of livestock, usually sheep, to manage vegetation at solar sites. It takes the place of traditional mowing and offers both environmental and financial benefits. For project developers, contracting with local farmers to use solar grazing as a management tool can reduce operations and maintenance costs. Solar grazing can offer local livestock owners additional pasture opportunities and the opportunity to be paid for a valuable service, increasing income to their business and adding to the economy of the rural communities where these projects are usually located.<sup>24</sup>



<sup>22</sup> Harwood, Len. "Marathon Partnership (M) USDA Grants to Expand Research on Growing Crops Under Solar Panels." University of Arizona, Oct. 6, 2021. Accessed March 2023.

<sup>23</sup> Bowman, Sarah, et al. "Can solar panels and row crops coexist in harmony across the Skegrip Corn Belt?" *Indy Solar*, Sept. 13, 2022. Accessed March 2023.

<sup>24</sup> Pat, Shree. "Making the Case for Solar Grazing." Center for Rural Affairs, Dec. 20, 2021. Accessed March 2023.



#### Beekeeping

Solar beekeeping is the practice of placing beehives on or near solar sites that have been planted in native vegetation or other pollinator habitats. Solar beekeeping can offer new revenue streams for local beekeepers, as well as the opportunity to gain resiliency from a diverse source of pollen for honey production.

Additionally, the landowner sees a positive impact from improved soil health, and nearby farmers profit from pollination services.<sup>25</sup> Pollinators are critical to crop production, with the USDA estimating that wild and managed bees together add \$15 billion in crop value each year.<sup>26</sup> An Argonne National Laboratory case study found that the value of pollinator habitat on U.S. lands designated as proposed or potential solar sites is between \$1.5 billion and \$3.2 billion.<sup>27</sup>

#### Native Vegetation and Pollinator-Friendly Solar

Sites with native or naturalized, non-invasive, flowering vegetation are commonly referred to as "pollinator-friendly solar sites." Pollinator-

<sup>25</sup> "Fact Sheet: Making the Case for Solar Beekeeping." Center for Rural Affairs, Dec. 22, 2022. Accessed March 2023.

<sup>26</sup> Marieb, Dugan. "Dual-use Solar in the Pacific Northwest: Pay Forward." *Renewable Northwest*, 2019. Accessed March 2023.

<sup>27</sup> "Case Study: Equivalency of Pollinator Habitats at Solar Facilities." Argonne National Laboratory. Accessed March 2023.

friendly solar project sites offer habitat for honey bees, native bees, and other species of pollinators, all of which can positively benefit local agricultural production. Using native or pollinator-friendly vegetation provides numerous benefits, including reduced erosion, improved water quality and soil health, and increased habitat for wildlife. It can also reduce long-term operation and maintenance costs for project developers and site managers.<sup>28</sup>



Determining the appropriate types of dual-use projects most likely to be successful at a specific site can be daunting. However, research is ongoing to understand the components needed for successful deployment and operation of agrisolar projects. From 2015 to 2021, the Innovative Solar Practices Integrated with Rural Economies and Ecosystems (InSPIRE) project studied field research sites and identified five key elements that enable success. These elements were explored in the report *The 5 C's of Agrivoltaic Success Factors in the United States: Lessons from the InSPIRE Research Study*.<sup>29</sup> They include:<sup>30</sup>

#### Climate, soil, and environmental conditions

The ambient conditions and factors of

<sup>28</sup> Smith, Cody. "Pollinating Life: Energy with Consideration." *Part One: Pollinator-Friendly Solar*. Center for Rural Affairs, October 2020. Accessed March 2023.

<sup>29</sup> Macknick, Jordan, et al. "The 5 C's of Agrivoltaic Success Factors in the United States: Lessons from the InSPIRE Research Study." *National Renewable Energy Laboratory*, 2022. Accessed March 2023.

the specific location that are beyond the control of the solar owners, solar operators, agrivoltaic practitioners, and researchers.

#### Configurations, solar technologies, and designs

The choice of solar technology, the site layout, and other infrastructure that can affect light availability and solar generation

#### Crop selection and cultivation methods, seed and vegetation designs, and management approaches

The methods, vegetation, and agricultural approaches used for agrivoltaic activities and research.

#### Compatibility and flexibility

The compatibility of the solar technology design and configuration with the competing needs of the solar owners, solar operators, agricultural practitioners, and researchers.

#### Collaboration and partnerships

Understandings and agreements made across stakeholders and sectors to support agrivoltaic installations and research, including community engagement, permitting, and legal agreements.

#### POLICY APPROACHES TO DUAL-USE

Policies at the federal, state, and local levels of government can influence the implementation of dual-use solar. These policies interact, but overall, local land-use policies have been shown to be the most significant catalyst or inhibitor of agrisolar development.<sup>31</sup>

We will be looking at a variety of policy approaches at each level of government, including tax incentives, land use laws, renewable portfolio standards, and others.

<sup>30</sup> Pascans, Alexis S. "Examining existing policies and their conditions, legal frameworks, and practices on the U.S." *Energy Policy*, December 2021. Accessed March 2023.

Policy Approaches for Dual-use and AgriSolar Practices

**Federal**

Because land use decisions are typically made at the local level, the role of federal policy in encouraging or discouraging dual-use applications is limited. However, two primary incentives exist for solar development—the Business Energy Investment Tax Credit (ITC) and USDA’s Rural Energy for America Program (REAP). Additionally, federal investments in dual-use can help bolster the practice.

**Tax incentives**

The ITC is the sole corporate tax credit available for solar. The tax credit does not include any restrictions that would disallow solar on specific locations, making it acceptable for combination with dual-use.<sup>31</sup>

**Land-use laws**

Authority over land use in the U.S. is held by state and local governments.<sup>32</sup>

**Portfolio standards**

Renewable portfolio standards are policies that require electricity suppliers to provide customers with a stated amount of electricity from renewable sources. Although the idea of a federal renewable portfolio standard has been proposed, no such policy currently exists.<sup>33</sup>

**Other**

REAP grants and loan guarantees offer financial assistance to agricultural producers and small businesses for energy improvements or investments. This can include construction of solar energy systems and does not present conflicts with dual-use integration.<sup>34</sup>

In 2022, DOE announced an \$8 million investment in agrivoltaic research projects. The



Foundational Agrivoltaic Research for Megawatt Scale-funding program is aimed at developing best practices, seeking replicable models, providing new economic opportunities, and reducing land-use conflicts.<sup>35</sup> In 2022, USDA’s Partnerships for Climate Smart Commodities awarded the University of Arizona \$4.7 million<sup>36</sup> and the University of Texas Rio Grande Valley \$2.2 million<sup>37</sup> for agrivoltaic research projects.

**State**

State policy approaches to dual-use include tax and other financial incentives, state-level land-use laws, renewable portfolio standards, and pollinator scorecards. State-level policies interact with local decision making in ways that can either enable or restrict local governments from enacting certain practices or policies.

**Tax incentives**

States can incentivize solar dual-use practices through land use taxes. If landowners are able to integrate solar development into their farming operation without a land-use tax change, they may be more receptive to the development. For example, Rhode Island has amended its Farm,

31 Ibid.  
32 Ibid.  
33 Renewable energy explained: Portfolio standards, U.S. Energy Information Administration, November 30, 2022. Accessed March 2023.  
34 Pascanis, Alexis S. “Examining existing policy to support a comprehensive legal framework for agrivoltaics in the U.S.” Energy Policy, December 2021. Accessed March 2023.  
35 “DOE Announces \$8 Million to Integrate Solar Energy Production with Farming,” U.S. Department of Energy, Dec 8, 2022. Accessed March 2023.  
36 “Media Advisory: USDA awards over \$4.7M to support aic, promote climate smart food production,” University of Arizona, Dec 19, 2022. Accessed March 2023.  
37 Gonzalez, Maria. “USDOE receives \$2.2M grant for Climate Smart Commodities project,” University of Texas Rio Grande Valley, Dec. 12, 2022. Accessed March 2023.

Policy Approaches for Dual-use and AgriSolar Practices

Forest, and Open Space Land law to exempt landowners from a land-use change tax if they are integrating a dual-use renewable energy generation system, which is defined as a wind or solar system that allows agricultural practices to continue around it under normal practices.<sup>38-39</sup>



Similarly, in 2021, New Jersey enacted a Dual-Use Solar Law, which provides an incentive for keeping land at solar sites in agricultural production. The law established a pilot program allowing unpreserved farmland used for dual-use solar projects to be eligible for farmland assessment under certain conditions.<sup>40</sup>

The AgriSolar Clearinghouse maintains an interactive map detailing dual-use financial

incentives throughout the United States, including potential funding sources, assistance programs, utility incentives, and tax breaks. It can be found at: [agrisonarclearinghouse.org/financial-information-map](https://agrisonarclearinghouse.org/financial-information-map).

**Land-use laws**

State-level land use laws can significantly impact where solar development can happen. For example, Illinois’ Agricultural Areas Conservation & Protection Act creates land areas where only agricultural production is allowed.<sup>41</sup>

As dual-use has evolved, debates about whether implementation of these practices at solar sites should qualify as agricultural land use are ongoing. One practice states can employ to help facilitate dual-use at solar sites is to review land use planning goals and definitions of solar generation, farmland, and farm uses to ensure they do not preclude dual-use solar.<sup>42</sup>

Some states have created statewide siting standards to regulate clean energy development. For example, in early 2023, lawmakers in Illinois passed House Bill 4412, which dictates statewide setbacks for wind and solar development.<sup>43</sup> Alternative approaches, such as the creation of state-specific best practices, model ordinances, or voluntary siting matrices offer ways to preserve local control while also providing helpful guidelines for local decision makers.<sup>44-45</sup>

41 Guarniti, Jessica, and Tyler Swanson. “The Illinois Agricultural Conservation and Protection Act,” AgriSolar Clearinghouse, Feb. 1, 2023. Accessed March 2023.  
42 Mareb Dugan. “Dual-use solar in the Pacific Northwest: A Policy Review.” Renewable Northwest 2019. Accessed March 2023.  
43 Moore, Brenden. “New Illinois state energy policy.” Standards are created by, or are necessary or inherent to the Paragraph, February 11, 2023. Accessed March 2023.  
44 Mareb Dugan. “Dual-use solar in the Pacific Northwest: A Policy Review.” Renewable Northwest 2019. Accessed March 2023.  
45 Mous, Lindsay. “Establishing Siting Guidelines, Ordinance, and Policy Models for Farm-Based Energy Siting.” Center for Rural Affairs, July 2022. Accessed March 2023.





**Portfolio standards**

As of 2021, 31 states and the District of Columbia had adopted renewable portfolio standards or clean energy goals.<sup>46</sup> Within these standards, “carve out” provisions can be used to encourage the adoption of certain technologies, such as solar and dual-use. As of 2021, 21 states had solar carve-out provisions in their renewable portfolio standards. Massachusetts’ SMART program is one example of such a renewable portfolio standard that also incorporates incentives for dual-use.<sup>47</sup>

**Other**

Under the Massachusetts Department of Energy’s Solar Massachusetts Renewable Target (SMART) program, specific kinds of dual-use solar systems, known as Agricultural Solar Tariff Generation Units (ASTGU), can qualify for financial incentives. To qualify, the land under the solar system must be in continuous agricultural production. The SMART program offers a base cents-per-kilowatt-hour compensation rate for new solar arrays. Systems using these practices that qualify as an ASTGU receive an additional 6 cents per kilowatt-hour to the base rate.<sup>48, 49, 50</sup>

Many states across the U.S. have created policies or programs to encourage or require implementation of pollinator habitat at solar



sites. These initiatives can vary widely in their structure and implementation. One tool is a pollinator scorecard, which provides a model to score pollinator-friendly practices. This score can be used to gauge if a site meets state or local requirements, to designate a site as pollinator-friendly, or to determine if a site qualifies for other types of incentives.<sup>51</sup>

For example, Minnesota state code (§216B.1642)<sup>52</sup> authorizes the Board of Soil and Water Resources to establish statewide guidance for solar project developers aiming for recognition under the Habitat Friendly Solar Program. The statute reads, “an owner of a solar site implementing solar site management practices may claim that the site provides benefits to gamebirds, songbirds, and pollinators only if the site adheres to guidance set forth by the pollinator plan provided by the Board of Water and Soil Resources.”<sup>53, 54</sup>

**Local**

Local land-use policy is the key leverage point

51 “Pollinator Friendly Solar Scorecards.” Fresh Energy. Accessed March 2023.  
52 “2019 Minnesota Statutes.” Office of the Revisor of Statutes, Minnesota Legislature. Accessed March 2023.  
53 “Minnesota Habitat-Friendly Solar Program.” Minnesota Board of Water and Soil Resources, 2019. Accessed March 2023.  
54 Smith, Cody. “Amplifying Clean Energy with Conspicuous Farm Overabundance: Friendly Solar.” October 2020. Accessed March 2023.



for enabling development on land suitable for combining agriculture and solar energy production.<sup>55</sup> This is because local governments usually have the most influence over land use, including the ability to regulate zoning and develop siting ordinances that dictate how and where development can occur. Tax incentives and renewable portfolio standards are seen more in state-level policy.

**Tax incentives**

Local governments have the ability to create tax incentives, though these are more common in state-level policy.

**Land-use laws**

Land-use laws are the primary lever for local governments to facilitate dual-use. However, despite rapid expansion of solar energy development, many local governments have not addressed siting in their ordinances. In a review of local-level policies in Illinois, researchers found that many counties had no solar siting

55 Pascanis, Alexis S. “Examining existing policy to inform a comprehensive legal framework for agricultural dual-use.” U.S. Energy Policy, December 2021. Accessed March 2023.

ordinance on the books, and the counties that did represented drastically different approaches to zoning and land-use policy.<sup>56</sup> As of 2020, only 19% of zoning ordinances in Michigan addressed utility-scale solar siting.<sup>57</sup> When counties lack an ordinance, it can create uncertainty for decision makers and developers, who won’t know if the land use is permitted or prohibited.<sup>58</sup>

Solar siting often depends on the county’s comprehensive land-use plans and resulting zoning and siting ordinances. When developing ordinances, local decision makers often use the county’s land-use planning goals to help guide the process. For example, in Buchanan County, Iowa, county supervisors cited language in their comprehensive land-use plan about preserving agricultural lands with highly productive soils to propose a restriction on clean energy development on lands with high CSR.<sup>59</sup> Expressing similar concern, Scott County, Iowa passed an ordinance restricting solar development on lands with high CSR.<sup>60, 61</sup>

Conversely, some counties have identified renewable energy development as a priority within their comprehensive land-use plan. Linn County, Iowa’s comprehensive plan contains a section on renewable energy, which identifies an objective to “encourage development of local alternative and renewable energy resources through identification and removal of regulatory

56 Guano, Jessica and Tyler Swanson. “The Impact of Agricultural Regulatory and Policy Tools on Zoning and Local Law.” AgriSolar Clearinghouse, Feb. 1, 2023. Accessed March 2023.

57 Pascanis, Alexis S. “Examining existing policy to inform a comprehensive legal framework for agricultural dual-use.” U.S. Energy Policy, December 2021. Accessed March 2023.

58 Ibid.

59 Klotzbach, John. “County Considering Wind Turbine Ordinance Changes.” Independence Bulletin Journal, Sept. 6, 2022. Accessed March 2023.

60 “Scott County Ordinance No. 22-04.” Scott County, Iowa, Sept. 15, 2022. Accessed March 2023.

61 Whiskeyman, Danny. “Scott County Board of Supervisors Approves New Solar Ordinance.” KWQC, Sept. 20, 2022. Accessed March 2023.



barriers.<sup>62</sup>

Additionally, local governments can adopt siting ordinances that dictate specific dual-use management practices at solar sites. For example, ordinances can require sites to be planted in native vegetation or pollinator habitat, or to be maintained by livestock grazing.

**Portfolio standards**

Both municipalities and utilities have the ability to set their own renewable electricity goals.

**Other**

Community agrisolar projects can improve local buy-in by providing an opportunity for community members to become shareholders.<sup>63</sup>

**CONSIDERATIONS FOR LOCAL DECISION MAKERS: HOW ORDINANCES CAN FACILITATE DUAL-USE**

Decision makers who want to facilitate the combination of clean energy development and agriculture should consider the following topics when engaging in the ordinance development or amendment process:

62. Utah Solar Energy Compliance Plan, Volume 1, Utah County, Iowa, July 19, 2013. Accessed March 2023.  
63. Brunswick, Sarah, and Danika Merzliker. "The True Solar Farms: Growing a Fertile Policy Development for Agrivoltaics." *Minnesota Journal of Law, Science & Technology*, March 4, 2023. Accessed March 2023.

**Land-use Planning**

Comprehensive land-use plans are commonly used by counties to help guide development. These plans reflect the values and vision of the community and, in rural areas, they often contain language relating to the preservation of agricultural heritage and farmland. The way this language is interpreted varies widely between counties, and some decision makers may have difficulty interpreting how language around agricultural resource protection relates to dual-use.<sup>64</sup>

Implementation of dual-use practices can provide an alternative to an either/or mindset relating to agriculture and clean energy development, as they allow land to stay in agricultural use. Combining livestock grazing, crop production, and other endeavors with solar sites preserves the agricultural roots of rural communities while also allowing landowners and counties to take advantage of the environmental and economic benefits of clean energy development.

Including renewable-energy development within the county's comprehensive plan can ensure the economic benefits of this development are taken into consideration when ordinances are created or amended in the future. Clean energy can benefit counties in the form of increased tax revenues, lease payments to local landowners, and job creation. Combining this development with dual-use can offer increased environmental benefits and provide new revenue streams for local farmers.

**Zoning and Siting Regulations**

Local decision makers can ensure that development is done in a way that meets the needs of the community by engaging in a proactive ordinance development process. By taking the time to create an ordinance before development has been proposed, decision makers can ensure there is time to receive

64. Marieb Dugan. "Dual-use Solar at the Pacific Northwest: A Way Forward." *Renewable Northwest*, 2019. Accessed March 2023.

community input and feedback on proposed language. Additionally, considerations can be made about setting additional land use expectations, such as dual use.

Counties wanting to enable dual-use integration should consider zoning schemes that allow for mixed land usage. This could include overlay districts, which would allow a special permit for solar in certain zones, or allowing development when certain land use standards are met, such as placing a certain percentage of land into pollinator habitat.<sup>65</sup>

Siting regulations should be carefully crafted to ensure they don't restrict dual-use. For example, setting restrictions on panel height or developing overly prescriptive vegetation management requirements can limit dual-use opportunities.

**Definitions**

When creating definitions within zoning and siting regulations, local governments can ensure they do not preclude dual-use solar. This could include refining definitions for solar generation, farmland, and farm uses to ensure compatibility with desired dual-use practices.<sup>66</sup>

It is also important to determine which applications and practices will be considered dual-use. For example, in Oregon, a rule was adopted allowing for dual-use practices on high-value soils. However, the rule only specifies agrivoltaics and grazing, meaning pollinator habitats or other conservation dual-use do not qualify.<sup>67</sup>

**Interaction of Dual-use Goals**

When creating policies, it is especially important to carefully consider how the dual-usage

65. Pascaris, Alexis S. "Examining existing policy to inform a comprehensive legal framework for agrivoltaics in the U.S." *Energy Policy*, December 2021. Accessed March 2023.

66. Marieb Dugan. "Dual-use Solar at the Pacific Northwest: A Way Forward." *Renewable Northwest*, 2019. Accessed March 2023.

67. Ibid.

goals interact. Certain requirements may unintentionally restrict beneficial practices. For example, native vegetation or pollinator-friendly habitat requirements may unintentionally limit grazing opportunities if plants on the site are not suitable. In the same vein, to meet pollinator requirements vegetation must be allowed to bloom to ensure it is actually benefiting pollinators, requiring grazing schedules be modified to accommodate bloom times.<sup>68</sup>



It is wise to consider that 100% of land may not be able to be integrated into dual-use. Setting overly strict guidance could deter development if prescriptions are not feasible. Instead, requiring a percentage of land to be used for dual-use purposes introduces a level of flexibility while ensuring that the original intent of the usage policy is preserved.

**Site Construction, Decommissioning, and Restoration**

Although not directly related to dual-use, local governments can use ordinances to minimize land impacts during the construction and decommissioning of solar systems.

Solar projects generally have minimal impact on land quality, and land can be returned to farming at the end of the project's life cycle, if desired. However, being clear about how land will be

68. Trina Street. "Making the Case for Dual-Grazing." *Center for Rural Affairs*, Dec. 26, 2021. Accessed March 2023.



managed during construction as well as once a project is decommissioned can help protect land quality. Local governments can set requirements for construction, vegetation management, and decommissioning that spell out the expectations and obligations. This can also include requiring financial guarantees to ensure funds are available for decommissioning purposes and that local governments are not responsible for costs.<sup>59</sup>

KEY TAKE-AWAYS

Solar development is expected to rise significantly in the coming years. Although deployment models reflect that will require a large amount of land, it is expected it will require 0.5% of land in the contiguous U.S. and, in many cases, can be placed on already disturbed or marginal lands. Even if all proposed projects in Minnesota and Iowa were sited on prime farmland, it would only represent 1.32% and 0.11% of all prime land in those states, respectively.

Clean energy and agriculture do not require an either/or approach. Through thoughtful planning, local decision makers can craft policies that respect the property rights of local landowners and allow them to take advantage of opportunities to diversify their income, while at the same time encouraging dual-use and agrisolar practices that preserve the agricultural values of the local community.

Dual-use and agrisolar practices can include cultivating crops, utilizing livestock grazing, beekeeping, and planting native vegetation and pollinator habitat. These practices can create a variety of environmental and economic benefits, such as new revenue streams for local farmers, increased



pollinators, wildlife habitat, and soil health, reduced erosion, and carbon storage.

Policies exist at the federal, state, and local levels of government that can influence the implementation of dual-use solar and agrivoltaics. These policies interact but overall, local land-use policies have the most significant role in impacting solar and agrivoltaic development.

By engaging in a proactive ordinance development process, local decision makers can ensure that development is done in a way that meets the needs of their community. Creating an ordinance in advance of development ensures there is time to receive community input and feedback on the proposed language.

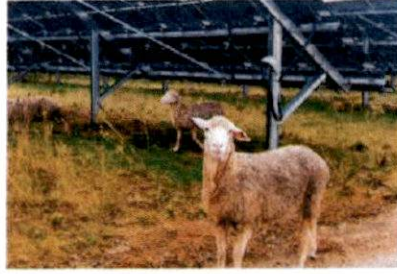
<sup>59</sup> Kolbeck-Urliacher, Heidi. "How to Designing Solar Energy Systems: Resource Guide." Center for Rural Affairs, June 2022. Accessed March 2023.



## FACT SHEET: MAKING THE CASE FOR SOLAR GRAZING

As solar projects across the nation continue to expand, solar grazing has emerged as a valuable tool. Using livestock to manage vegetation at solar sites can enhance site value by keeping land in agricultural use, providing new income streams for local farmers, and adding environmental benefits such as decreased erosion and enhanced soil health.

**"Agrivoltaics" is a term used to describe combining agriculture with renewable energy. Other types of agrivoltaics include producing hay, berries, vegetables, and honey at solar sites.<sup>1</sup>**



### ECONOMICS

Solar grazing is the utilization of livestock, usually sheep, to manage vegetation at solar sites. It takes the place of traditional mowing, offering numerous environmental and financial benefits and meeting clean energy and agricultural goals simultaneously. For project developers, contracting with local farmers to use solar grazing as a management tool can reduce operations and maintenance costs. A 2018 Cornell University study found that managing solar site vegetation with sheep grazing required two and half times less labor, making it less expensive than traditional landscaping.<sup>2</sup> Meanwhile, solar grazing provides livestock owners with additional pasture opportunities and the chance to be paid for a valuable service, increasing income to their business and adding to the economy of the rural communities where these projects are usually located.

### ENVIRONMENTAL BENEFITS

Solar grazing can also add environmental benefits to a project site. Introducing livestock onto the landscape and partnering them with native vegetation can improve soil health and reduce runoff. The deep, complex root systems of native vegetation help retain water, reduce topsoil loss, and provide wildlife and pollinator habitat.<sup>3</sup> Sites with native vegetation can have three and one-half times more pollinators than sites without.<sup>4</sup> This vegetation provides habitat for bees and other pollinators, as well as ground nesting birds including sage grouse, pheasants, and quail. Pollinator plantings can coexist with solar grazing with careful planning and management, such as developing a rotational grazing plan that accommodates vegetation bloom periods.<sup>5</sup>

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1. Ferraty, Eric. "Solar Grazing: Livestock as Landscapers at Utility Scale Solar Arrays." Cornell Small Farm Program, July 20, 2020. [smallfarms.cornell.edu/2020/07/solar-grazing-livestock-as-land-scapers-at-utility-scale-solar-arrays/](https://smallfarms.cornell.edu/2020/07/solar-grazing-livestock-as-land-scapers-at-utility-scale-solar-arrays/). Accessed November 2021.
2. Radonichuk, Nadia, et al. "The agricultural, economic and environmental potential of co-locating utility scale solar with grazing sheep." David R. Adelson Center for a Sustainable Future, Cornell University, 2019. [solargrazing.org/wp-content/uploads/2021/02/Adelson-Center-Pub-Report.pdf](https://solargrazing.org/wp-content/uploads/2021/02/Adelson-Center-Pub-Report.pdf). Accessed November 2021.
3. Dwyer, Harrison. "Beneath Solar Panels, the Seeds of Opportunity Sprout: Low-Impact Development of Solar Installations Could be Win-Win

4. "Win for Food, Water, and Renewable Energy." National Renewable Energy Laboratory, 2019. [nrel.gov/news/features/2019/06/04/solar-panels-the-seeds-of-opportunity-sprout.html](https://www.nrel.gov/news/features/2019/06/04/solar-panels-the-seeds-of-opportunity-sprout.html). Accessed November 2021.
5. Bódis, László, et al. "Prairie strips improve biodiversity and the delivery of multiple ecosystem services from corn-soybean croplands." Proceedings of the National Academy of Sciences of the United States of America, Oct. 17, 2017. [pnas.org/content/114/42/11347](https://doi.org/10.1073/pnas.1611471114). Accessed November 2021.
6. Helzer Farming, P.A.C. "American Solar Grazing Association, solargrazing.org/faq". Accessed November 2021.

### P. ANPND

Including solar grazing as a goal in the beginning stages of project planning will allow developers to tailor sites for optimal grazing management. Solar grazing is most successful when employed as part of a strategic, rotational grazing plan.



Photo courtesy of Minnesota Native Landscaper

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### STEP 1

#### Goal setting

Developers should identify their project goals and build a site plan that reflects the solar grazing co-use goals. Other beneficial practices, such as pollinator or wildlife habitat, and establishment of native vegetation, should be considered, but weighing how these goals can complement or impede each other is important.

### STEP 2

#### Determine site conditions

Developers should develop a timeline for site establishment. Introduction of regular livestock grazing should be withheld until native vegetation at the site is fully established—between one and three years. Flash grazing during this period can be used for weed control. Consulting with local experts is key when selecting a seed mix for the site that is regionally appropriate and suitable for livestock grazing. Other factors that should be considered include site size, accessibility of the site, electricity and water access, and fencing. Although wildlife fencing provides benefits to sites with native plantings, it is not suited for grazing sites due to the gaps at the bottom.<sup>6</sup>

### STEP 3

6. Personal communication, Audrey Lewand, Grazing Manager, Minnesota Native Landscaper, October 2021.
7. "What is Solar Grazing?" American Solar Grazing Association, [solargrazing.org/what-is-solar-grazing/](https://solargrazing.org/what-is-solar-grazing/). Accessed November 2021.
8. "Sheep: K.I. et al. "Evaluation of solar photovoltaic systems to shade crops in a pasture-based dairy herd." *Journal of Dairy Science*, March 2021. [scisearch.com/scisearch/article/jdoi/10.3168/jds.2020-19313](https://doi.org/10.3168/jds.2020-19313). Accessed November 2021.

### STEP 3

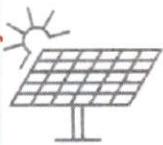
#### Select livestock species and determine population

Sheep are the most widely used and best-suited livestock for solar grazing.<sup>7</sup> They are smaller than cattle and are not likely to damage equipment. Cattle have been successfully used in solar sites, but panel height becomes a necessary consideration.<sup>8</sup> Determining the number of animals used during grazing management will depend on available forage and the length of the grazing period.

### STEP 4

#### Establish a robust rotational grazing and vegetation management plan for the site

Creating a rotational grazing plan is key to ensuring proper management of vegetation and for the health of grazing animals. Consult with local grazing experts to create a goal-oriented, site-specific plan. Temporary fencing may be employed for "mob" or rotational grazing. Sheep should be moved at least once a week to allow recovery of grazed plants and should not return to a previously grazed paddock for at least six weeks.<sup>9</sup>



CONSIDERATIONS

Developers and farmers must work together to develop contracts that serve the needs of both parties. Longer term contracts allow farmers to make investments in best

practices. Site managers should ensure fencing, gates, and water access are maintained.<sup>10</sup> Carrying proper insurance and having clear contracts that spell out who is allowed at the site is important for the safety of the animals, equipment, and people.

SOLAR, GRAZING AND SEED MIXES

Seed mixes should be regionally appropriate and site-specific. Consult with local experts to develop a location-specific mix. Many seed mixes can support both pollinators and livestock. If pollinator habitat is a goal, carefully timing grazing schedules is necessary to accommodate bloom times.

Sources: [www.solar.gov](http://www.solar.gov)

10 "Recommendations," American Solar Grazing Association, [solargrazing.org/recommendations](http://solargrazing.org/recommendations). Accessed November 2021.  
 11 "Chapter 175," New Jersey Legislature, 2021. [http://legislature.nj.gov/2020/Bills/PL11/175\\_PDF](http://legislature.nj.gov/2020/Bills/PL11/175_PDF). Accessed November 2021.

POLICIES

Policymakers can develop zoning and tax policies that incentivize beneficial practices, such as solar grazing. It is important to recognize that vegetation management goals may differ from site to site. Ordinances that include native vegetation and/or pollinator-friendly rules should not be so strict that they reduce opportunities for other beneficial practices, such as grazing.

- In 2021, New Jersey enacted a "Dual Use Solar Law" which provides an incentive for keeping land or solar sites in agricultural production. S3484 established a pilot program allowing unreserved farmland used for dual-use solar projects to be eligible for farmland assessment under certain conditions.<sup>11</sup>
- Under the Massachusetts Department of Energy's Solar Massachusetts Renewable Target (SMART) program, specific kinds of dual use solar systems, known as "Agricultural Solar Tariff Generation Units," can qualify for financial incentives. To qualify, the land under the solar system must be in continuous agricultural production.<sup>12</sup>

12 "Dual Use Agriculture and Solar Photovoltaics," University of Massachusetts Amherst, Center for Agriculture, Food, and the Environment, May 2018. [umass.edu/center-energy/food-solar/dual-use-agriculture-solar-photovoltaics](http://umass.edu/center-energy/food-solar/dual-use-agriculture-solar-photovoltaics). Accessed November 2021.

## FACT SHEET: ENVIRONMENTAL IMPACTS OF RENEWABLE ENERGY— WIND AND SOLAR

Renewables have been the fastest growing energy source since 2017 when costs reached a key milestone. Costs dropped enough to make wind and solar the cheapest form of conventional energy.<sup>1</sup> Rural communities often carry this infrastructure. This fact sheet looks at the environmental impacts of wind and solar development.



### WIND

Bird and bat species are a top concern for protection from wind turbines.



Especially key protected, threatened, or endangered species: Indiana bat, northern long-eared bat, little brown bat, tri-colored bat, and bald eagles.



Wind developers are now performing acoustic surveys and radio tracking of threatened species to understand migration, mating, and nesting habits.

- ▶ Each developer must file for an Incidental Take Permit with the nearest U.S. Fish & Wildlife Service Ecological Services Office, which sets a limit to the amount of damage by wind turbines to vulnerable species.



That application includes a Habitat Conservation Plan detailing how the developer will not only avoid damaging, but protect vulnerable species.<sup>2</sup>

- ▶ These plans are part of complying with the Endangered Species Act.<sup>3</sup>
- ▶ Operating wind farms must conduct baseline bird and bat fatality monitoring in compliance with state and federal law.
- ▶ Turbines are checked weekly for bird and bat fatalities.
- ▶ Investing in habitat conservation and considering the nesting and migration patterns are also options to meet requirements.

<sup>1</sup> "Levelized Cost of Energy and Levelized Cost of Storage 2018." *Lazard*, Nov. 8, 2018, [lazard.com/perspective/levelized-cost-of-energy-and-levelized-cost-of-storage-2018/](https://www.lazard.com/perspective/levelized-cost-of-energy-and-levelized-cost-of-storage-2018/). Accessed December 2018.  
<sup>2</sup> "Habitat Conservation Plan Handbook." U.S. Fish & Wildlife Service, Jan. 18, 2018. [fws.gov/endangered/what-we-do/hcp-handbook-chapter.html](https://www.fws.gov/endangered/what-we-do/hcp-handbook-chapter.html). Accessed December 2018.  
<sup>3</sup> "Habitat Conservation Plans: Section 10 of the Endangered Species Act." U.S. Fish & Wildlife Service, Aug. 29, 2018. [fws.gov/endangered/policies/law/hcp\\_wefactsheet.html](https://www.fws.gov/endangered/policies/law/hcp_wefactsheet.html). Accessed December 2018.

### SOLAR

- ▶ Land used for utility scale solar projects can cause habitat loss.
- ▶ Pollinator-friendly solar sites can combine habitat for pollinators with solar arrays, and has been supported through state policy in Maryland, Minnesota, New York, and Illinois.<sup>4</sup>
- ▶ Three states—Connecticut,<sup>5</sup> North Carolina,<sup>6</sup> and Washington<sup>7</sup>—have passed policies restricting siting solar projects on agricultural land through either state legislation or county ordinances.
- ▶ As an alternative, low-impact solar and co-location of solar and agriculture is a growing area of research with three categories of design:
  1. Solar-centric
  2. Vegetation-centric
  3. Co-location<sup>8</sup>



Solar developers have found that combining solar generation with pollinator habitat or grazing land can reduce operations and maintenance costs.<sup>9</sup>

<sup>4</sup> "Conservation (S25 HCS55/1) Pollinator-Friendly Solar Site Act." Illinois General Assembly, Aug. 21, 2018, [legis.il.gov/TrackBill.aspx?BillID=201800044](https://legis.il.gov/TrackBill.aspx?BillID=201800044). Accessed December 2018.  
<sup>5</sup> "Department of Natural Resources - Solar Generation Facilities - Pollinator-Friendly Designation." General Assembly of Maryland, June 1, 2017. [dnr.maryland.gov/webmgw/cmsMain.aspx?cid=881126&tab=01&id=816page/Tab/subject/1Ayr/2017ss](https://dnr.maryland.gov/webmgw/cmsMain.aspx?cid=881126&tab=01&id=816page/Tab/subject/1Ayr/2017ss). Accessed December 2018.  
<sup>6</sup> "File No. 275: An Act Concerning the Installation of Certain Solar Facilities on Productive Farmlands." State of Connecticut General Assembly, March 28, 2017. [legis.ct.gov/2017/02/2017SB-000075-FC.htm](https://legis.ct.gov/2017/02/2017SB-000075-FC.htm). Accessed December 2018.  
<sup>7</sup> "PB 16-28." Currituck County Board of Commissioners, Feb. 20, 2017. [currituck.net.us/wp-content/uploads/2017/12/pb-16-28-currituck-county-ordinance-chapter-4-use-standards-02-20-2017.pdf](https://www.currituck.net.us/wp-content/uploads/2017/12/pb-16-28-currituck-county-ordinance-chapter-4-use-standards-02-20-2017.pdf). Accessed December 2018. This ordinance was put in place in February 2017 and repealed 18 months later.  
<sup>8</sup> "Solar Regulations." Kittitas County, Washington, Aug. 24, 2018. [kittitas.wa.us/uploads/cda/comp-plan/SPPAC/Proposed-Amendments-KCC-Regarding-Solar-Power-Production-Facilities.pdf](https://www.kittitas.wa.us/uploads/cda/comp-plan/SPPAC/Proposed-Amendments-KCC-Regarding-Solar-Power-Production-Facilities.pdf). Accessed December 2018.  
<sup>9</sup> Mow, Benjamin. "Solar, Sheep and Volatile Veggies: Untiling Solar Power and Agriculture." U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy-National Renewable Energy Laboratory, June 6, 2018. [nrel.gov/state-local-tribal/blog/posts/solar-sheep-and-volatile-veggies-untiling-solar-power-and-agriculture.html](https://www.nrel.gov/state-local-tribal/blog/posts/solar-sheep-and-volatile-veggies-untiling-solar-power-and-agriculture.html). Accessed December 2018.  
<sup>10</sup> Madnick, Jordan. "Overview of Opportunities for Co-location of Agriculture and Solar PV." U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy-National Renewable Energy Laboratory, June 14, 2016. [nrel.gov/wp-content/uploads/2013/01/NREL-Overview-of-opportunities-for-co-location-of-agriculture-and-solar-PV-1.pdf](https://www.nrel.gov/wp-content/uploads/2013/01/NREL-Overview-of-opportunities-for-co-location-of-agriculture-and-solar-PV-1.pdf). Accessed December 2018.

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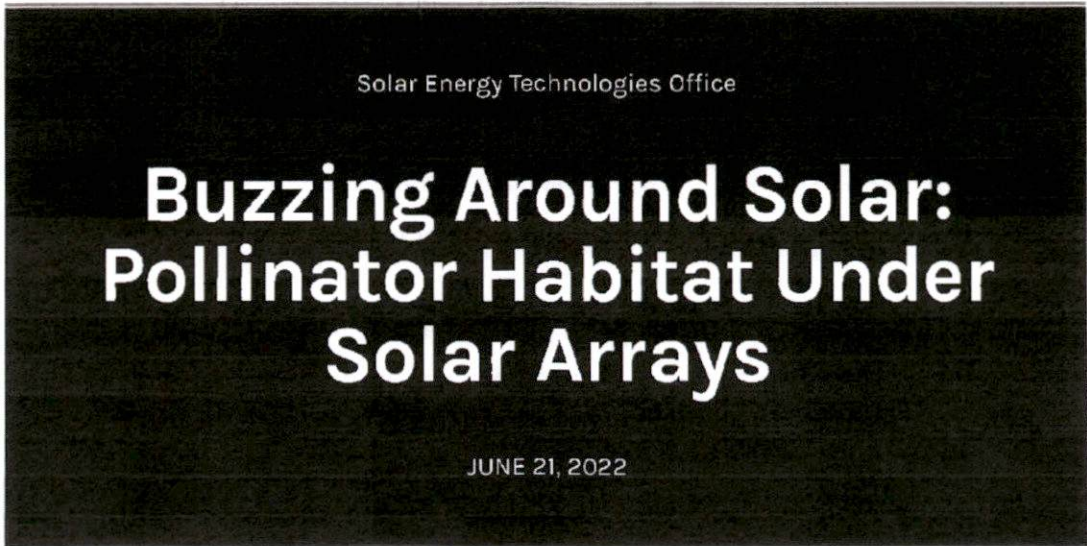
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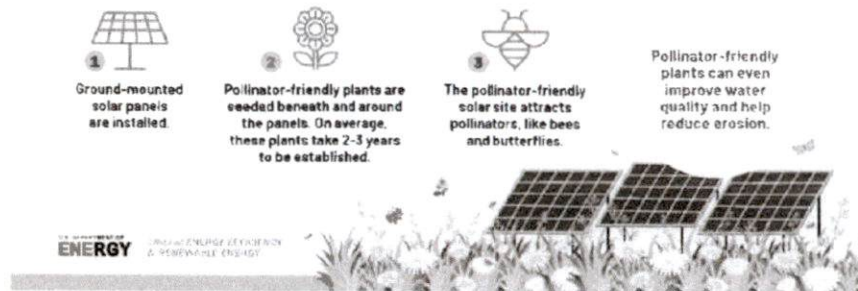
Buzzing Around Solar: Pollinator Habitat Under Solar Arrays

By: Michele Boyd, Program Manager, Strategic Analysis and Institutional Support

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## WHAT IS POLLINATOR-FRIENDLY SOLAR?

Growing pollinator-friendly plants under solar panels can produce clean energy while providing habitat and food for birds, bees, butterflies, and other beneficial insects.



Pollinators—such as bees, butterflies, and other insects—are critical to the success of about 35 percent of global food crop production. In order to thrive, pollinators must have a suitable habitat. Establishing pollinator-friendly plants under and around ground-mounted solar arrays has the potential to provide this critical habitat and benefit both the pollinators and nearby agriculture. But a number of important questions remain about the impacts of pollinator-friendly solar and how to implement it at a large scale.

The U.S. Department of Energy Solar Energy Technologies Office (SETO) is working to better understand the economic, ecological, and performance impacts of co-locating pollinator habitat and solar arrays. This research is part of our broader agrivoltaics research, which studies how solar and agriculture can co-locate. Some of that research includes:

- Seed mixes and stormwater management in Georgia: A pollinator-friendly solar farm on former U.S. President Jimmy Carter's land is one of five solar sites being used to study stormwater infiltration and runoff at solar farms. They are testing three different seed mixes, including the



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 industry-standard grass, a low-diversity pollinator mix, and  
 a high-diversity planting pollinator mix.



Black-eyed Susan flowers are blooming at sunrise at the Carter Farms solar site.

Jill Stuckey

- Ecological and performance impact studies in the Midwest: SETO funded a project led by the University of Illinois to investigate solar co-located with pollinator plantings at large-scale installations, with teams of researchers working at seven separate sites in the Midwest. From their findings, they will develop a pollinator planting manual, cost-benefit calculator, native seed mix selection tool, and pollinator assessment tool. Together, these tools will address questions on project cost, return on investment, logistical needs, and site- or project-specific constraints.

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 National Institute of Food and Agriculture  
UNITED STATES DEPARTMENT OF AGRICULTURE

# Protecting Pollinators Critical to Food Production

June 10, 2022

## NIFA AUTHORS

Margaret Lawrence, Writer-Editor

**Pollinators help ensure the world eats. Scientists estimate that about 75% of the world's flowering plants and about 35% of the world's food crops depend on animal pollinators to produce.**

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While more than 3,500 species of native bees help increase crop yields, pollinators include many more species than just bees. Flowers can be pollinated by both insects and animals - such as bees, wasps, moths, flies, butterflies, birds and even small mammals such as bats.

Despite their importance, many pollinators are declining in numbers, posing a threat not only to the world's ecosystems but to global food security as well. To help address overall pollinator decline, USDA's National Institute of Food and Agriculture (NIFA) partners with Land-grant Universities (LGUs), U.S. government laboratories, and private and nonprofit organizations to support research, education, and extension programs advancing pollinator health.

Since 2020, NIFA has awarded \$15.98 million via more than 40 competitive grants including Agriculture and Food Research Initiative grants as well as non-AFRI grants. Additionally, NIFA capacity funding to Land-grant Institutions supported 28 additional research and Extension projects.

### **Multi-State Project Reaping Rewards**

NIFA's Multi-State Research Fund also provides crucial support to projects that incorporate multiple institutions tackling vital projects. One such grant brought together the **University of California, Cornell University, Cornell Cooperative Extension, Delaware Cooperative Extension, University of Illinois, Louisiana State University, University of Massachusetts, Michigan State University, University of Minnesota, Mississippi State University, University of Nebraska, University of New Hampshire, North Carolina Cooperative Extension, Pennsylvania State University, Purdue University, Rutgers University, University of Vermont, and Virginia Tech**. Their goal—harness chemical ecology to address agricultural pest and pollinator challenges. To reduce reliance on pesticides, scientists explored ways to harness natural plant defenses, such as emitting chemicals that slow insect feeding, inhibit infections, call beneficial insects to their aid or warn other plants.

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To: Woodbury County Zoning Commission

Questions Submitted at Nov 27, 2023 meeting

1. Does the county have a map showing where the signed solar easements are located in the county? If so, can you provide this map to the public with a listing of parcels and owners?
2. Can the Solar Utilities within Ag Preservation Land designate a setback from a residence to a one mile radius? Studies have shown that property values within 0.5 miles of solar farms are negatively impacted by solar farms (See attached article or link) (link: [Do Solar Farms Lower Property Values? A New Study Has Some Answers - Inside Climate News](#))
3. If the county grants an overlay within Ag Preservation Land and does not designate the setbacks greater than 0.5 miles, does the county think there is precedent to win a legal case brought from landowners within 0.5 miles of the solar farms who believe their land values are decreased due to the solar farm? Please provide a listing of legal cases that show legal precedent has been made in other counties.
4. Per the packet provided at the meeting today, it appears that the majority of the people who have spoken at prior meetings in favor of the solar projects on Ag Preservation land have signed easements with solar companies or utility companies. (See attached listing of landowners and parcels that have signed easement contracts.) It would appear those people are primarily promoting private interest rather than the general welfare of the county. If the Woodbury County Zoning Commission makes the changes to allow an overlay that would allow these landowners with existing easement contracts to build solar utilities on the Ag Preservation Land, does the county believe they can show that the changes were made within a comprehensive land use plan and promotes the general welfare of the county? If the county begins making changes to include more parcels from the landowners with easements, it could be seen as promoting private interest rather than the general welfare of the county.
5. In the packet provided it discusses the possibility of using the original Corn Suitability Rating (CSR) Vs the Corn Suitability Rating 2 (CSR2). The county assesses taxes based on CSR2 not CSR. When the county began using CSR2 to assess property taxes, property owners in the river bottom tried to argue that it was not a suitable rating for the land. However, the county and state disagreed and stated that CSR2 was a suitable rating for Ag Land. If the commission decides to use a CSR rating instead of a CSR2 rating, please provide evidence as to why they believe the old rating is better than the new rating? If they believe CSR values are more correct than CSR2, should the commission petition the Treasurer's Office to change the property valuations from CSR2 back to the old CSR valuation that was used over 10 years ago?

Christopher Widman  
1866 220<sup>th</sup> Street  
Bronson, IA 51007

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## Do Solar Farms Lower Property Values? A New Study Has Some Answers

Researchers looked at sale prices of 1.8 million homes near utility-scale solar plants in six states—the largest analysis ever done on this subject.



By Dan Gearino   
March 15, 2023

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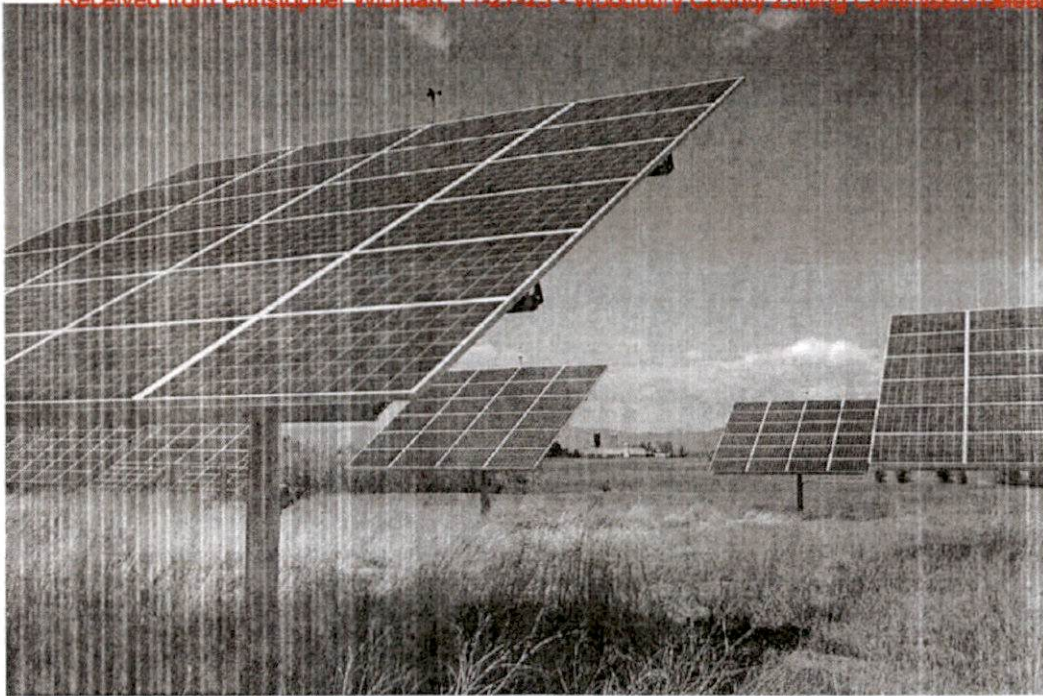


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Solar tracker panels follow the sun's path on May 17, 2014 on a Champlain Valley dairy farm near West Haven, Vermont. Credit: Robert Nickelsberg/Getty Images

A new study finds that houses within a half-mile of a utility-scale solar farm have resale prices that are, on average, 1.5 percent less than houses that are just a little farther away.

The research from Lawrence Berkeley National Laboratory helps to refute some of the assertions of solar opponents who stoke resistance to projects with talk of huge drops in property values. But it also drives a hole through the argument made by people in the solar industry who say there is no clear connection between solar and a drop in values.

The authors analyzed 1.8 million home sales near solar farms in six states and found diminished property values in Minnesota (4 percent), North Carolina (5.8 percent) and New

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were within their margins of error, which means the price effects were too close to zero to be meaningful. The paper was published in the journal Energy Policy.

The authors accounted for differences in property features, inflation and other factors in order to isolate the effect of proximity to solar.

Ben Hoen, a co-author and research scientist at the Lawrence Berkeley lab, said the numbers are clear but additional research is needed to understand what's happening on the local level to lead to these price effects.

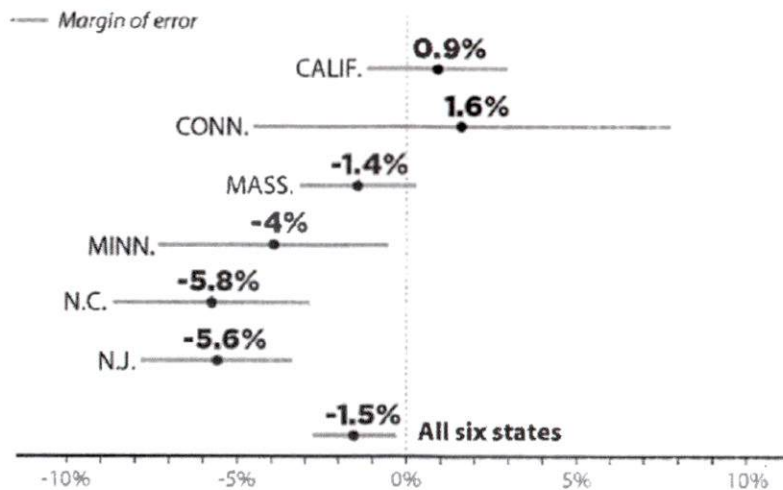
"We have a sense of the 'what,' but we don't know the 'why,'" he said.

### Solar's Effect on Home Resale Prices

A new study looked at resale values of houses near utility-scale solar plants and found the properties closest to a solar project sell for slightly less than properties that are a little farther away. The research covered six states, only three of which (Minnesota, North Carolina and New Jersey) showed pricing effects outside of the study's margin of error.

#### HOME RESALE VALUES

Price difference between half-mile and 2-to-4 mile proximity of utility-scale solar plant



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For example, he doesn't have a thorough explanation for why the price differences are higher in some states than others.

The researchers chose this group of states because they were, except for Connecticut, the top five in the country for the number of solar installations of at least 1 megawatt as of 2019. They included Connecticut because it is an example of a state with a high population density near solar projects.

Hoen emphasized that the results show a period in time, with transactions that occurred from 2003 to 2020, and may not reflect prices right now.

Also, he noted that the paper's analysis doesn't take into account any of the financial benefits of solar for landowners and communities, which may include payments from the developer and a decrease in local taxes.

The study is being released at a time of rapid expansion in the number and size of solar projects, which is a key part of the country's push to reduce the emissions that contribute to climate change.

The scale of growth in solar development has been met with an intensifying resistance in local communities where some people argue that the projects are ugly and pose a threat to property values and human health. Solar opponents amplify these concerns on social media.

Of all the arguments against solar, the idea that it will hurt property values has been among the most potent, based on prior reporting by Inside Climate News about the local debates. At public hearings and in comments filed with regulators, some residents talk about how they fear reductions of 40 percent or more.

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Asked if he saw anything in his data to support these claims, Hoen said there is “no evidence that an effect that large exists.”

Jeffrey Jacquet, an Ohio State University professor who has written about conflicts over renewable energy projects, said the new paper is impressive in its depth and shows the need to ask more questions about the benefits and drawbacks of

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"I think the takeaway is that the effect of renewables on property values is small on average, but it is not zero, and we need to correct for that negative impact," he said.

Before this latest study, the largest one done in the United States was in 2020 by researchers at the University of Rhode Island who looked at about 400,000 real-estate transactions in Rhode Island and Massachusetts. They found that the value of houses within one mile of a solar project decreased by an average of 1.7 percent following construction of the project.

The two studies each show a small decrease in values of properties near solar projects, although Hoen cautioned against comparisons because the two are different in their geographic scope and the number of transactions reviewed.

## **The Solar Industry Reacts**

Clean energy advocates and the solar industry may be pleased that the study finds no large negative effect on property values, but they also are wary of the core finding that there is a measurable, albeit small, effect.

"There is nothing revelatory in this study—the results are not definitive and only cover a narrow data set," said Jason Ryan, a spokesman for the American Clean Power Association, a trade group, in a statement. "The report, which found no evidence of adverse impacts on property values in half the states studied, is largely consistent with many prior studies finding that solar projects don't adversely affect property values. Appraisal data from across the country also show similar conclusions."

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property appraiser in Raleigh, North Carolina. He has spent about 15 years analyzing property values near solar projects. He often works on behalf of solar companies in regulatory cases before state and local regulatory agencies.

“You can’t really measure things that small in real estate from an appraisal standpoint,” he said.

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Among the many problems with drawing conclusions from such a small difference is that there are many factors at play, including the desirability of the house and the features of the land, he said. The presence of a solar project is one of those factors, and it’s difficult to say how much weight it has.

In his experience, solar projects do not lead to a pattern of a negative effect on the values of nearby properties.

Kirkland is far from alone in coming to this conclusion. In Chisago County, Minnesota, which has more solar projects than any other county in the state, officials have been monitoring real-estate transactions to try to detect any changes in resale prices as a result of solar development. They haven’t found any negative effects, either in 2017 after the construction of the state’s largest solar array, or as recently as December, according to the county assessor’s

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Hoen said that a 1.5 percent difference may not be significant for an appraiser looking at a small number of transactions, but it is significant in a statistical analysis like the one in the paper.

And, even if there are many factors at play, he is confident that proximity to solar is a strong factor explaining the price difference.

He is eager to ask follow-up questions in additional studies to get an idea of what solar-related factors are contributing to negative effects of pricing. For example, he wonders if an increase in local controversy surrounding a project leads to larger decreases in property values.

“Unpacking these types of mechanisms will take further study,” he said.

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**Dan Gearino**

Clean Energy Reporter, Midwest, National Environment Reporting Network

Dan Gearino covers the midwestern United States, part of ICN's National Environment Reporting Network. His coverage deals with the business side of the clean-energy transition and he writes ICN's Inside Clean Energy newsletter. He came to ICN in 2018 after a nine-year tenure at The Columbus Dispatch, where he covered the business of energy. Before that, he covered politics and business in Iowa and in New Hampshire. He grew up in Warren County Iowa, just south of Des Moines, and lives in Columbus.

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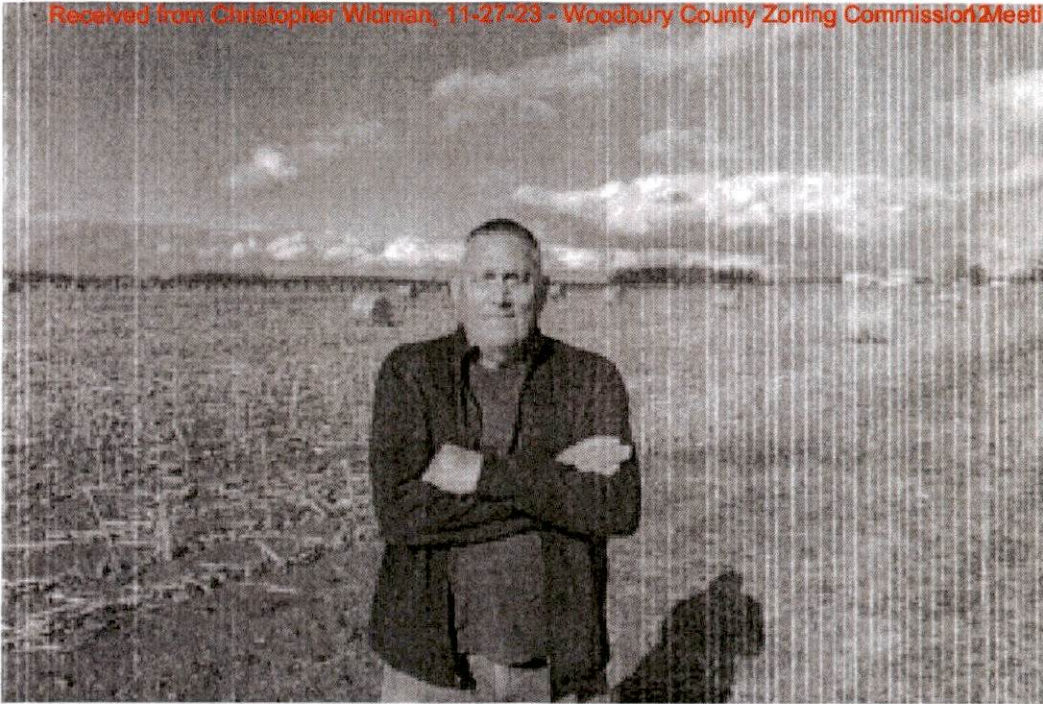


## Community Solar Is About to Get a Surge in Federal Funding. So What Is Community Solar?

By Dan Gearino

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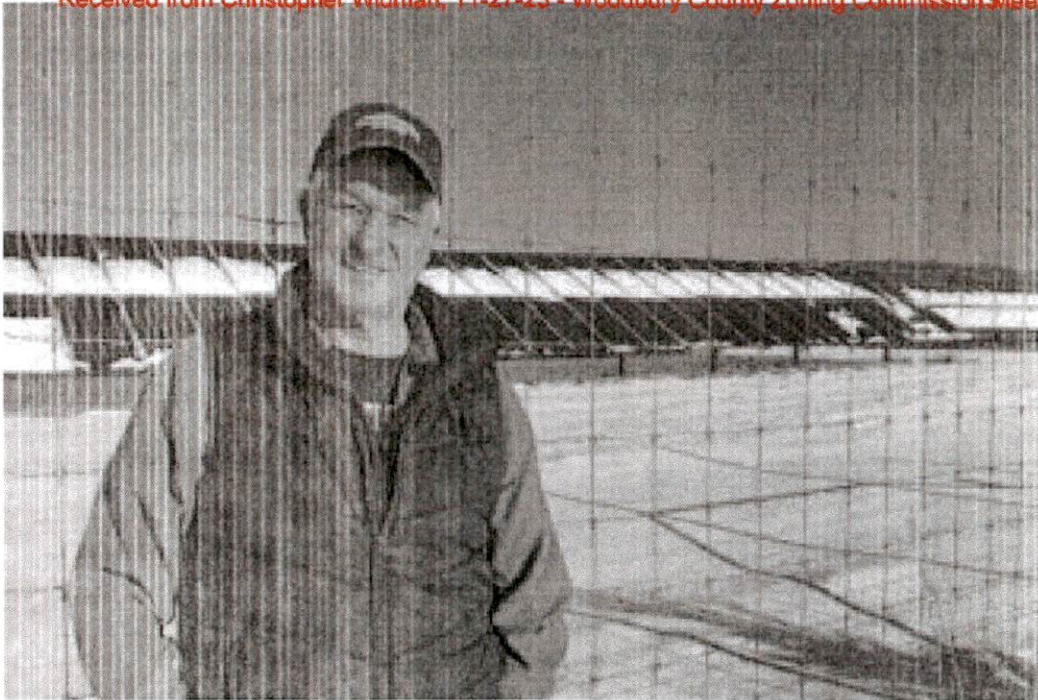


**In the End, Solar Power Opponents Prevail in Williamsport, Ohio**

By Dan Gearino

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**One Farmer Set Off a Solar Energy Boom in Rural Minnesota; 10 Years Later, Here's How It Worked Out**

By Dan Gearino

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### **What Happened to the Great Lakes Offshore Wind Boom?**

Offshore wind projects cropped up all over the Great Lakes region in the early 2010s. By the end of the decade, all but one were gone. Developers, though still drawn to the lakes' powerful winds, have been reluctant to return.

By Nicole Pollack

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**A New Solar Water Heating System Goes Online as Its Developer Enters the US Market**

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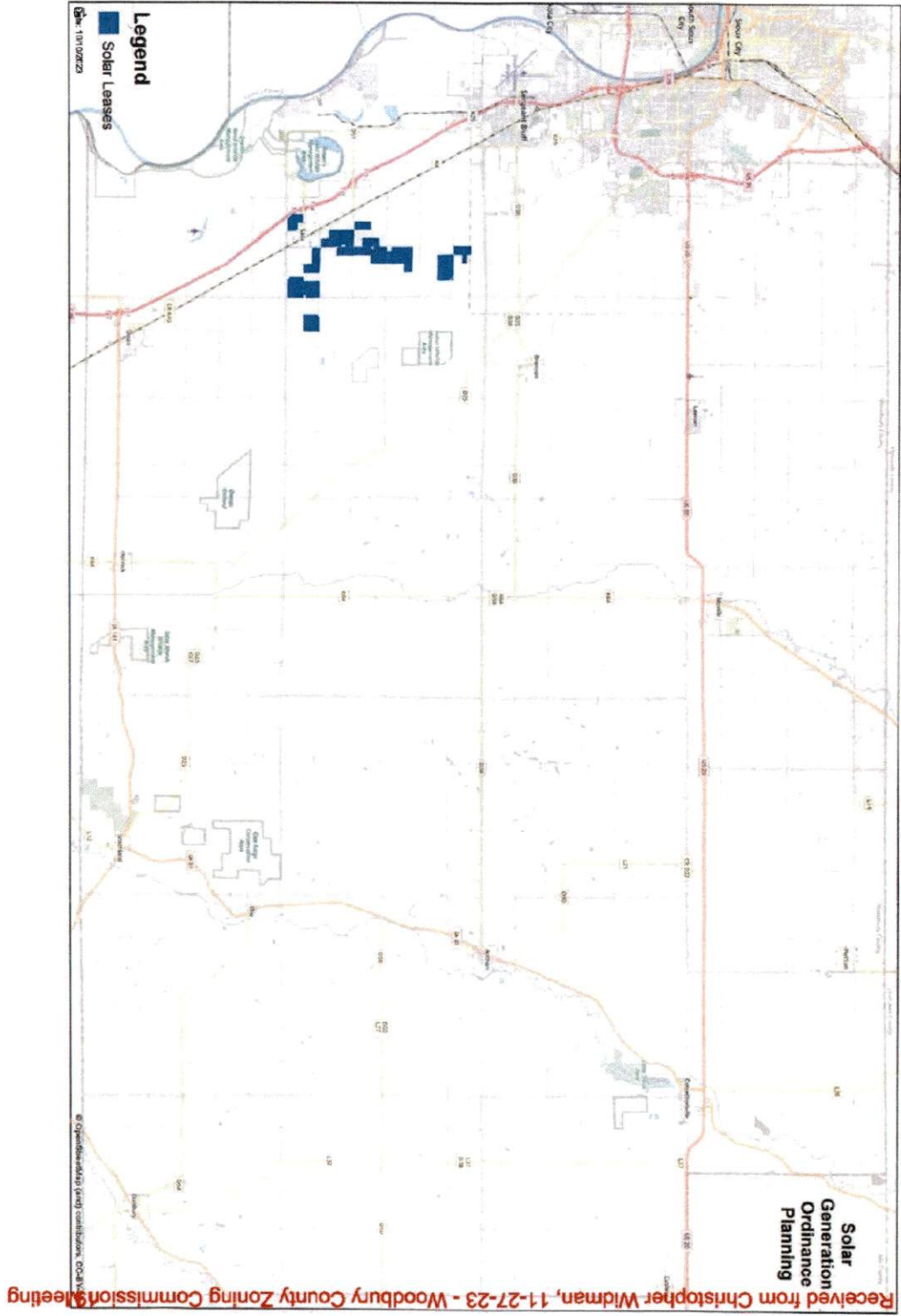
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|      | Wagner Farm Enterprises | 874726300005 | 38      |
|      | Wagner Farm Enterprises | 874726300005 | 2.5     |
| 9650 | Gwendolyn Hodges        | 874722400003 | 20      |
|      | Gwendolyn Hodges        | 874722400006 | 19.5    |
| 9649 | Anthony Harpenau        | 874736400002 | 39      |
|      | Anthony Harpenau        | 874736400003 | 37.58   |
|      | Anthony Harpenau        | 874736400004 | 36.62   |
|      | Anthony Harpenau        | 874736300005 | 36.46   |
|      | Anthony Harpenau        | 874736400001 | 40      |
| 9660 | Wood Ward Douglas       | 874713100003 | 40      |
|      | Wood Ward Douglas       | 874714200003 | 39      |
|      | Wood Ward Douglas       | 874714200004 | 20      |
|      | Wood Ward Douglas       | 874714200005 | 20      |
| 9658 | Matthew Topf            | 874735200002 | 37.2    |
|      | Matthew Topf            | 874735200003 | 39      |
|      |                         |              | 2230.72 |

Received from Christopher Widman, 11-27-23 - Woodbury County Zoning Commission Meeting



Received from Leo Jochum, 11-27-23 **Soils Map** Woodbury County Zoning Commission Meeting<sub>1</sub>



Soils data provided by USDA and NRCS.



State: Iowa  
 County: Woodbury  
 Location: 5-86N-46W  
 Township: Sloan  
 Acres: 153.5  
 Date: 11/27/2023



Area Symbol: IA193, Soil Area Version: 33

| Code                    | Soil Description  | Acres  | Percent of field | CSR2 Legend | Non-Irr Class *c | CSR2**      | CSR         | *n NCCPI Soybeans |                |
|-------------------------|---|--------|------------------|-------------|------------------|-------------|-------------|-------------------|----------------|
| 244                     | Blend silty clay, 0 to 2 percent slopes, rarely flooded         | 144.57 | 94.2%            |             | IIIw             | 81          | 47          | 52                |                |
| 67                      | Woodbury silty clay, 0 to 2 percent slopes, rarely flooded      | 8.00   | 5.2%             |             | IIIw             | 74          | 51          | 52                |                |
| 436                     | Lakeport silty clay loam, 0 to 2 percent slopes, rarely flooded | 0.93   | 0.6%             |             | Iw               | 89          | 74          | 71                |                |
| <b>Weighted Average</b> |   |        |                  |             |                  | <b>2.99</b> | <b>80.7</b> | <b>47.4</b>       | <b>*n 52.1</b> |

\*\*IA has updated the CSR values for each county to CSR2.  
 \*n: The aggregation method is "Weighted Average using all components"  
 \*c: Using Capabilities Class Dominant Condition Aggregation Method  
 Soils data provided by USDA and NRCS.

Received from Leo Jachum, 11-27-23, Woodbury County Zoning Commission Meeting

# IOWA STATE UNIVER

The CSR established an index rating soil map units (SMU) on their potential crop productivity. A CSR rating is based on the inherent properties of each SMU, average weather, and the frequency of use of the soil for row-crop production (Equation 1). The rating also assumes a SMU is adequately managed, artificially drained where required, SMUs located on lower landscapes are not frequently flooded, and there is no land leveling or terracing. Corn suitability ratings can range from 100 for SMUs that have no physical limitations for continuous row cropping to as low as 5 for SMUs with severe limitations for row cropping.

### Equation 1

$CSR = S - E - B \pm W - C - D - SG - P - DSM - PM - MP$  (modified from Fenton et al., 1971)

|                      |   |
|----------------------|---|
| S = slope            | SG = sandy or gravelly soils                |
| E = erosion          | P = precipitation factors                   |
| B = biosequence      | DSM = deposition and special soil modifiers |
| W = wetness          | PM = parent material                        |
| C = calcareous soils | MP = muck and peaty soils                   |
| D = depth phase      |   |

Since the establishment of the CSR in 1971, the science for calculating CSR for a SMU became more robust as the knowledge base of soil properties was significantly enhanced and expanded. Another change since the establishment of the CSR in 1971 was the soil classification system in use at that time has since been replaced with the current classification system. With the change in soil classification systems, there are currently 500 soil series recognized in Iowa. That is 150 additional soils recognized than when the CSR was first established in 1971.

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### Equation 2

$CSR2 = S - M - W - F - D \pm EJ$  (Burras et al., 2015)

S = taxonomic subgroup class of the series of the soil map unit (MU)  
M = family particle size class  
W = available water holding capacity (AWC) of the series  
F = field condition of a particular MU

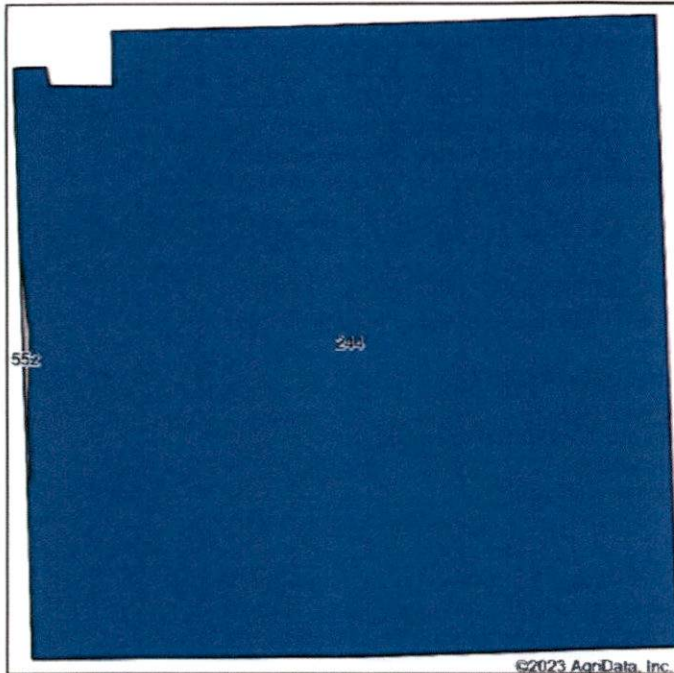
- Slope
- Flooding
- Ponding
- Erosion class
- Topsoil thickness

D = soil depth and tolerable rate of soil erosion  
EJ = expert judgement correction factor

- Normally used with parent materials with very high bulk density and/or are usually clayey or sandy

Similar to the original CSR, the CSR2 assumes a SMU is adequately managed, artificially drained where required, and there is no land leveling or terracing. A major difference between the CSR and the CSR2 is the CSR included a rainfall correction factor where the CSR2 does not.

Received from Leo Jochum, 11-27-23 **Soils Map** Woodbury County Zoning Commission Meeting<sup>3</sup>



State: Iowa  
 County: Woodbury  
 Location: 31-87N-46W  
 Township: Grange  
 Acres: 153.97  
 Date: 11/27/2023



Soils data provided by USDA and NRCS.

| Area Symbol: IA193, Soil Area Version: 33 |   |        |                  |             |                  |              |           |           |                   |
|---|---|--------|------------------|-------------|------------------|--------------|-----------|-----------|-------------------|
| Code                                      | Soil Description  | Acres  | Percent of field | CSR2 Legend | Non-Irr Class *c | Irr Class *c | CSR2**    | CSR       | *n NCCPI Soybeans |
| 244                                       | Blend silty clay, 0 to 2 percent slopes, rarely flooded | 153.62 | 99.8%            |             | Illw             |              | 81        | 47        | 52                |
| 552                                       | Owego silty clay, 0 to 2 percent slopes, rarely flooded | 0.35   | 0.2%             |             | Illw             | Illw         | 67        | 42        | 51                |
| <b>Weighted Average</b>                   |   |        |                  |             |                  |              | <b>81</b> | <b>47</b> | <b>*n 52</b>      |

\*\*IA has updated the CSR values for each county to CSR2.  
 \*n: The aggregation method is "Weighted Average using all components"  
 \*c: Using Capabilities Class Dominant Condition Aggregation Method  
 \*- Irr Class weighted average cannot be calculated on the current soils data due to missing data.  
 Soils data provided by USDA and NRCS.

Received from Leo Johnson, 11-27-23 - Woodbury County Zoning Commission Meeting

# IOWA STATE UNIVER

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### Equation 1

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|                      |   |
|----------------------|---|
| S = slope            | SG = sandy or gravelly soils                |
| E = erosion          | P = precipitation factors                   |
| B = biosequence      | DSM = deposition and special soil modifiers |
| W = wetness          | PM = parent material                        |
| C = calcareous soils | MP = muck and peaty soils                   |
| D = depth phase      |   |

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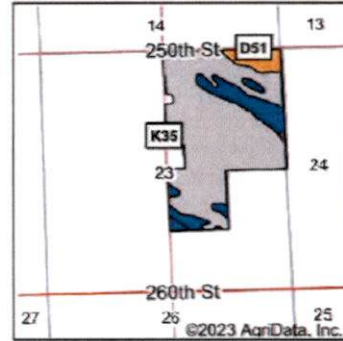
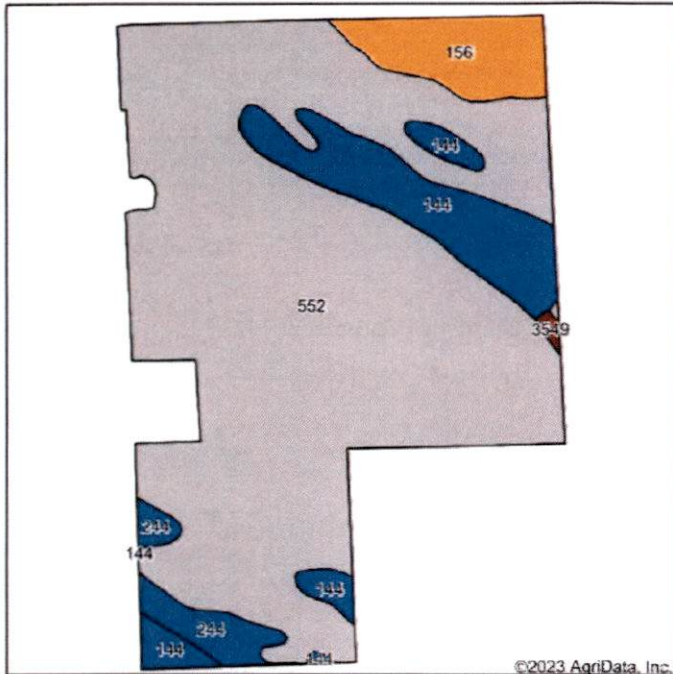
### Equation 2

$CSR2 = S - M - W - F - D \pm EJ$  (Burras et al., 2015)

|  |
|--|
| S = taxonomic subgroup class of the series of the soil map unit (MU)                                 |
| M = family particle size class   |
| W = available water holding capacity (AWC) of the series   |
| F = field condition of a particular MU   |
| • Slope  |
| • Flooding   |
| • Ponding  |
| • Erosion class  |
| • Topsoil thickness  |
| D = soil depth and tolerable rate of soil erosion  |
| EJ = expert judgement correction factor  |
| • Normally used with parent materials with very high bulk density and/or are usually clayey or sandy |

Similar to the original CSR, the CSR2 assumes a SMU is adequately managed, artificially drained where required, and there is no land leveling or terracing. A major difference between the CSR and the CSR2 is the CSR included a rainfall correction factor where the CSR2 does not.

Received from Leo Jochum, 11-27-2023, Soil Map, Woodbury County Zoning Commission Meeting



State: Iowa  
 County: Woodbury  
 Location: 23-87N-47W  
 Township: Liberty  
 Acres: 187.71  
 Date: 11/27/2023



| Area Symbol: IA193, Soil Area Version: 33 |  |        |                  |             |                  |              |        |             |                   |             |                |
|---|--|--------|------------------|-------------|------------------|--------------|--------|-------------|-------------------|-------------|----------------|
| Code                                      | Soil Description   | Acres  | Percent of field | CSR2 Legend | Non-irr Class *c | Irr Class *c | CSR2** | CSR         | *n NCCPI Soybeans |             |                |
| 552                                       | Owego silty clay, 0 to 2 percent slopes, rarely flooded      | 146.95 | 78.3%            |             |                  | lllw         |        | 67          | 42                |             |                |
| 144                                       | Blake silty clay loam, 0 to 2 percent slopes, rarely flooded | 23.10  | 12.3%            |             |                  | lw           |        | 91          | 70                |             |                |
| 156                                       | Albion silty clay, 0 to 2 percent slopes, rarely flooded     | 11.21  | 6.0%             |             |                  | lllw         |        | 58          | 5                 |             |                |
| 244                                       | Blend silty clay, 0 to 2 percent slopes, rarely flooded      | 5.99   | 3.2%             |             |                  | lllw         |        | 81          | 47                |             |                |
| 3549                                      | Modale complex, 0 to 2 percent slopes, rarely flooded        | 0.46   | 0.2%             |             |                  | lw           |        | 77          | 63                |             |                |
| <b>Weighted Average</b>                   |  |        |                  |             |                  |              |        | <b>2.75</b> | <b>69.9</b>       | <b>46.2</b> | <b>*n 53.8</b> |

\*\*IA has updated the CSR values for each county to CSR2.  
 \*n: The aggregation method is "Weighted Average using all components"  
 \*c: Using Capabilities Class Dominant Condition Aggregation Method  
 \*- Irr Class weighted average cannot be calculated on the current soils data due to missing data.  
 Soils data provided by USDA and NRCS.

# IOWA STATE UNIVER

The CSR established an index rating soil map units (SMU) on their potential crop productivity. A CSR rating is based on the inherent properties of each SMU, average weather, and the frequency of use of the soil for row-crop production (Equation 1). The rating also assumes a SMU is adequately managed, artificially drained where required, SMUs located on lower landscapes are not frequently flooded, and there is no land leveling or terracing. Corn suitability ratings can range from 100 for SMUs that have no physical limitations for continuous row cropping to as low as 5 for SMUs with severe limitations for row cropping.

## Equation 1

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|                      |   |
|----------------------|---|
| S = slope            | SG = sandy or gravelly soils                |
| E = erosion          | P = precipitation factors                   |
| B = biosquence       | DSM = deposition and special soil modifiers |
| W = wetness          | PM = parent material                        |
| C = calcareous soils | MP = muck and peaty soils                   |
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Since the establishment of the CSR in 1971, the science for calculating CSR for a SMU became more robust as the knowledge base of soil properties was significantly enhanced and expanded. Another change since the establishment of the CSR in 1971 was the soil classification system in use at that time has since been replaced with the current classification system. With the change in soil classification systems, there are currently 500 soil series recognized in Iowa. That is 150 additional soils recognized than when the CSR was first established in 1971.

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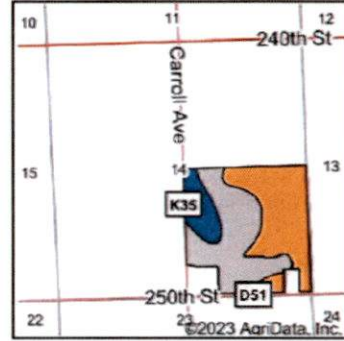
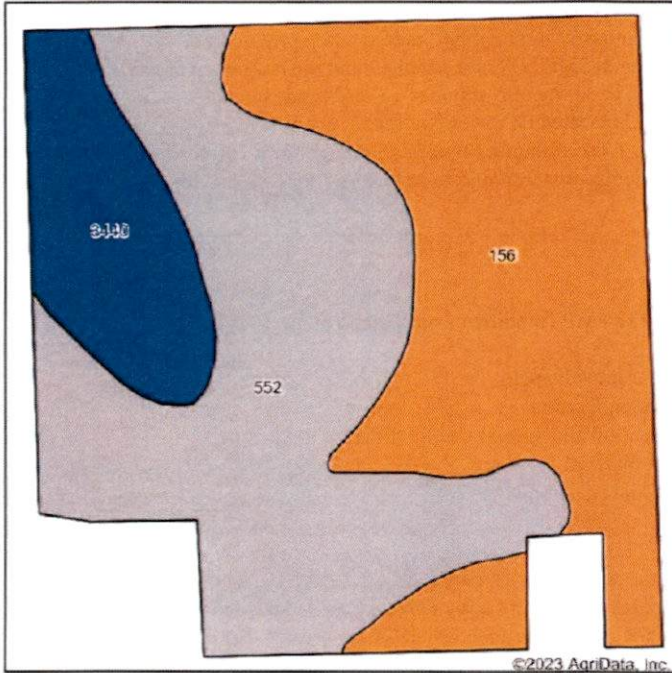
## Equation 2

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|  |
|--|
| S = taxonomic subgroup class of the series of the soil map unit (MU)                                 |
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| • Slope  |
| • Flooding   |
| • Ponding  |
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| • Topsoil thickness  |
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| EJ = expert judgement correction factor  |
| • Normally used with parent materials with very high bulk density and/or are usually clayey or sandy |

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Received from Leo Jochum, 11-27-2023 Soils Map Woodbury County Zoning Commission Meeting



State: Iowa  
 County: Woodbury  
 Location: 14-87N-47W  
 Township: Liberty  
 Acres: 140.07  
 Date: 11/27/2023



Soils data provided by USDA and NRCS.

Area Symbol: IA193, Soil Area Version: 33

| Code                    | Soil Description  | Acres | Percent of field | CSR2 Legend | Non Irr Class *c | Irr Class *c | CSR2**      | CSR         | *n NCCPI Soybeans |
|-------------------------|---|-------|------------------|-------------|------------------|--------------|-------------|-------------|-------------------|
| 156                     | Albaton silty clay, 0 to 2 percent slopes, rarely flooded           | 61.74 | 44.1%            |             |                  | IIIw         | 58          | 51          | 49                |
| 552                     | Owega silty clay, 0 to 2 percent slopes, rarely flooded             | 60.39 | 43.1%            |             |                  | IIIw         | 67          | 42          | 51                |
| 3440                    | Blencoe-Woodbury silty clays, 0 to 2 percent slopes, rarely flooded | 17.94 | 12.8%            |             |                  | IIw          | 84          | 63          | 55                |
| <b>Weighted Average</b> |   |       |                  |             |                  |              | <b>65.2</b> | <b>48.7</b> | <b>*n 50.6</b>    |

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# IOWA STATE UNIVERSITY

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|----------------------|---|
| S = slope            | SG = sandy or gravelly soils                |
| E = erosion          | P = precipitation factors                   |
| B = biosequence      | DSM = deposition and special soil modifiers |
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- Slope
- Flooding
- Ponding
- Erosion class
- Topsoil thickness

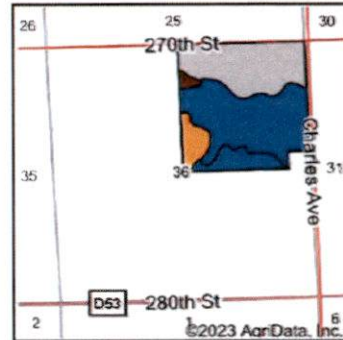
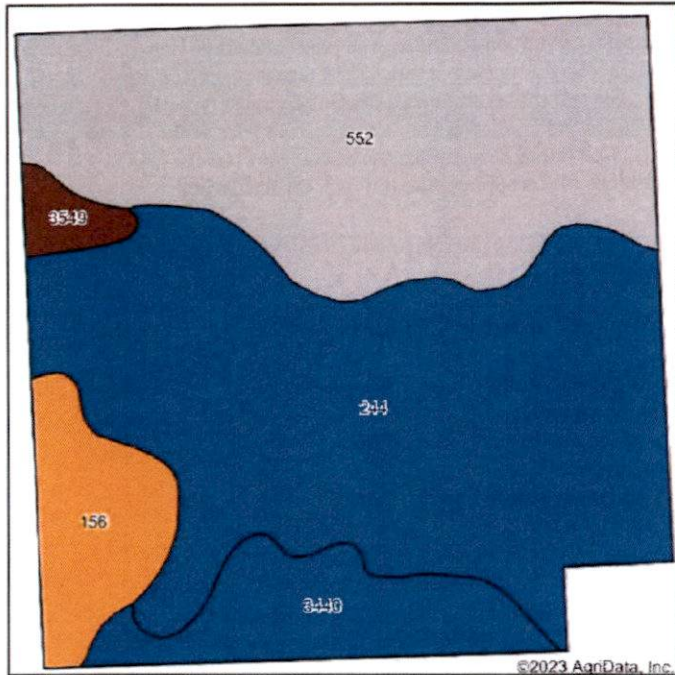
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Received from Leo Jochum, 11-27-23 Soils Map Woodbury County Zoning Commission Meeting



State: Iowa  
 County: Woodbury  
 Location: 36-87N-47W  
 Township: Liberty  
 Acres: 152.17  
 Date: 11/27/2023



Soils data provided by USDA and NRCS.

Area Symbol: IA193, Soil Area Version: 33

| Code                    | Soil Description  | Acres | Percent of field | CSR2 Legend | Non-Irr Class<br>*c | Irr Class<br>*c | CSR2**      | CSR         | *n NCCPI Soybeans |
|-------------------------|---|-------|------------------|-------------|---------------------|-----------------|-------------|-------------|-------------------|
| 244                     | Blend silty clay, 0 to 2 percent slopes, rarely flooded             | 71.47 | 47.0%            | [Dark Blue] |                     | IIIw            | 81          | 47          | 52                |
| 552                     | Owego silty clay, 0 to 2 percent slopes, rarely flooded             | 54.10 | 35.6%            | [Grey]      |                     | IIIw            | 67          | 42          | 51                |
| 3440                    | Blencoe-Woodbury silty clays, 0 to 2 percent slopes, rarely flooded | 13.35 | 8.8%             | [Dark Blue] |                     | IIw             | 84          | 63          | 55                |
| 156                     | Albion silty clay, 0 to 2 percent slopes, rarely flooded            | 10.72 | 7.0%             | [Orange]    |                     | IIIw            | 58          | 51          | 49                |
| 3549                    | Modale complex, 0 to 2 percent slopes, rarely flooded               | 2.53  | 1.7%             | [Dark Blue] |                     | Iw              | 77          | 63          | 57                |
| <b>Weighted Average</b> |   |       |                  |             |                     |                 | <b>74.6</b> | <b>47.2</b> | <b>*n 51.8</b>    |

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|--|
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| • Ponding  |
| • Erosion class  |
| • Topsoil thickness  |
| D = soil depth and tolerable rate of soil erosion  |
| EJ = expert judgement correction factor  |
| • Normally used with parent materials with very high bulk density and/or are usually clayey or sandy |

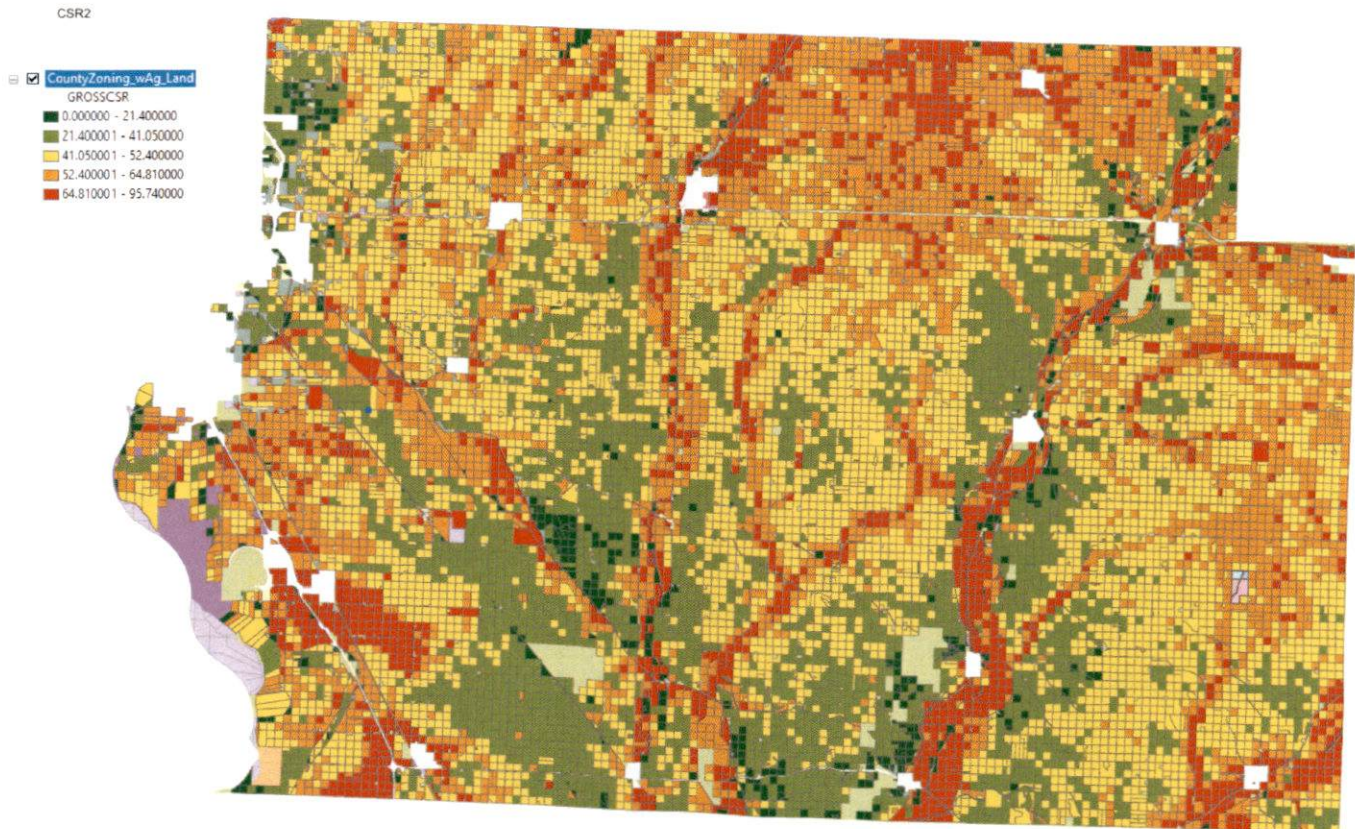
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## Appendix

### CSR2 average by parcel in Agricultural Preservation (AP) Zoning District

\*Data acquired via Schneider/Beacon

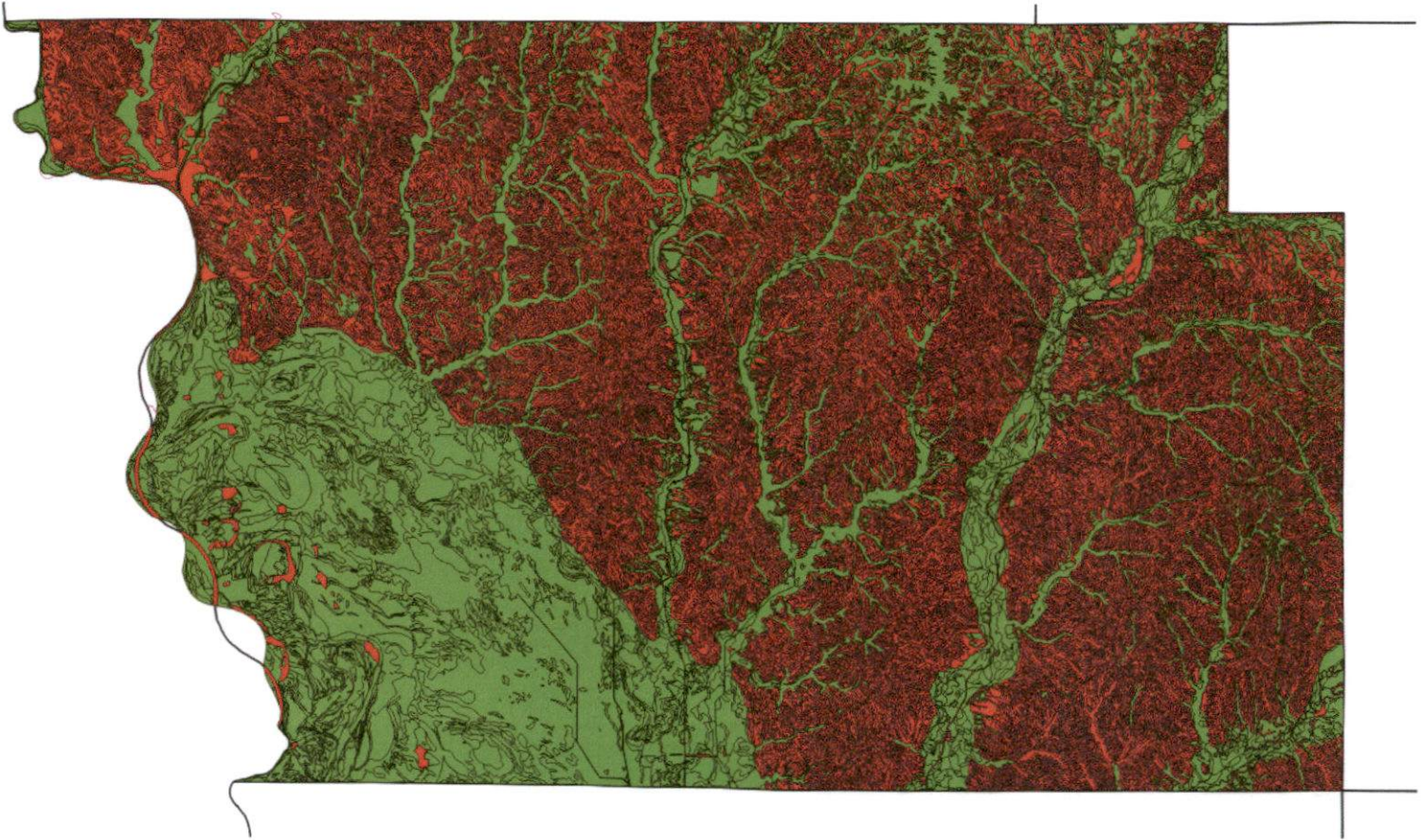
#### Using 65+ CSR2



- **Agricultural Preservation: Estimated Total acres based on Schneider/Beacon gross acres with gross CSR2 greater than 65**
  - 204,405.91 Acres
- **Agricultural Preservation: Estimated Total acres based on Schneider/Beacon gross acres with gross CSR2 greater than 75**
  - 115,504.96 Acres

**Soil types with slope content greater than 5% (Red)**

\*NRCS Data acquired via Schneider/Beacon

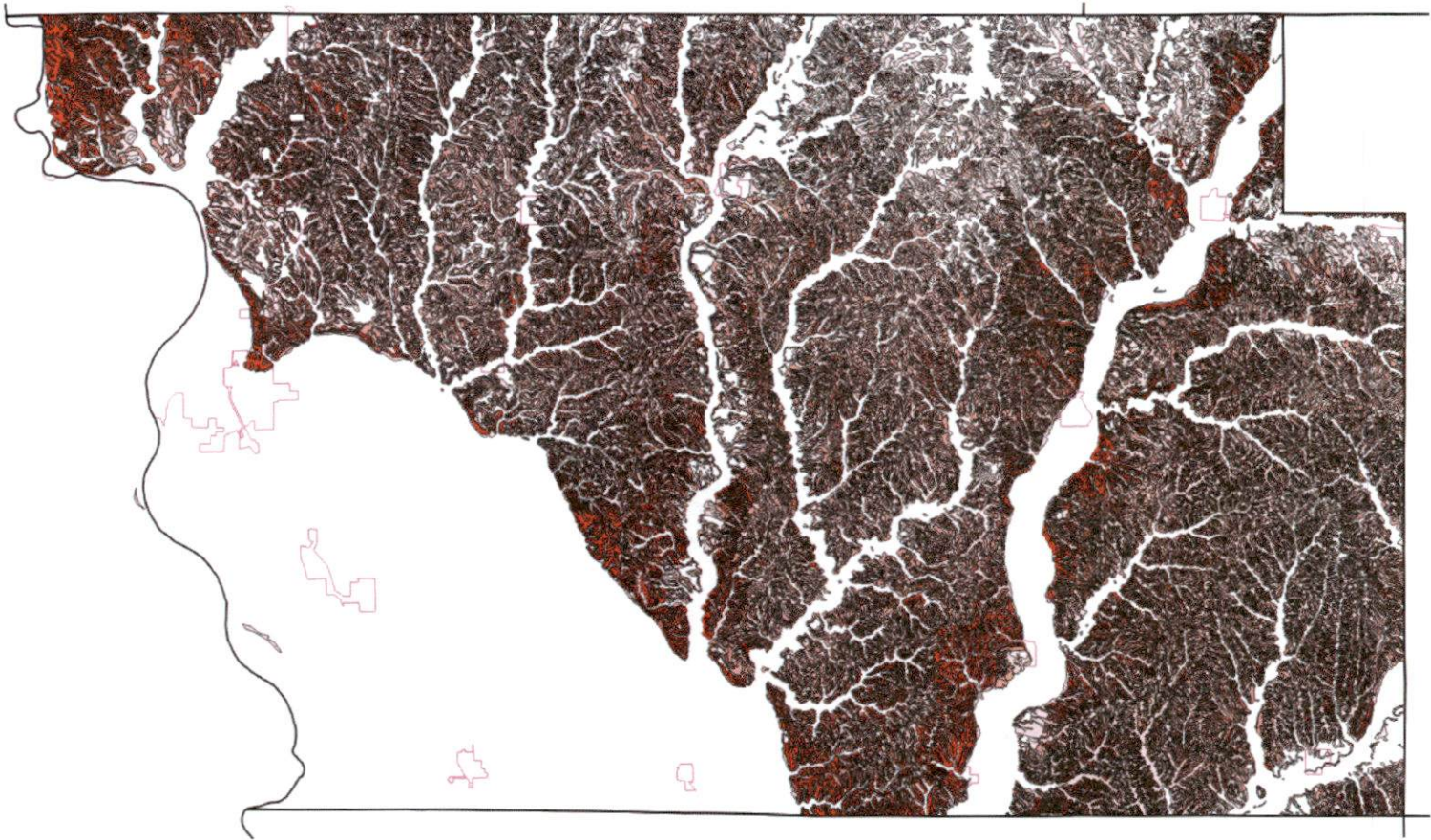






**Areas with soil slope content greater than 5%**

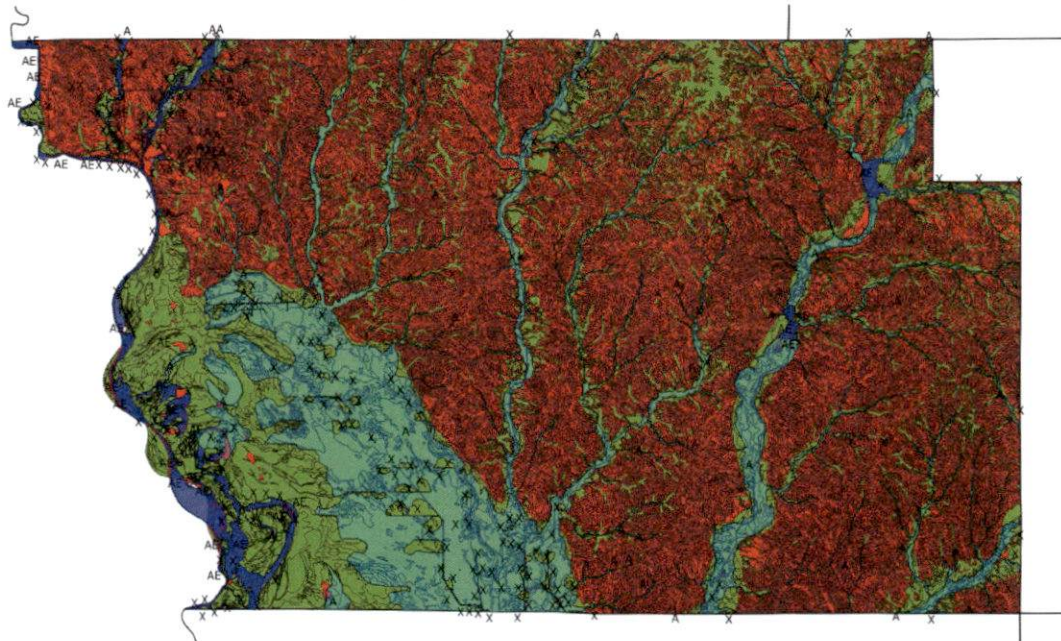
\*NRCS Data acquired via Schneider/Beacon



### Floodplain and soils with slope content over 5%

\*NRCS data and floodplain Data acquired via Schneider/Beacon

- Blue Represents Floodplain Areas
- Red represents areas with Slope over 5%
- Green represents areas with Slope under 5%



### Floodplain and CSR2

\*NRCS data and floodplain Data acquired via Schneider/Beacon

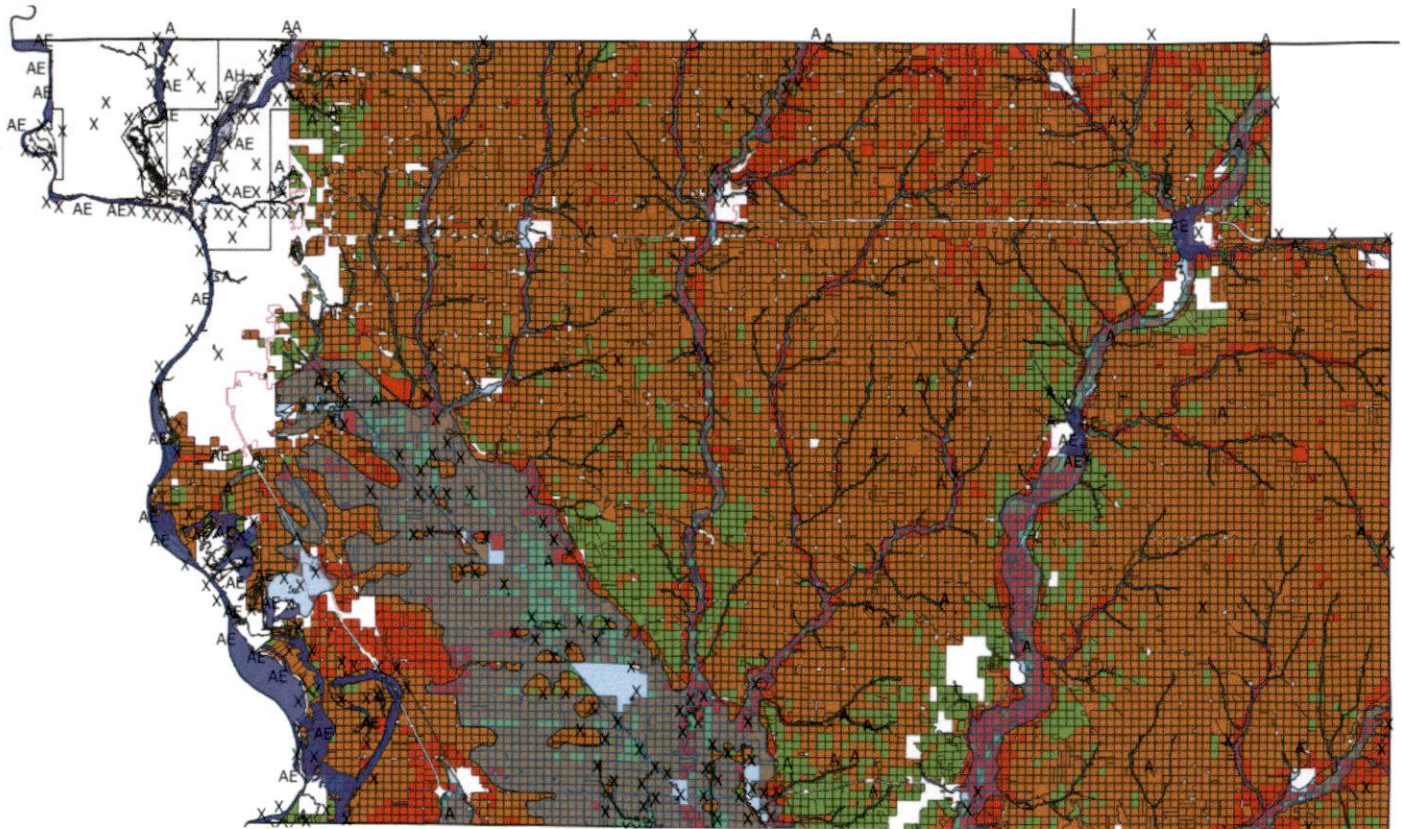
Floodplain – “Blue”

CSR2 –

0-35– “Green”

0-3635-64– “Brown”

0-3765-100 = “Red”





## Stakeholder Positions

The Woodbury County Conservation Board voted at their December 14, 2023 meeting to recommend one-mile setbacks or separation distances from conservation areas as per page 5 in the minutes provided on the subsequent pages.

### **WOODBURY COUNTY, IOWA, CONSERVATION BOARD MINUTES OF THE THURSDAY, DECEMBER 14, 2023, BOARD MEETING**

The following is a true copy of the minutes of the meeting of the Woodbury County, Iowa, Conservation Board held on Thursday, December 14, 2023, at the Dorothy Pecaut Nature Center beginning at 4:00 p.m.

#### **BOARD MEMBERS PRESENT**

Aaron Gehling, Chris Zellmer-Zant, Cindy Bennett, Neil Stockfleth, and Tom Limoges

#### **BOARD MEMBERS ABSENT**

None

#### **STAFF PRESENT**

Dan Heissel, Brian Stehr, and Dawn Bostwick

#### **OTHERS PRESENT**

Mark Nelson, County Supervisor/Conservation Board Liaison  
Dolf Ivener, Two Hawks LLC

#### **CALL TO ORDER**

Vice Chairperson Bennett called the meeting to order at 4:07 p.m.

#### **CORRESPONDENCE ITEMS**

None

#### **PUBLIC PARTICIPATION**

None

#### **ITEM R1. Approve Consent Agenda**

**MOTION** by Neil, second by Tom.

To approve the consent agenda.

#### **VOTE:**

Aye: Aaron Gehling, Cindy Bennett, Neil Stockfleth & Tom Limoges

Nay: None

Absent: Chris Zellmer-Zant

The consent agenda was approved and involved the following items:

- C1. Approve Minutes of the October 19, 2023, Regular Meeting and November 11, 2023, Special Meeting
- C2. Approve the October 2023 and November 2023 Claims and Expenditures
- C3. Receive and Place on File the October 2023 and November 2023 Financial/Budget Reports
- C4. Acceptance of Gifts/Donations:
  - \$7,000 from Rosie Kuehne for Playscape
  - \$1,128 from Siouxland Community Foundation for Playscape (via WCCF/Big Give)
  - \$500 from Gary & Anne Shaner for Playscape (via WCCF/Big Give)
  - \$600 from Lawrence & Juliann Delperdang for bird seed and animal care

- \$200 Jason Wolfe for food & care of raptors
- \$100 from Sandra Nation for Playscape
- \$100 from Gary LeMoine for Tale Trail books
- Seashell collection from Teresa Dibble-Eichmann
- Nature Calls decorations from Pam Pfautsch
- Childrens' Big Books from Dan & Dolly Varner
- Nerf guns & darts from Gary LeMoine

*(Chris Zellmer-Zant arrived at 4:08 p.m. and assumed chairperson duties.)*

**ITEM R2. Dolf Ivener – Solar Information**

Dolf Ivener of Two Hawks LLC was present to discuss a possible solar project at Little Sioux Park. He and his partner started the solar project at Snyder Bend in 2020. Snyder Bend was chosen at that time because it was the easiest and had the most expensive electricity. Two Hawks owns the system at Snyder Bend and has a power purchase agreement with the conservation board. Dolf noted that in last four years the price of solar panels has been greatly reduced and there is now a 50% tax credit available. He would like to put a 300KW system in at Little Sioux Park to power the whole park. He asked for board approval to pursue this with MidAmerican. If they agree, he will bring information to the board for a decision. The board agreed by consensus to allow Dolf to approach MidAmerican and report back.

**ITEM R3. Little Sioux Park Sewer Project Bids – Accept and Award Bids**

Dan reported that the bid opening and public hearing for the Little Sioux Park sewer project was held on Tuesday, December 12<sup>th</sup>. Three contractors submitted bids and were present. Noah with JEO opened the bids and confirmed that they were complete. The project was split into three groups: A) Build the sanitary sewer service collection system, B) Install wastewater treatment system, and C) Build lateral field and associated force main. Doyle Construction of Fort Dodge, IA, had the low bid for Group A and Steve Harris Construction of Homer, NE, had the low bids for Groups B & C.

**MOTION** by Neil, second by Cindy.

To approve the plan specifications and forms of contract prepared by JEO for the Little Sioux Park site and utility improvements.<sup>23-30</sup>

**VOTE:**

Aye: Aaron Gehling, Chris Zellmer-Zant, Cindy Bennett, Neil Stockfleth & Tom Limoges  
Nay: None  
Absent: None

**MOTION** by Aaron, second by Tom.

To accept the bids as presented by Bainbridge Construction, Doyle Construction and Steve Harris Construction for the Little Sioux Park – Riverside Campground site and utility improvements project and award low bid of \$267,005 for Group A to Doyle Construction of Fort Dodge, IA, and award low bid of \$568,683.60 for Group B and \$99,335.00 for Group C to Steve Harris Construction of Homer, NE. These will be contingent upon successful reference checks by JEO.<sup>23-31</sup>

<sup>23-30</sup> To approve the plan specifications and forms of contract prepared by JEO for the Little Sioux Park site and utility improvements.

<sup>23-31</sup> To accept the bids as presented by Bainbridge Construction, Doyle Construction and Steve Harris Construction for the Little Sioux Park – Riverside Campground site and utility improvements project and award low bid of \$267,005 for Group A to Doyle Construction of Fort Dodge, IA, and award low bid of \$568,683.60 for Group B and \$99,335.00 for Group C to Steve Harris Construction of Homer, NE. These will be contingent upon successful reference checks by JEO.

**VOTE:**

Aye: Aaron Gehling, Chris Zellmer-Zant, Cindy Bennett, Neil Stockfleth & Tom Limoges  
 Nay: None  
 Absent: None

Dan reported that the DNR has done a site inspection and approved the system as planned. The permit should go through quickly, but work cannot start until the permit is in hand. Dan has requested to start on the collection system right away since it isn't part of the actual treatment system as the contractor wants to start in two weeks or less. The collection system work is required to be done by May 15<sup>th</sup> to avoid any disruption of the camping season.

**ITEM R4. Budget Review – Supervisors' Letter – Changes**

Dan presented an updated budget explanation sheet. He explained that the Board of Supervisors originally called for a 0% budget increase for FY25 but ended up allowing up to a 2% increase. The conservation department budget that was originally approved had an increase of 3.7%. Dan reduced the budget from \$16,300 to \$10,300. He will send an explanation letter along with the budget worksheet to the Supervisors.

**MOTION** by Neil, second by Tom.

To approve the amended FY25 budget as presented.<sup>23-32</sup>

**VOTE:**

Aye: Aaron Gehling, Chris Zellmer-Zant, Cindy Bennett, Neil Stockfleth & Tom Limoges  
 Nay: None  
 Absent: None

**ITEM R5. Capital Improvement Projects Update****1. Nature Center Foundation & Retaining Walls**

Dan updated the board on the nature center foundation project. Radar was completed on all floors upstairs and downstairs. There was a large area with voids in the classrooms, staff entrance, naturalist work room, and kitchen. That information has been sent to building services, the architect, and the engineers to make a recommendation. They will fill the voids with foam but won't jack the floors. They don't believe that the foundation has settled, but they are still monitoring the building to make sure it isn't continuing to move. The Supervisors have allocated \$120,000 for the project.

Dan reported that the contractor looked at the garden retaining walls last month. The contractor said he would pour concrete walls to match the wall by the shelter and step it down 2'. He won't be able to do curved walls. The garden will be two tiers instead of three. A 15-20' strip will be left between the retaining wall and the light pole to allow for equipment access if necessary. This project might be started this spring.

Dan also had the contractor look at the area by the gravel parking lot in case erosion starts and was told they could tie the existing shelter wall in behind the parking area.

<sup>23-32</sup> To approve the amended FY25 budget as presented.

**2. Little Sioux Park – Bellamy Campground**

Dan stated that the contract with JEO included both Riverside and Bellamy campgrounds. Staff has been working on redesigning the Bellamy campground layout. The software used to collect the data has not been working well with the GIS program used to manipulate the data, specifically on field maps. Tyler has been on the phone with support trying to figure it out. GPS points were obtained to within a couple inches, and it has been laid out in the campground. The layout has been sent to JEO, and they are working to get plans and specs completed for Bellamy. The funds aren't available to complete the project right now, but the plans will be ready to go.

Dan reported that Little Sioux staff has already been putting fish structures in the south end of the pit. The three field staff members had to take an online miner training to be allowed access in the active pit due to MSHA rules.

**3. Little Sioux Park Beach Discussion**

Dan stated that Little Sioux Park has taken a hit in camping revenues due to the beach being closed, and water levels aren't expected to turn around anytime soon. He discussed the possibility of drilling a 250' well with Ben Kusler at the engineer's office and was told that it would need to be continually pumped. The well would cost \$20,000, and an additional \$20-30,000 would be needed for a pump and the electricity to run it.

Ben Kusler recommended grading the beach so there is a zero-grade entry with low water and a zero-grade entry with high water. Dan will talk to Mark Nahra and see if his staff can survey it this winter and find where the drops are. Ben offered to design it on his own time because he is retiring this month. If it looks like it will work, he will make a recommendation.

**ITEM R6. Board Member/Staff Reports****1. Administrative Items**

Dan reported on the following items:

**a. January Meeting Date and Location**

The next meeting will be held at 4:00 p.m. on January 11, 2024, at the Dorothy Pecaut Nature Center. Long-term planning for Southwood Conservation Area might be done at that time, and a meeting will be scheduled at that park first next summer.

**b. Vests for Officers**

Dan reported that a WCCB officer was recently on the scene of an active shooter incident, and it reinforced the need for rifle vests which Dan has been trying to get for the department for three years. Brian has asked two companies for quotes and has only received a quote from GH Armor so far at a cost of \$9,800 to equip all eight officers with vests and ballistic helmets. He recently learned that the other company he contacted is being investigated by the DOJ because their armor is not meeting specs.

Discussion was held regarding possible grants. Dan stated that he tried for grants for this during his first three years here. Tom suggested applying for a \$10,000 micro grant through MRHD and agreed to contract them about it.

*(Chris left at 5:35 p.m. and Cindy assumed chairperson duties.)*

**MOTION** by Aaron, second by Neil.

To pursue grants to purchase rifle vests for eight officers.<sup>23-33</sup>

**VOTE:**

Aye: Aaron Gehling, Cindy Bennett, Neil Stockfleth & Tom Limoges  
Nay: None  
Absent: Chris Zellmer-Zant

*(Tom left at 5:37 p.m.)*

**c. Solar Farm Distance From Conservation Areas**

Dan stated that he was contacted by Dan Priestly regarding solar panel setbacks for conservation areas, and he recommended a one-mile setback.

**MOTION** by Neil, second by Aaron.

To support the adoption of a one-mile setback from conservation areas for solar arrays in the proposed county zoning rules.<sup>23-34</sup>

**VOTE:**

Aye: Aaron Gehling, Cindy Bennett, & Neil Stockfleth  
Nay: None  
Absent: Chris Zellmer-Zant & Tom Limoges

**d. Old Business**

**Midway Park Fishing Jetty:** Dan reported that Brian's fish habitat stamp grant request for the Midway Park fishing jetty scored third at the review with an award of approximately \$80,000. However, later the head of the scoring committee called and said that one of the scores was entered incorrectly which bumped Woodbury down to fourth with an award of \$65,000. Dan requested a copy of the score sheets, and it looks like an 8 turned into a 9 on both Woodbury and Ida counties. The scorer was contacted, and they gave 8 to Woodbury and 9 to Ida. Dan is going to call them on it.

**O'Connell Property:** Dan was contacted by the Iowa Natural Heritage Foundation about another offer from Erik O'Connell on his 116-acre property. He is now offering appraised value, but it would cost \$2,000-\$3,000 for the appraisal. Dan stated that the property has been timbered and overgrazed and does not attach to any current WCCB property. He added that the landscape has changed with available grants, county budget, and money available. It was agreed by board consensus to pass on it again.

**2. Nature Center Activities**

The nature center programs and visitors reports for October and November were presented. Theresa was unable to attend the meeting, but board members were referred to her printed report.

<sup>23-33</sup> To pursue grants to purchase rifle vests for eight officers.

<sup>23-34</sup> To support the adoption of a one-mile setback from conservation areas for solar arrays in the proposed county zoning rules.

**3. Park Activities**

Brian reported on the following park activities:

- Little Sioux staff worked with Bedrock Gravel to truck unwanted overburden to the lakeside campground area that was cleared earlier this year, and it ended up being enough to finish up the project. The area will now be frost seeded or seeded in the spring.
- A local eagle scout recently made 20 fish structures and, with the help of staff, placed the structures in the north pit of Midway Park.
- Southwood staff completed a burn on the Salsness and Zook properties.
- Southwood staff spent several days clearing and replacing half of the Fowler Forest fence near the dam.
- Brown's Lake and Snyder Bend staff have placed large rocks around the parking areas to replace the posts.
- Little Sioux staff moved rock to make a parking lot at Peters Pit.
- Liam Bell has been working with Northland CDL Training and Licensing to complete his CDL training. Most was done online, but he will travel to Mason City next Monday and Wednesday for driving training and testing. This was a considerable savings compared to doing it through WIT.
- Both F150 trucks have been ordered from Barry Motor with a spring delivery expected. Nothing has been heard about the Chevy 1-ton except that the build date was pushed from October to January.
- Dan reported that the insurance check for the totaled truck was written to the conservation board. The money is required to be deposited back into the fund that the truck was paid from and won't be allocated to the conservation budget line. Dan sent an email to Dennis Butler stating that he will be amending the conservation budget for that amount in the spring, and the balance due for the replacement truck will come from the conservation department budget.
- Brian has been looking for a trailer to replace two 1998 models at the end of their life span. There is \$17,000 remaining in the budget which should be enough to cover it.

**4. Board Information**

Aaron asked if any WCCB staff are able to adjust the valve at Brown's Lake. Brian stated that staff have been shown how to do it, but they do not have a key. Only state employees are allowed to adjust it.

**5. Other Business**

None

**ITEM R7. Director's Annual Review**

The board went into closed session for the Director's annual performance evaluation at 6:21 p.m. by motion from Aaron and second by Neil. Vice Chairperson Bennett held the roll call vote: Aaron Gehling-Aye, Neil Stockfleth-Aye, Cindy Bennett-Aye, Chris Zellmer-Zant-Absent and Tom Limoges-Absent.

The board discussed Director Heissel's performance for the past year and goals for the future. The session was recorded.

**WCCB MEETING**  
12/14/23 – Page 7

At 6:46 p.m., Aaron moved to come out of closed session, which was seconded by Neil and carried unanimously by roll call vote: Aaron Gehling-Aye, Neil Stockfleth-Aye, Cindy Bennett-Aye, Chris Zellmer-Zant-Absent and Tom Limoges-Absent.

**ITEM R8. Adjournment**

The meeting was adjourned at 6:48 p.m.

The above minutes were recorded by Dawn Bostwick.

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Recording Secretary, Dawn Bostwick

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Board Secretary, Tom Limoges

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Board Chair, Chris Zellmer-Zant

## Public Comments and Documentation Submissions Since November 30, 2023

### Daniel Priestley

**From:** Leo Jochum <leojochum@gmail.com>  
**Sent:** Tuesday, January 9, 2024 9:53 AM  
**To:** Daniel Priestley  
**Subject:** comments for Jan 17 study session  
**Attachments:** Impacting Farm Values.docx; Solar's Impact on Rural Property Values 1.pdf

**CAUTION:** This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. **If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.**

Dan and Planning and Zoning;  
 Please include this material in the packet for the study session.  
 Thank you, Leo

Renewable energy in Iowa is the main reason that Iowa consumers have a utility monthly rate of \$116.32 versus a national average of \$147.64 which is a savings of about \$370 per year for every Iowa household according to independent research.

According to the US Energy Information Administration Overview, Iowa ranks among the top five states in per capita total energy consumption and out of those five it is the only non crude oil producing state.

However in Renewable Energy, Iowa is the top ethanol producing state providing about one fourth of the nation's ethanol. Woodbury County is the third largest county in Iowa with approximately 570,000 acres of farmland raising 195,000 acres of corn but does not have an ethanol plant. One can only assume a large amount of Woodbury's corn production goes to ethanol plants in Ida, Plymouth, Cherokee in Iowa and Dakota Co, Ne. In addition to that how much distillers grain comes back to Woodbury for supplements to cattle and hog feed.

At the beginning of the ethanol era a Woodbury Co farmer tried to organize a group of individuals to invest in an ethanol plant but could not generate enough interest. As a result Woodbury Co now sends a sizable amount of bushels of corn out of the county.

In 2022 nearly two thirds of Iowa's electricity came from renewable resources, almost all of it from wind, second in the nation to Texas.

Wind energy powers 62% of Iowa's net generation, the highest of any state. Significant economic benefits of the wind industry include payments to landowners, short and long term jobs creation and spending on goods and services in supporting industries.

Woodbury Co opted for a more restrictive ordinance based on concerns with safety issues in the event of a tower collapse or blade failure, the disruptive "whoosh" sound of the turbine blade rotation and the nighttime aviation lights constantly blinking in the neighboring houses. While the wind ordinance does not eliminate a wind project it appears that Mid America has paused their wind turbine project.

However Woodbury County residents still receive the benefit of lower electric rates made possible by wind energy in Iowa.

With the electric power plants utilizing coal being in existence for 50 plus years there is environmental pressure to shut down some of these generating plants. According to the U.S. Energy Information Administration, Port Neal 1&2 started in 1964 and 1972 with a combined generating capacity of 496.2 MW and both were retired in 2016. Unit 3 started operating in 1975 with 584.1 MW capacity.

**Comments and documentation received from Leo Jochum, 1/9/24**



The grid infrastructure that supported the combined production of 1080.3 MW is still in existence today creating a significant opportunity for a Utility Solar Project North and East of Salix.

Independent researchers have found that solar is very clean, non polluting and eco friendly.

The World Health Organization and a number of Universities across the nation have found through research that solar is non toxic and does not create health problems. The sound emitted is less than 50 decibels during the day and almost zero after sunset.

At the September 26, 2023 Woodbury Co Board of Supervisors meeting an agenda item was introduced to give direction to Planning and Zoning for further consideration during public hearings regarding Utility Scale Solar which stated: " Upon public hearing comments and further reflection, we offer an alternative to be considered that might be preferable, namely the expansion of "Light Industrial." We would ask that landowners who so desire such utility scale solar be rezoned to this, presently constituting only 101 acres of Woodbury Counties 570,000 acres. Landowners could continue to farm the land but open up an avenue that would be far preferable than Agricultural Preservation and much more appropriate."

In addition it was recommended that the 5% slope would be in effect only for fixed arrays.

It was also recommended to change the 2% cap on total acres to a 1% cap every four years allowing approximately 5700 acres every four years which would present an opportunity to revisit the policy every four years.

During the Supervisors discussion Mr. Priestly introduced some information about how a Renewable Energy Overlay might apply for a Utility Solar Project. The Overlay concept was very well received as the main objective was to keep the land in the AP Zone so it can revert back to agricultural production when the lease reaches maturity.

Utility Solar will have a financial benefit to the county in the form of electrical generating tax which is more than five times the annual ag real estate rate. This is a direct benefit for all the residents of Woodbury County as it helps hold down all real estate tax.

Another economic boost comes during the construction phase when there can be upwards of 200 employees for two years in the construction phase.

After the solar project is in operation there will also be full time employment positions available and possible service contracts for maintenance and repairs. And in most cases non typical new businesses create new businesses. And lastly but just as important the lease payments to the landlords can be reinvested in the local businesses and community. It might be putting up an irrigation pivot, building a machine shed or buying a piece of farm equipment. But we have also heard concerns from people that are concerned that just a few people are receiving the money from this project and they will use it to take advantage of their neighbors and squeeze out the people that are not as fortunate. This is far from the truth. There are twelve different families involved in this project and all of them are involved in agriculture. There is not any absentee landowners out of state in this project. It is all local people committed to making our community a safe and healthy environment.

Renewable Energy is at the forefront of large businesses looking to expand or relocate at the local and national level and Woodbury County has an excellent opportunity to attract major companies to the General Industrial area in Southbridge when the new interchange becomes a reality.

How did Woodbury County miss the opportunity for an ethanol plant while our four neighboring counties each built one?

I understand the pause on the wind energy with the concerns on safety and health and maybe this is where Utility Solar can fill in the gap.

Prior to 1990 most solar panels had an efficiency rating of around 14%. Now the efficiency of Utility Solar is at 25% thanks to the private company research of Boeing, Panasonic and Sharp. At the present time efficiency values as high as 44.4% have been achieved in laboratory settings. It's only a matter of time before it will be applied in the real world.

Woodbury County has a unique opportunity to attract new businesses and to encourage Renewable Energy at the same time. Utility Solar is non polluting, non toxic, low profile and does not obstruct neighboring businesses. It will be utilizing the infrastructure that is already in place in addition to creating a safe haven for small wildlife.

The concern that people have about protecting our farmland will be met by implementing the Renewable Energy Overlay Zone. This will protect the acres in the General Industrial Area to be used for its intended purpose and the local community, county, Sioux City and surrounding area will benefit.

Source: <https://www.farmprogress.com/commentary/how-solar-is-impacting-farmland-values#>

# Prairie Farmer®

## How solar is impacting farmland values

Land Values: We can learn what might happen in Illinois by studying what's happening out East, where solar development is several steps ahead.

The [Illinois Society of Farm Managers and Rural Appraisers](#) does not have a formal position on solar development. Members will tell you there is always concern when productive soil is lost, but at the same time, many would argue that landowners should have the freedom to do what they want with their land, within reason. Loosely fettered land ownership is one of the fundamental rights that makes this nation great.

You may ask, if all these solar farms are going to be built, how will that affect my farm's values?

### Lessons from the East

Last month, the American Society of Farm Managers and Rural Appraisers hosted a webinar, "Solar's Impacts on Rural Property Values." ASFMRA member-appraisers Rich Kirkland from North Carolina and Don Fisher from New York shared their experiences appraising property near solar developments. Their markets are further along in the development of solar energy than we are here in Illinois.

In these types of projects, appraisers look for factors that increase external obsolescence. External obsolescence is described as a form of depreciation caused by factors not on the property itself, such as economic, social or environmental.

Both appraisers discussed different categories where external obsolescence occurs. The ones considered among the more negligible for solar are potential hazardous materials in the panels, odor, noise and traffic. U.S. EPA has done substantial studies on solar projects, and its findings are that the developments bring little impact on the local environment. Once built, the developments are largely static and produce little to no odor, noise or traffic.

Other concerns the appraisers spent more time looking at were stigma and undesirable viewshed or diminished views from the property. Often when a development is initiated, neighboring landowners who may like solar projects in general find they don't like them next to their property. In the industry, these protesters are described as NIMBY: Not In My Back Yard.

#### Land values

Kirkland and Fisher found that when appraisers were surveyed in areas where solar projects have gone in, the difference in the range of valuation ran from down 25% to up 10% when compared to properties not within the immediate area of the project. When that survey was further filtered and separated by those appraisers who actually conducted appraisals for properties near solar developments, they found that the appraisers who did not appraise nearby came in with lower anticipated valuations when compared to the appraisers who actually did a nearby appraisal. That indicates that the expectation of lower valuations did not hold true when properties actually sold.

And how about the view? Kirkland and Fisher's studies indicated that when there were adequate setback requirements and vegetation planted to block the views, impact on local land values was negligible to positive.

So, if Illinois values follow the trends we see in areas of the nation with more solar development, we may lament the loss of productive ground — but we can be assured that the value of our own farms nearby should not be affected.

1/9/24, 9:44 AM

Solar's Impact on Rural Property Values

## Solar's Impact on Rural Property Values



By ASFMRA Press posted 02-15-2021 10:23 PM

0 RECOMMEND

### *The difference that experience makes when it comes to the perceived and actual impacts of solar on nearby property values.*

In recent years, publicity surrounding solar farms has gained the attention of property owners and appraisers. As with any large-scale development, the change represented by utility-scale solar can be cause for concern. Naysayers express worries involving impacts to viewshed, drainage problems, the idea of replacing productive agricultural lands with an industrial use, and more. Much of this worry comes back to one thing: the potential impact on property values.

A recently completed study from the University of Rhode Island looked at 400,000 transactions in New England over the course of 15 years, finding that suburban residential property values suffered negative impacts when nearby solar farms replaced resources perceived as scarce, such as green space. On the other hand, this same study found no associated impact on property values for solar farms located in rural areas.

Meanwhile, a survey by the University of Texas at Austin asked 37 appraisers a series of questions about property value impacts based upon proximity to utility-scale solar projects. On average, the surveyed appraisers believed that there was a negative relationship between solar farms and nearby property values, though the appraisers with strong negative opinions also answered "No" when asked whether they had prior experience assessing property located near large solar installations. Dr. Varun Rai, who led the study, stated that the results "suggest that experience assessing near a solar installation is associated with a much less negative estimate of impact." He also noted that "the median and mode of all estimates of impact was zero, suggesting negative estimates from a few respondents were pulling down the mean."



**Patricia McGarr**, who serves as the National Director of ConnReznick Advisory's Valuation Practice, has conducted a number of property value impact studies involving solar, and spoke on the subject at the ASFMRA Illinois Chapter's Annual Meeting in 2019. McGarr's studies found no consistent negative impact on residential property value that could be attributed to nearby solar farms. She also asserted that township and county assessors have tremendous amounts of data that point in the same direction.

McGarr referenced the 1,000-acre "North Star" solar project located in Chisago County, Minnesota. There, the county assessor found no adverse impact on nearby property values, noting, "It seems conclusive valuation hasn't suffered."

McGarr has attended many public hearings on proposed solar developments and listened to residents taking issue with the idea of putting good farmland out of production and potential impacts to viewsheds and drainage tiles. "Owners of transitional ag lands, or lands that are in the path of development, are concerned about any changes that could have future impacts on sale values," she explained.

But McGarr believes solar developers are addressing these issues. It's now common practice for developers to include vegetative screening as a visual buffer between solar farms and adjacent properties to account for aesthetic concerns. In regards to drainage, developers are "conducting drainage tile studies and being vigilant [...] so that they don't reroute the drainage."

"Solar is an interim use," McGarr added. "There are no contaminants and the land sits fallow, allowing the soil quality to improve. It's not like you're leaving things over."



**Donald Fisher, ARA**, served six years as Chair of the ASFMRA's National Appraisal Review Committee and 19 years as Chair of the Editorial Committee. Donald is the Executive Vice President of CNY Romeroy Appraisers, and has done several market studies examining the impact of solar on surrounding residential values.

"Most of the locations were in either suburban or rural areas, and all of those studies found either a neutral impact or, ironically, a positive impact, where values on properties after the installation of solar farms went up higher than time trends," he explained.

According to Fisher, solar development has begun to compete with rural residential development and Concentrated Animal Feeding Operation (CAFO) farmers seeking new acreage. "In certain markets," he said, "the solar developers are paying as much as rural residential developers and CAFO farmers."

**Howard Halderman, AFM**, President and CEO of Halderman Real Estate and Farm Management, attended a recent solar talk hosted by the Indiana Chapter of the ASFMRA. Halderman's takeaway was that properties immediately adjacent to a solar farm may see a negative impact, but tactics to hide the solar farm from view could help offset those effects.

Halderman believes that other rural properties would likely see no impact, and farmers and landowners should even consider possible benefits. "In some cases, farmers who rent land to a solar company will insure the viability of their farming operation for a longer time period. This makes them better long-term tenants or land buyers so one can argue that higher rents and land values will follow due to the positive economic impact the solar leases offer," he explained.

**Rich Kirkland**, who owns Kirkland Appraisals in Raleigh, North Carolina, began exploring solar a little over a decade ago, or as he puts it, "right around the whole recession period, when solar really began to take off around here."

Since then, Kirkland has prepared property value impact studies for solar developers in 19 states, performing nearly 100 matched-pair analyses along the way. In a large majority of those comparisons, he observed a -5% to 5% difference in square-foot sales prices, a range that he describes as statistically insignificant.

"If you take all of those matched pairs and average them out, you'll find a difference of about 1%. That's not enough to make a claim on," he says.

Similar to Halderman, Kirkland believes that issues can arise if a solar development is situated too close to a property, or if nothing is done to conceal it from view. However, he concluded, "In rural and suburban areas, I'm not finding any consistent negative impact from solar farms as long as there's at least 100 feet between the [solar] farm and the property, and enough landscaping to hide the panels."

## Minutes - Woodbury County Zoning Commission Special Meeting – January 17, 2024

The Zoning Commission (ZC) meeting convened on the 17<sup>th</sup> of January, at 5:00 PM in the Board of Supervisors' meeting room in the Basement of the Woodbury County Courthouse, 620 Douglas Street, Sioux City, IA for a special meeting. The meeting was also made available via teleconference.

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### Meeting Audio:

For specific content of this meeting, refer to the recorded video on the Woodbury County Zoning Commission "Committee Page" on the Woodbury County website:

- County Website Link:
    - o [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/)
  - YouTube Direct Link:
    - o <https://www.youtube.com/watch?v=9eSTLzBTA8>
- 

|                       |   |
|-----------------------|---|
| ZC Members Present:   | Chris Zant, Barb Parker, Tom Bride, Jeff Hanson   |
| County Staff Present: | Dan Priestley, Dawn Norton  |
| Public Present:       | David Linn, Genise Hallowell, Kim Alexander, Marty Dougherty, Chris Madsen, Rebekah Moerer, Greg Jochum, Tom Jochum, Deb Harpenau, Elizabeth Widman |
| Telephone:            | Leo Yochum, Grant Fisher  |

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### Call to Order

Chair Chris Zellmer Zant formally called the meeting to order at 5:02 p.m. Corey Meister was absent.

### Election of Chair of Zoning Commission for 2024:

Parker made a motion to nominate Zellmer Zant. Second: Bride. Motion carried 3-0.

### Election of Vice-Chair of Zoning Commission for 2024:

Parker made a motion to nominate Bride. Second: Hanson. Motion carried 3-0.

### Public Comment on Matters Not on the Agenda

None

### Work Session for Proposed Utility-Scale Solar Energy Systems Zoning Ordinance Amendment(s).

Priestley offered a summary of the status of the solar debate and discussed the staff report including three potential options for consideration including the use of the 1) Comprehensive Plan; 2) Retention of the current policy and revision of the conditional use permit process; and 3) the establishment of a utility-scale solar energy systems overlay district.

Priestley requested for the Zoning Commission to receive an email document submitted by Naomi Widman concerning "Solar Farms Cause Decline in Surrounding Property Values." Motion to receive Parker. Second by Bride. Approved 4-0. Received item is available in the "Appendix" section.

Priestley stated that the local jurisdictions have been reached out to for comment, but feedback has not been received up to this point.

The Commissioners and Dan Priestley discussed numerous topics related to the siting of utility-scale solar systems. Topics that were discussed include: impacts on incorporated jurisdictions; impact on land value; MidAmerican's existing solar project; federal initiatives for renewable; the comprehensive plan process; comparison with other counties; the overlay district concept; acre caps; megawatt caps; agrivoltaics; the existing conditional use permit process; lack of public involvement requesting solar in the development plan process; transmission lines; utility-substations; ideal locations; lack of information regarding requested locations; overlay limitations including timeline and expiration; leases; separation distances (setbacks); overlay vs. conditional use; the use of conditions for an overlay; impact on personal use; site plan review process carry through Zoning Commission and Board of Supervisors, etc.

The Commissioners welcomed for the public present to offer any comments. The following addressed the Commission:

**Kim Alexander (Hornick)** stated this is all driven by government and federal incentive and intervention. He inquired about the federal initiatives including the January 12, 2024 meeting conducted by the Department of Agriculture and Department of Energy as referenced by Priestley earlier in the meeting. Indicated that this is not a free market or grass roots initiative and is being supported with government money. Stated there is no need.

**Marty Dougherty (City of Sioux City)**

Offered concerns about the impact of utility-scale solar on the industrial areas. Dougherty comment on the city's interest in the industrial areas for development. If industrial solar were placed in the GI Zoning District, this could adversely impact industrial growth. Dougherty referenced the partnership with the IDOT for the new interstate interchange project and offered concerns of how utility-solar might impact the industrial growth potential for the area.

**Chris Madsen (City of Sioux City)**

Discussed Sioux City's general concern over the city's two mile jurisdiction. He discussed other setbacks including FAA setbacks and indicated that they are working with the airport on getting further language for the concerns about solar setbacks. Madsen stated that Sioux City does permit accessory solar. Madsen indicated that they appreciate the larger notification area for potential projects.

**David Linn (Correctionville)**

Questioned why not expand GI area to accommodate industrial solar. Not a fan of it. Should keep within industrial area. Land value may increase in GI. Should be on land out of site, west of interstate. Inquired about the future land use mapping.

**Elizabeth Widman (Sergeant Bluff)** Property values could drop as much as 5%. About \$15 per month would be saved on bills by ruining ag land. Money is the incentive and motivation. Leases signed are traced back to headquarters of lawyers' office not around here.

**Greg Yochum (Salix)** Location is the reason why it's not feasible in GI area. Transmission lines are not there. GI can still have farming, rather a CUP or overlay, not close to highway and land would go back to AP. Is in favor of scorecard/overlay.

**Leo Yochum (Salix)**

Offered the Commission with some farm economic history during the 1970s and 1980s. Offered a comparison of agricultural economic figures between Woodbury, Sioux, and Plymouth Counties. Offered support for utility solar as an economic benefit.

The following is an attempt at a transcript. Due to it being computer generated, this transcript is not intended to be perfect but is being provided to offer context of the discussion. The transcript may include issues related to grammar and punctuation. The full audio and transcript is available online at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/). The direct hyperlink is available at: <https://www.youtube.com/watch?v=9eSTlLzBTA8>

**WORK SESSION TRANSCRIPT – BEGINS AT 5:06 PM CST**

**Dan Priestley**

yes again tonight's meeting

5:06

Is a work session for the continuation of the uh debate uh that has been

5:11

presented to us by the Board of Supervisors uh concerning uh an

5:17

option to look at proposals to address solar energy policy in the

5:22

unincorporated areas of Woodbury County um it's important to point out that the

5:28

current policy in place is for the permitting of industrial assets in  
 5:34  
 particular solar panels for industrial uses are geared toward the general industrial zoning district in Woodbury  
 5:41  
 County if there was an applicant at this time uh for these type of projects uh  
 5:48  
 the eligible area would be in that industrial area which is predominantly uh south of the uh airport Sioux Gateway  
 5:57  
 airport and west of Interstate State uh 29 in that respective area so at this  
 6:03  
 point that's the only areas where utility solar could be considered um  
 6:09  
 the Board of Supervisors have asked uh the commission to look at this in  
 6:15  
 terms of permitting it in other uh locations uh such as the agricultural uh  
 6:21  
 preservation zoning district and over the course of several months and a  
 6:26  
 series of meetings we've collected input uh from uh many land owners and various  
 6:31  
 others that have opinions on all different sides of the issue uh We've looked at a good amount of literature uh  
 6:39  
 We've consulted with comprehensive plans uh and presented a few options uh for  
 6:46  
 consideration one of the options is to transfer this debate as part of the  
 6:51  
 comprehensive plan uh the comprehensive plan is at the 11th Hour meaning it's  
 6:57  
 pretty much in place uh input has been collected uh and information is uh ready  
 7:03  
 in fact we will have a public hearing on Monday uh to kind of present to where we  
 7:08  
 are at with the comprehensive plan in nature however the comprehensive plan uh  
 7:14  
 remains open to discussion uh for the priorities of the mapping throughout  
 7:20  
 unincorporated Woodbury County and that kind of leads to the other uh proposals  
 7:26  
 uh such as an overlay district uh which would be kind of considering a  
 7:32  
 particular area over AG land with a set of parameters uh that could possibly  
 7:39  
 open up uh the ability to permit over there over AG land if uh certain criteria  
 7:46  
 met uh that's included within the backup materials and the other option is to  
 7:52  
 retain the current policy and revise the conditional use permit process the uh uh  
 7:59  
 overlay district is geared toward involving the zoning commission and the Board of Supervisors in terms of the  
 8:05  
 level of permitting uh as far as the current policy that involves the zoning commission and the board of adjustment  
 8:13  
 uh the uh retention of the current policy with added features would entail  
 8:18  
 um adding additional ordinance language with protections uh such as agreements  
 8:24  
 decommissioning etc uh where we had left off in the last public hearing  
 8:29  
 uh was to um push this out to tonight's meeting January uh to have us have a  
 8:35  
 chance to of course collect more uh public input uh more concepts to be introduced into the record those were  
 8:42  
 put into uh the backup materials included uh with the packet um  
 8:47  
 Additionally the only other uh major item that I had received since the last meeting was a citizen comment uh from  
 8:57  
 no Naomi Widman and I uh ask that the zoning commission receive this  
 9:03  
 into the record for the minutes uh which would require of course a motion in a second but this is this general comments  
 9:10  
 from the public and so



**Barb Parker**

do you want to do that now

**Dan Priestley**

yeah I think it' be a good idea

**Barb Parker**

I'll make a motion that we accept those

9:18

**Chris Zellmer Zant**

a motion a second second favor say I I Opposed same sign.

9:25

sign okay

**Dan Priestley**

with uh everything that I've said which is of course a broad

9:31

Viewpoint this is a very uh um uh significant consequential debate on the

9:38

future of Woodbury County I've reached out to the local jurisdictions the uh

9:43

the cities etc and have definitely asked for them to offer input on the

9:50

potential effects with their respective communities I have not received a lot of input uh back at this point but uh

9:57

there's definitely lots of considerations that you could keep in mind for the ordinance as far as uh

10:04

respect for the respect uh local jurisdictions um with that said uh the

10:10

three concepts are laid out within there and so I would basically turn it

10:16

back to the board and ask that we kind of look through at least uh

10:21

those three possible options and so we can all better acquaint ourselves with the uh kind of the details uh the for us

10:30

In a conversational

10:40

format

**Jeff Hanson**

Dan has there been any previous applications for conditional use permit

10:46

for this use

**Dan Priestley**

yes Mid-American Energy a couple years ago um uh down by Port

10:52

naïl road on the corner uh uh near their campus uh about a 73 acre or so parcel

10:59

located a uh a solar site down there uh they went through the uh protocols that

11:06

the county has at the time uh for the conditional use uh for notifying the neighbors uh actually a notification at

11:13

that under the current rules are 500 ft within the property and the that are notified by letter everything's

11:20

published in the legal section and the zoning commission uh scrutinize the site plan uh the respective uh

11:29

locations where they're going to be on the parcel and uh um looked at potential

11:35

effects that it could have on the area we consulted with a number of area agencies including the FAA considering

11:42

the location there of the airport and took a lot of information into consideration through our typical

11:49

conditional use funnel as we try to investigate all the different aspects of

11:54

that and um it was turned over to the board of adjustment uh they uh our system is designed where

12:02

the commission uh conducts a review meeting and the public hearing is held

12:07

at the board of adjustment level so the commission kind of does the homework as far as uh where the shortfalls and the

12:14

positives negatives all those are transfer that over to the board of adjustment and the board of adjustment

12:20

has that information available as well as the public input at hand and so that information is funneled in and they make

12:27

a determination on how to uh write the resolution and the standards for permitting that respective

12:33

project so that is the one and only project that I'm aware of since my

12:38

tenure

**Jeff Hason**

and no pending applications

**Dan Priestley**

no

12:44

pending

**Tom Bride**

was there a decommission plan with that site

**Dan Priestley**

I don't believe so. [Tom Bride: Okay]

12:50

um and that's why uh that's why part of the proposal is is to have direct language in there specific to

12:57

decommissioning

**Tom Bride**

any other companies that have approached

13:04

the county at all or anything in the general industrial area?

**Dan Priestley**

we um once in a

13:10

while we get inquiries of course but as far as actually permitting and uh selecting that as a site location

13:19

no

**Chris Zellmer Zant**

that's 11,000 Acres

**Tom Bride**

yeah I mean I'm just kind of you

13:25

know there's been stuff talked about that it doesn't pay what it would deem necessary to acquire

13:34

that ground is what I've heard

**Chris Zellmer Zant**

because of the

13:39

infrastructure

**Tom Bride**

the general industrial businesses will pay more than

13:45  
the solar solar panels so I mean that's just couple comments that I've had made  
13:52  
to me

**Chris Zellmer Zant**

and then mid America that they owned that 73 Acres

**Dan Priestley**

that was that was their private property yeah  
14:05

**Chris Zellmer Zant**

okay so I mean if we start at the comprehensive plan debate which is number one just a couple of things that  
14:12  
I saw that I highlighted that I thought were significant was even in the 2005  
14:18  
comprehensive plan we for policy by 2.5 States fully explore alternative  
14:24  
renewable energy sources so I don't think that's really a debate I think that's  
14:31  
something that is still exists today but I mean what is everybody else's  
14:37  
thoughts renewable energy is here to stay

**Jeff Hanson**

I would agree

**Tom Bride**

yeah I think  
14:44  
that's back then and now and more so now

**Chris Zellmer Zant**

and I think so into the future from what  
14:50  
I can understand I mean I'm looking at articles from that are portraying  
14:55  
2050 that renewal renewable energy is just going to expand maybe not to the  
15:01  
extent that they think it is but and that's something else I found they still  
15:07  
said coal oil natural gas is going to be our primary energy  
15:12  
sources well that's even the um guy from mid America and that was his comment it's more of a mix than a one source

**Chris Zellmer Zant**

One  
15:22  
Source situation right

**Dan Priestley**

if I may in the fit review  
15:29  
uh references the uh this has been uh kind of a federal initiative the  
15:35  
Administration has put forward uha priority as far as introducing uh the  
15:42  
local communities to renewable initiatives and uh there's been  
15:48  
priorities uh 2035 which was referenced in there and I  
15:53  
know that they've been carefully watching the communities there's been meetings uh there was a meeting last  
15:58  
Friday from the Department of Agriculture as well as the Department of Energy that was kind of assessing uh

16:05 where the local communities are what kind of potential positives and negatives there are as far as the  
 16:11 permitting and trying to understand where communities are with the different aspects of addressing it and as kind of  
 16:19 coincides with the lit review um many communities there's not one size fits  
 16:24 all in terms of addressing these respective issues some communities uh do  
 16:30 it by conditional use permits some do it by allowed use by certain areas  
 16:36 and uh some have employed the overlay district scenario which is of course  
 16:42 heavily referenced with Linn and Scott County even though those two are overlay they significantly do it much different  
 16:48 as one relies much more on com suitability rating while the other uh has more of  
 16:54 that rubric aspect but uh uh the point I'm making is uh this this is part of uh  
 17:00 the economy or the future economy as far as renewable being a part of it and there's a compelling interest at the  
 17:07 federal level um asking communities to look at this as part of the land use  
 17:13 measures and as we know a lot of times these unincorporated areas have uh aged development plans that are not up to  
 17:21 uh where these uh future standards are and if you're looking at uh particular areas or priorities across the board for  
 17:29 the county to recognize these type of land uses it's more than appropriate to look at the development plan as a way to  
 17:37 prioritize uh what the initiatives are and where you want to put these assets just uh you look at the history of  
 17:43 Woodbury County and the nature of our population and U as SIMPCO has worked  
 17:49 towards this current uh uh draft of the development plan uh we found a lot of  
 17:54 similarities uh from 2005 as far as as the priorities of where we locate our  
 18:00 industrial base is where we where we have the priority on agriculture and the  
 18:05 uh zoning ordinance that grew out of that 2005 plan put the emphasis much on  
 18:11 the uh um agricultural area or excuse me the industrial areas and kept it off of  
 18:17 the agriculture land at that time uh lots of debates have been in Woodbury  
 18:23 County about whether you take the Farmland out of production we've also had quite a bit of debates on uh  
 18:29 protection of Loess Hills and uh we've ran into a number of issues as far as the uh  
 18:35 uh the interpretation of of landowner rights however uh development plans are  
 18:40 put in place on purpose so that we can have a moment to stop and look and see the innovations of how the world has  
 18:48 changed in a lot of respects and go back and poll the public so that the public  
 18:53 understands and can has the ability to present to the to the uh leadership  
 18:58 on what type of community that we want to be and that's why we label these that's why we say 2040 we're projecting  
 19:06 forward and as technology grows uh we're kind of here at a juncture um uh these  
 19:13 um solar assets can definitely take up a significant footprint and so it does  
 19:18 offer us the question we have quite a bit of ag land out there are there areas that might be suitable to facilitate uh  
 19:27 uh the permitting of this uh growing technology um it's imperative to  
 19:33 point out that we have a lot of significant uses that can definitely play affect a footprint on  
 19:39 agriculture land that are conditional use permitted however the most distinguishing factor is that uh solar  
 19:47 can take up a lot more acres than any other use that is presented in our  
 19:52

zoning ordinance they could probably go from 500 acres up to 2,500 3,000 and some  
 19:58  
 Acres of agricultural land that could be uh debated within there and I think  
 20:03  
 that's important uh as the uh uh community decides if this is a fit uh  
 20:10  
 for how Woodberry County wants to be in that meeting uh that I attended it was a  
 20:15  
 zoom meeting they talked about nationwide kind of affecting less than 2% of ag land or about 1% kind of  
 20:23  
 spreading it out as addressing some of the alternative energy priorities uh uh  
 20:30  
 to address the grid in the future and uh they um they pointed out uh quite a bit  
 20:36  
 in their presentation about coexistence uh agrivoltaics things that we've  
 20:41  
 talked about in some of the previous meetings uh uh where that technology continues to be studied on whether it  
 20:49  
 can go further than sheep grazing whether it could coexist with uh crops  
 20:55  
 etc but uh that's kind of a growing uh uh thing to look at as well as the  
 21:00  
 compatibility and the literature definitely says uh in the uh the the  
 21:06  
 proponents of uh adding this to ag land see it as compatible uh depending on how  
 21:13  
 the farmer wants to prioritize uh uh their uh their farm operation with this  
 21:20  
 uh so the the literature definitely kind of goes across the board talking about  
 21:26  
 land values uh it's tough there's various studies out there from Texas Rhode Island Massachusetts that are uh  
 21:33  
 placed into the uh um kind of direct comparison Woodbury County is unique  
 21:39  
 we're definitely not Rhode Island but we can definitely learn something uh some of the data says that within a half mile  
 21:47  
 it could affect land values at 1.5% but then you're talking about housing and so I cannot consciously  
 21:54  
 take that data and 100% apply it or even attempt to apply it to our situation  
 22:00  
 but it's definitely helpful to understanding the perception this is a  
 22:06  
 lot of a assessment is based on perception how people feel there's some that might uh really value the renewable  
 22:14  
 uh aspect and see it as a as a gain as far as having it in your community and  
 22:20  
 actually positively affecting we've seen that in some of the literature we've seen that some that have strongly  
 22:26  
 oppose it because it couldn't adversely affect things such as viewscape quality of life Etc so what we find is there's a  
 22:35  
 significant level of opinions on the aspect of how it affects ground zero  
 22:42  
 meaning your own backyard your own respective community and I think that's why um I know that's why we've spent so  
 22:49  
 much time trying to carefully consider uh what is an appropriate fit or not and  
 22:55  
 going back to the previous determination the citizens of Woodbury County uh  
 23:01  
 placed those in the industrial basically labeling them an industrial type of  
 23:07  
 activity and that's that's pretty much where the plan is and that's why we put so much emphasis on the development plan  
 23:15  
 as looking at does that remain our priority or is there an openness to  
 23:20  
 expanding out and if you're going to expand out uh the development plan could  
 23:25  
 either back an overlay district or even back the concept of not necessarily spot  
 23:31  
 zoning where you can uh maybe address areas that are suitable and prioritized  
 23:39  
 for a type of General Industrial Development or even reworking the limited industrial kind of concept as  
 23:46  
 well uh then we would have to look at the law of unintended consequences you fix something some way then all of a

23:53  
sudden what did you end up doing the other way as far as if you make something industrial but there's a  
23:58  
desire to continue agriculture um do you handle that with the overlay District or do you uh adjust  
24:05  
and allow farming in limited industrial and uh the grandfathering rights or uh  
24:11  
legal non-conforming rights I should say that are applied in our current industrial area mean that the farmers  
24:18  
can basically continue fully with their operation until that use ceases to exist  
24:24  
after a set period of time and so if you were to flip a district and allow  
24:30  
something maybe in a limited industrial do you address it for long-term farming  
24:35  
or do you have a grandfathering type of scenario so the question is how do you  
24:40  
look at each unique location and I think the fallacy that I've ran into a staff  
24:46  
throughout this whole debate is I haven't had any um direct target  
24:51  
locations which is very helpful for understanding the priority of the county  
24:57  
and so when we talk about the future development map and looking at it as a  
25:02  
debate as far as development planning I think it would be helpful to kind of  
25:07  
know where are some alternative areas if not industrial that could be presented  
25:13  
to us so that we could understand if it might be a priority and that goes beyond  
25:19  
the CSR and the various other indicators that we're talking about because we had the question in our last work session  
25:25  
what about the CSR on industrial land well you're already an industrial land and it's already a permitted use or  
25:33  
conditional use so you're not talking about those aspects once you're inside of the industrial land so if you decide  
25:40  
up front and you have the information before you up front and if something's going to be a future industrial area you  
25:47  
plan for it ahead of time you lay that out as the priority then you're not  
25:52  
debating CSR and those type of things you're the public comes together as far  
25:57  
as an area that they all find appropriate so those are some of the I think the challenges and that's why this  
26:04  
is strung out so long as uh the debate has been more of we're looking at all  
26:10  
these options but we don't have okay uh this proposal this proposal this  
26:17  
proposal when you when you have a set of proposals or priorities it it uh it  
26:22  
shows transparency as far as okay that might work that might not work and so uh  
26:29  
that's why development plan is an option  
26:34

**Chris Zellmer Zant**

so I I might be going Beyond tonight's  
26:40  
meeting and going into the next meeting that we have on com the comprehensive plan there wasn't a lot of feedback from  
26:46  
the community from the public as far as what they saw in the comprehensive plan  
26:52  
the time when Simco was developing everything

**Dan Priestley**

um specific to the the whole  
26:58  
plan or to solar policy **Chris Zellmer Zant:** solar policy

**Dan Priestley**

there was not a lot there was actually no major uh um uh submissions  
 27:06  
 that I got I would have to uh touch base with Erin more further as far as the  
 27:11  
 solar policy but the the meetings that I've been at the they were not uh not I  
 27:17  
 wish they were more attended in fact as well but uh um solar was never that you  
 27:24  
 know shining uh priority at the time

**Chris Zellmer Zant**

right yeah I mean we talk about solar  
 27:29  
 kind of as a as a whole with the renewable energy sources but I know that includes wind but that's off the you know that's off the table I don't  
 want  
 27:35  
 to include that but I mean there wasn't a lot of push back or a lot of concern about that terminology or language in  
 27:42  
 this proposed new comprehensive plan yeah so you know that kind of surprises  
 27:48  
 me a little bit too but then we don't hear things until we have a problem and then we hear  
 27:54  
 funny that's

**Dan Priestley**

that's the the one thing as a as a college instructor when I'm  
 28:00  
 teaching the students we'd oftentimes talk about proactive policy versus the reactive policy and you can't get more  
 28:07  
 proactive than a development plan you're basically asking the community what kind of community do you want to be over the  
 28:14  
 long run and that's the opportunity to chime in and show us but most policy is  
 28:19  
 reactive you know eventually and we do and that's fine and that's that's definitely a big part of it but uh this  
 28:26  
 is one of the most wonderful opportunities that any Community has to to collect on the priorities because  
 28:33  
 it's the hope that there's some sort of uh unity as far as the priorities as  
 28:38  
 much as possible

**Dan Priestley**

and the other thing that I see even in this map versus the proposed  
 28:46  
 map um there isn't a lot of change but I see around a lot of the towns there's  
 28:51  
 transitional Agriculture and solar could potentially feed into those towns and I  
 28:58  
 mean we're talking transmission lines and it sounds like that's where the solar wants to be is near transmission  
 29:04  
 line we don't know where those are we don't know the key information about  
 29:09  
 okay where are they so we can plan around this where is this going to happen it sounds like they want to be within a half mile yeah it's uh what  
 29:17  
 I've been told is I mean common sense and practicality is you need to be near  
 29:24  
 where the energy is so substations or the transmission lines the literature  
 29:29  
 definitely backs that up and uh so you can generally understand where a lot of  
 29:34  
 those assets are but it's uh in order to have a priority to have a layout on  
 29:41  
 what the expectations are the community would have to come to some type of consensus through mapping on where there  
 29:48  
 might be some reasonable priority areas and uh um  
 29:53  
 that's that's a good point though energy assets are something that should be  
 29:59  
 definitely considered as part of those locations

**Chris Zellmer Zant**

right and we've gotten no information from those small the  
 30:04  
 communities in Woodbur County as far as their interest in renewable energy

**Dan Priestley**

well the the communities as far as the  
 30:10  
 development plan have been consulted and looked at as far as the uh uh their development plans when Erin and Corinno  
 30:17  
 have worked on uh putting this together the one of the first things they looked at was the city's future land use maps  
 30:24  
 because we want full out compatibility never want to run into any kind of conflict based on the land use there's  
 30:32  
 got to be a full out agreements as far as uh and you you look at even our  
 30:39  
 normal role regular order and how we handle subdivisions uh the two mile is  
 30:44  
 taken very seriously we work with Sioux City on that quite a bit with the subdivisions and and the other community  
 30:51  
 uh when we revisited the wind debate one of the things that came up was two mile setback and so to mile setback was  
 30:58  
 brought in there not because it was it it was not actually not associated with wind policy or even a section in Iowa  
 31:05  
 Code but we went back to the tradition of understanding that two mile territory as far as subdivision and and other uh  
 31:13  
 zoning scenarios or cities actually if you County does not have zoning the city still has a compelling interest in Iowa  
 31:19  
 Co within the two mile range there so uh yes the cities have been respected  
 31:25  
 through the development

**Chris Zellmer Zant**

right but have they even said that this is what we're trying to plan we might be planning this  
 31:31  
 in this area too or we're interested in this so This AG land that's transitional  
 31:37  
 we're looking at this for the potential that this might be so that helps us plan  
 31:42  
 overall

**Dan Priestley**

yeah specifically and running these proposals out and and right now  
 31:48  
 we're talking in hypotheticals so the cities have basically received information how do you feel about solar  
 31:54  
 policy being that General but and that's the fallacy in the debate is we don't have a specific target area so if you're  
 32:01  
 talking about an entire district whether it's AP the the citizen or the community leader we're all left with okay it's  
 32:09  
 it's possible but we don't know because it gets project specific and that's  
 32:14  
 definitely the Challenge from that chasing a policy without a direct  
 32:20  
 mapping and so if we get into the ordinance and we start talking about AG  
 32:25  
 areas or these other areas we can still discuss setbacks or discuss ways that we  
 32:31  
 can protect the cities and their rights within those areas and their priorities for sure

**Chris Zellmer Zant**

so we're talking  
 32:37  
 about 427,000 Acres of ag land AP and yet  
 32:43  
 we're supposed to figure out where these solar things are supposed to fit and work with a maybe a conditional use or  
 32:49



whatever it happens to be without knowledge of what the cities

32:55

are thinking or those transmission

33:00

lines we can narrow the field by using a our two mile you know setbacks we can

33:08

use up some by our csrs that eliminate some of the land slope that can

33:15

eliminate some more of the land so that narrows the field a little bit but it's that going to be enough are those the

33:21

issues that we want to

#### Dan Priestley

well the the issue is if you're looking at an or

33:27

if you're looking at the overlay specifically where you're trying to facilitate it on agricultural land uh

33:34

you need to know the priorities of what the regulations are um you owe it to

33:40

developers you owe it to land owners you owe it to the public that there's a clear transparent process that they can

33:47

go through and have an expectation uh to meet the permitting requirements by the time they work

33:54

through the ordinance they work through staff they work through other leaders uh uh most proposals should be in shape to

34:00

be feasible typically when somebody calls the zoning office and they try to they they expect you in a sense to have

34:07

an understanding when I know number one thing we say we can't speak for board members we can't speak for appointed or

34:14

ected officials but we can certainly show them a process that has been put into place by the community that is

34:21

clear and uh makes you know hopefully makes sense to everybody uh whether it's a clear setback you can be this far away

34:29

whether it's a soil standard having uh specific regulations built in there uh

34:37

uh to the point uh we get into the uh larger uh scale of how other communities

34:43

have addressed this uh I've seen acre caps I've seen megawatt caps but if you

34:49

to even put an acre cap on and you still have the whole level of agricultural available that still leaves the

34:55

uncertainty as far as where these uh could be sited and so uh going down to I

35:02

know one of the communities puts an acre cap in and where the supervisors would

35:07

probably have to because it's an ordinance they'd have to go revisit the acre cap if something were to ever

35:13

change and actually debate it through the three typical public hearings on whether an acre cap uh should be at a

35:20

certain level

#### Chris Zellmer Zant

and that's all 14 counties that actually have some kind of zoning regulations for this out of of the state

35:27

of Iowa

#### Dan Priestley

and as you can tell through the sample counties that were presented in the report there's a mix but a lot of

35:33

them do rely on the conditional use

#### Chris Zellmer Zant

some kind of special use

35:40

permitting

#### Tom Bride

we discussed a little bit on size the

35:45

uh Port Neal plants the there they about

35:50

a 500 megawatt each um that 500 megawatt would would equate

35:57

to somewhere between 500 to 1,000 Acre Site per solar

36:06

depending on how it's done

**Jeff Hanson**

more than that I think your literature in five to 10 acres per megawatt it's going like

**Tom Bride**

36:14

I thought that the uh what was the yeah there was a five to 800 acre 500 megawatt site that Mid

36:22

America or somebody currently has in Iowa. **Chris Zellmer Zant:** that's it by Fort Dodge

36:27

trying to think of this I can't remember the name

**Tom Bride**

and I thought that was a 500 megawatt site and it was 800

36:34

acres right

**Barb Parker**

this this says 10 acres to produce one megawatt on page

36:40

five

**Tom Bride**

I just I don't know where the difference would come into play

36:45

**Dan Priestley**

on It roughly gives you an idea how many acres per a project if they're going for

36:51

a certain amount of megawatts could take out of out of egland or

36:59

or coexist with

37:05

it find information in here there's a

37:11

lot

**Tom Bride**

but is that am I incorrect then on that site that's currently a 500 megawatt site with 800 acres have to

37:19

probably go back and look at did that that came out of the work session yeah that was in one of the I think that was

37:25

a question I asked the largest one was in yeah Iowa 800 AC oh that's 100

37:33

megawatt eight yep eight acres for yeah so that fits

37:40

within that ballpark part so that but is that the largest one

37:46

currently in the state of Iowa holiday Creek

37:53

project

**Dan Priestley**

have to look back transcript

38:01

**Tom Bride**

so yeah I mean you'd be and that's where the cap I can't remember what it was around 8,000 some acres is was the  
 38:08  
 supervisors when we discussed that start with they have the percentage

**Chris Zellmer Zant**

2,540 it's  
 38:15  
 2% I think we talked about that was even too much at one

**Tom Bride**

that would allow for two  
 38:21  
 two sites to if they were full 500 megawatt sites **Chris Zellmer Zant:** maybe three if you get  
 38:27  
 2500 acre piece three plus right

**Tom Bride**

what's that it'd be 4,000 acres for a  
 38:36  
 five right okay 500 megawatt okay so if they were to say we're going to replace  
 38:42  
 this plant which it wasn't well what I can't think the M  
 38:49  
 Americans Will um he said that wasn't that's not what the plan would be and  
 38:57  
 uh I mean even so you'd have two sites would meet the  
 39:03  
 cap if they replaced every or the whole capacity that mid american currently would  
 39:10  
 have on two PL or was it South which ones are  
 39:18  
 run south and there there's two right yeah um but I you know he said that coal  
 39:26  
 is going to still be part of the picture and it's not going to be taken over by  
 39:31  
 solar right um I mean I think the 2% cap I guess what I'm saying is would  
 39:37  
 probably allow enough acres to cover what's going to be needed in the short term you know 20 years or  
 39:45  
 whatever maybe that'll change down the road

**Chris Zellmer Zant**

do we want to commit to something like that over 20 years or you want to  
 39:51  
 review that like they down here in the industrial area they're going to review it they wanted to review it every four  
 39:56  
 years

**Tom Bride**

and that's the other thing too is if it's if it's left that hey just put it in the general industrial there's  
 40:03  
 11,000 Acres 10,000 ACR so you could eat up a big chunk of that if somebody were  
 40:10  
 to put that in there so then the other answer is do you expand General industrial um but then where do you put  
 40:19  
 it you know how how do you expand that and if you take away the ability to  
 40:25  
 put it elsewhere outside General industrial if you stay with what we currently have and that's the only spot  
 40:31  
 for it is it even going to be feasible I mean if nothing's went there now  
 40:37  
 nobody's looking at the general industrial site that you're aware of or  
 40:43  
 and has and hasn't and hasn't for how many years I mean so I guess it's  
 40:52  
 either the way I look at it is right now General Industrial  
 40:58

doesn't work for solar to the land owner because they don't get the money that they want to get out of it that they can  
41:06  
potentially get for General industrial use other than solar I mean that's I guess I'm thinking  
41:12  
the reason why it hasn't gone there yet and like I said I've had a couple individuals say I'm not going to take  
41:20  
that payment because it's worth this much it isn't enough but

**Chris Zellmer Zant**

It didn't sound like M American was really even a  
41:26  
player as far as the solar goes I got the indication that a

**Tom Bride**

there's um the  
41:33  
options that are being bought right now are I'm assuming not Mid American  
41:38  
purchasing them that's what I'm guessing I don't know we don't we don't know those answers but uh somebody's out  
41:44  
there looking somebody's got options on ground land  
41:50  
but none of those are within the general industrial currently so I'm assuming either they looked and  
41:56  
they realized it was too costly or they just didn't look there I don't know what the answer is on that  
42:03  
but right now our plan only allows for it in that area so I would think that they would have at least looked there to  
42:09  
start with right unless there's a different reason that I'm not seeing why it doesn't work in the general  
42:15  
Industrial

**Dan Priestley**

well the um I think we got to be careful with hypotheticals and what  
42:21  
what uh folks might Envision I I do think that the literature speaks to the fact that they're they're looking for  
42:27  
the most feasible locations they're not Nationwide probably when the when this  
42:33  
kind of comes from you know a nationwide priority and you have  
42:38  
developers uh um finding it very lucrative to get into uh industrial  
42:45  
solar and uh they're they're going to look at various factors on where the  
42:51  
most suitable locations are of course zoning would likely be a factor uh but  
42:57  
uh you're going to always try to find the path of least resistance I'm sure they would love to line up the zoning  
43:03  
perfectly but there's times that uh you gotta you got to tell the local community that we've got this you know  
43:11  
this endeavor here that might be lucrative and um your zoning may not fit  
43:17  
up exactly right and so uh the burden is on them to demonstrate to the community  
43:23  
on how uh this will fit uh with that area and that's that's really what a rezoning application does is it shows the  
43:31  
very public way on whether that this is a suitable priority and going back  
43:36  
through normal order and development plans and mapping all of those things can be helpful to backing up a  
43:44  
particular project but uh I think there's a number of reasons why or why  
43:50  
not folks may have considered uh an industrial area not an industrial area  
43:55  
there's on the the other hand folks will argue that industrial areas are not a good location because uh you might take  
44:03  
other uh economic activity that could be placed in the industrial area that uh  
44:08  
solar may not do so well for well those

**Tom Bride**

that activity won't fit anywhere else

44:13

but it would fit there and the economic gain is going to be high and I guess the other thing when Chris was talking about

44:21

um transmission lights those those we can't

44:27

It's it's a Federal Regulation we can't put a map out there with them drawn

44:32

through and say oh these are the areas in Woodbury County that we should be looking at because you can't do that so

44:39

so that makes it was that well they know where they are but we can't put together that map and put it in our plan and say

44:45

well here's these correct

**Dan Priestley**

yeah a lot of the um um utility asset things there's

44:52

there's knowledge of them obviously Planning Group

**Tom Bride**

people know where they are but we can't put that map in our

44:59

plan in our public you're not going to get down to specific foot and then go

45:04

out and say okay here's an area that's you know there's transmission lines through here this is suitable this is an

45:10

area we would

**Dan Priestley**

but I I do think if you're a developer and you're looking at you know the the key assets and why you want

45:17

a project in a certain spot you're that's going to catch your eye and you're going to definitely go for it and

45:22

that might very well be the case on why there's some areas out there I'm just saying kind of through the planning

45:28

process without having a a good grasp on what those areas are I we you can always

45:34

uh track options like but you know with the recorder's office you can generally understand where those options are as

45:42

was reflected in the packet at certain points but uh not knowing the full scope

45:47

uh makes it much more challenging as far as uh uh the priority of uh which lands

45:54

that you take out and this debate is very much centered in on um doesag go

46:00

in does Egan go out we're concerned about uh corn suitability rating we know

46:05

that it's uh it's heavily went into the debate of CSR one csr2 Etc but uh which

46:12

csr2 is of course the current metric across the board uh from assessment but

46:18

uh um like with Scott County Scott County basically says we're using the

46:23

csr2 but when you do use the csr2 it does limit uh depending on the quality

46:30

of the soil limits those available acres and so that's that's where this is kind

46:36

of goes back and forth and uh again if we uh had a better understanding on what

46:43

some of these particular areas are it would definitely be helpful for for the planning process it's sort of sort of

46:49

like the theory you get a rezone application we all know what happens with that you get a rezone application

46:55

we bring it in do they meet the criteria we look down the criteria and I know the

47:00

the first thing that we run to right away is that a spot Zone run into the spot Zone and that that's what's kind of

47:07

hindered the process right now from the developer standpoint uh because they know they could submit an application it  
47:13  
could come to you tomorrow uh they'd go through and then they'd run into that criteria they'd have the CSR to look at  
47:20  
but then they would have your spot Zone to look at and the commission depending on the fact that you glean out of all  
47:27  
the proceedings and everything might recommend to the Board of Supervisors you know that's a nice project and  
47:32  
everything but it just does not fit with the letter of the law right now uh within the ordinance and so you make  
47:38  
that recommendation to them and that's the overall effect and so you go back to the looking at this process the  
47:45  
question is how do you address those metrics for whether the area of land that  
47:53  
footprint is suitable or not and because it's on ag land that's that's why we're  
47:59  
in the midst of this the overlay is a way of um uh your original  
48:05  
recommendation to the supervisors back in May and June was to go the conditional use route and I think that  
48:12  
the commission at that time really highlighted you look at the area you scrutinize the area you look at the  
48:18  
application you look at the surroundings you run it through each of the criteria you come up with a determination and  
48:25  
then you send that over to the board of adjustment um uh I know you're very well versed and used to doing that that was a  
48:33  
result of the recommendation it's sort of like when you go to the overlay how do you replicate that in a sense but  
48:40  
involve the supervisors with some type of criteria and you'll see in the the proposed  
48:46  
option there in the packet there's sort of some red ink in there that kind of highlights the similar process  
48:52  
that you do for the conditional use on scrutinizing in the area uh some of that  
48:58  
U scorecard that Linn has adopted is in there to kind of mitigate some effects  
49:05  
uh but uh it sort of amplifies the conditional use process in a sense I kind of call it a super conditional use  
49:11  
because it involves the supervisors but um and involves the the public hearing proceedings and everything at maximum  
49:18  
level with the three and then the the zoning commission but um  
49:24  
uh it's so if you're going to go with a solar policy or a solar proposal you  
49:29  
need those clear goal posts on what constitutes that area as being  
49:36  
acceptable or not it's just that if you run that through the existing right now  
49:41  
on ag land to switch it to Industrial I mean that's that's what you we would do  
49:46  
right now to try to facilitate IT staff would tell them you know that's not suitable because there's no C in the  
49:53  
column and so uh they could try for the rezone and then  
50:00  
run the application here and then maybe run into that brick wall because of that  
50:05  
criteria so

**Jeff Hanson**

in your overlay option and I apologize if these questions have been  
50:11  
answered this is my first meeting so trying to get caught up to speed on all the work that you guys have put into  
50:17  
this but on the overlay option have you looked at limiting that overlay in the other zoning districts have you said the  
50:25  
overlay is allowed in AP D LI or have you looked at those additional  
50:30  
parameters of limiting it elsewhere?

**Dan Priestley**

yeah um so the overlay could be conditioned

50:36  
 for only a specific zoning District so you could uh say that it's only eligible  
 50:42  
 on AP land and uh some counties some jurisdictions have actually put setbacks  
 50:47  
 from the overlay from other zoning designations as well to kind of create a  
 50:53  
 buffer in there from it but yes um the the way that it's kind of presented in  
 50:59  
 here is the overlay becomes an ordinance option and it gets confusing sometimes  
 51:04  
 when you say you're creating an overlay District I think the public might think that you're laying a district over top  
 51:10  
 the map right away when it's approved but what it is is the it's an available  
 51:16  
 tool that the county has the commission supervisors have uh to approve an area  
 51:23  
 where you're virtually creating the overlay for the project footprint so that district is being created at the  
 51:31  
 time to facilitate that project on that respective District so yeah you could  
 51:36  
 say no it can't go nowhere near suburban residential it can't go near agricultural Estates uh if you even went  
 51:44  
 that far uh agricultural Estates is our most dense District in terms of the two  
 51:49  
 acre lots and density land density so um that's really kind of how the overlay  
 51:56  
 can be used and in a sense it has the feeling of a conditional use because you  
 52:02  
 you're dealing with a footprint of land on a conditional use as well uh but as  
 52:08  
 far as a zoning overlay District we would end up with a legal description basically defining what this new overlay  
 52:16  
 district is and we have we have all kinds of overlay districts out there we do have a pre-existing one which is the  
 52:22  
 flood plain it sits out there it is a fun District that that coincides it's  
 52:27  
 just that we we create a recognized area for an additional use that's created to  
 52:34  
 innovate that is not allowed underneath the base District basically and the  
 52:39  
 the overlay um has a bit more flexibility than a standalone um zoning  
 52:45  
 District because uh if you go and rezone to General Industrial the way it's written right now or limited industrial  
 52:52  
 you're going specific to that use and any use that's available within that District which can create other concerns  
 53:00  
 the law of unintended consequences but the overlay could be geared toward uh  
 53:05  
 okay here is this use and uh but you retain your full agricultural rights and  
 53:11  
 everything that the rights and privileges of agricultural preservation underneath and so that's definitely the  
 53:18  
 I think the compatibility that uh um Scott and Linn County have seen as far as  
 53:24  
 their proposal and it's a smart kind of smart planning type of principle to if you're going to  
 53:31  
 go into overlay is to again go into the development plan and maybe reference  
 53:37  
 those type of uh Concepts so that there's some something to hang the Hat on as far as a policy and the use of  
 53:46  
 those things and this is something that would be very new to Woodbury County we don't have uh um we we have language in  
 53:54  
 there overlays for conservation and other uh uses but they're they're not they haven't been actively employed or  
 54:01  
 re zoned to and so it's it's not a regular process for us

**Tom Bride**

and other thing  
 54:07  
 that could or would limit is if there was a cap and you have that two you know  
 54:13

if it's X Acres that's really the only way you can limit the because you don't  
 54:18  
 know where it's going to go or where where people are going to want to put it in AP so you just have to acres and once  
 54:26  
 that caps it then that's it yeah

**Chris Zellmer Zant**

and once once the use is done like your your  
 54:31  
 lease or your contract is up the overlay disappears in your back tag and this you  
 54:37  
 would

**Tom Bride**

change that CH Zing classification for that property and end up with this  
 54:42  
 General Industrial out in the middle the spot zoning that we're trying to stay away from

**Dan Priestley**

and it depends on how you word  
 54:48  
 the overlay ultimately in the ordinance what the rights and privileges are of the overlay uh what the decommissioning  
 54:56  
 situation is what the when the youth stops uh what are the expectations there  
 55:01  
 for that respective District we've got our countywide regulations on things but if you're going to get specific you're  
 55:09  
 going to want the overlay to cover a lot of those options and uh again I I would  
 55:14  
 my recommendation would be everything that is considered we immediately go to the law of unintended consequences  
 55:21  
 because this is one of those things right away that you make one adjustment here and you may not realize oh we're  
 55:27  
 affecting it over here so we've got to be very very careful as far as uh how  
 55:33  
 those could be if if an overlay is something that's uh desired for  
 55:51  
 recommendation

**Chris Zellmer Zant**

so condition wise I know we've talked talked about condition we already had flood zone or the you know  
 55:57  
 the flood zone that's kind of a condition that we use typically we talked about csrs they have an impact on  
 56:04  
 what we approve and what we don't approve as a condition in my reading I've read that  
 56:11  
 they're looking for areas within a half mile of transmission lines and so do we make that one of our  
 56:20  
 conditions mean that narrows the field that much more  
 56:29  
 I mean I don't want to be too restrictive but you lose 5% in the transmission lines as it is of solar and  
 56:34  
 solar's already 20% efficient you know so it's like we're  
 56:40  
 kind of playing with their rules ideal rules maybe a little bit  
 56:47

**Dan Priestley**

again it kind of comes down to generally mapping I think that's definitely kind of a very helpful ideal as far as  
 56:57  
 placement I do think that you know there's there's land out there that may  
 57:04  
 may very well fit some criteria that we're looking for and I think that there's uh industry standards where they  
 57:11  
 where they want to be located and uh I'd like to know much more from the developer side you know what what is  
 57:20  
 what is your ultimate goal on these spots why would why would you seek out  
 57:25



certain areas certain land owners and see that be the prime ground on on put  
 57:31  
 putting it at that location I think that's that's helpful I think the more that becomes transparent I think that  
 57:37  
 makes their their process even more smoothn other counties because  
 57:43  
 It uh gives a sense of understanding and what folks are looking for

**Chris Zellmer Zant**

but on the  
 57:49  
 flip side that can be used against them so I can see where they're trying to  
 57:54  
 protect that information information

**Dan Priestley**

competition

**Chris Zellmer Zant**

competition yeah

**Tom Bride**

I mean I guess to answer your  
 58:02  
 question is put it putting the restriction on the distance for a transmission line I I think they're  
 58:08  
 going to do what they're going to do that's going to work better for them for them [Chris Zellmer Zant: absolutely] so and if it is the case  
 58:14  
 that their half mile is their limit or their unless they put in their [Chris Zellmer Zant: ideal  
 58:21  
 Standard] or whatever you know a different transmission line you know I I think that'll fix  
 58:27  
 itself for that just that part of it I mean they're going to go where it's going to work best right and to say well  
 58:33  
 that has to be within a half mile of that I don't know that that's [Chris Zellmer Zant: necessarily has to be put in  
 58:40  
 writing] I I guess I don't know what that's going to fix okay because it still might be in an area where people  
 58:46  
 don't that you know the neighbor don't want that anyhow right if they're within that half mile but if they're outside  
 58:53  
 the half mile maybe the people are fine there and and they can go a little further I I don't know

**Dan Priestley**

I would probably  
 58:59  
 suggest to you all uh more scrutiny on separation distances those are more of  
 59:06  
 the feasibility things I think that the public has a a a greater understanding  
 59:12  
 for they know how far they want to be away from things that are affected in their neighborhood we've seen a number  
 59:19  
 of debates that come down directly to setbacks and separation distances we've  
 59:24  
 seen the center of rural Affairs offer us different ranges from 200 to 300  
 59:30  
 there some of the most uh counties that have had on the far end have used a 1000 foot setback specific to residential I  
 59:38  
 think if we're going to start kind of parsing specifically each area we're  
 59:44  
 going to want to look at how far do they need to be from a single family dwelling a house how far do they need to be from  
 59:50  
 the corporate line uh from the cities uh the cities uh offer us more detail on  
 59:57  
 that if they're in support of that or not that'd be helpful the uh we looking  
 1:00:03  
 at the wind ordinance that we did we had uh I think airport uh separation distances there was uh separation  
 1:00:10  
 distances from cemeteries uh from uh um conservation

1:00:15  
 areas and uh I know that the speaking a setbacks the conservation board did send  
 1:00:21  
 us it was in the back of the packet a recommendation of a mile setback uh from  
 1:00:26  
 the respective conservation areas so there are groups out there that want to  
 1:00:31  
 have a input on how far away they are from things and I I think that could be  
 1:00:38  
 helpful to the debate as well on when you know that okay I can only be so far  
 1:00:43  
 away from uh these respective points that offers us a bit more clarity as far  
 1:00:48  
 as cilling where these can be as well so I I do think that the debate should  
 1:00:54  
 discuss if an overlay or if another form is adopted that we need to go into each  
 1:01:00  
 one of those setbacks specifically and decide which ones are the most  
 1:01:05  
 appropriate because setbacks are a mechanism used to try to create compatibility that's the whole goal of a  
 1:01:12  
 setback is to try to you know give you the ability to be there and give you the  
 1:01:17  
 ability to not be so impacted U generally so

**Tom Bride**

well it offers the  
 1:01:23  
 protection for the people who are already there that  
 1:01:33

**Dan Priestley**

yeah the the center of rural Affairs definitely offers something that they they promote as being reasonable um and  
 1:01:41  
 some may say they're not reasonable and I just want to highlight both ends of the debate because we've we've  
 1:01:46  
 definitely seen that

**Jeff Hanson**

one issue I see on the overlay  
 1:01:55  
 is and it can be fixed with the parameters that are established as part of that ordinance Amendment but is  
 1:02:02  
 setting the timing of the installation of the solar panels because I think it would come down to an issue where you  
 1:02:09  
 may have vendors apply for an overlay to get to the cap whatever that  
 1:02:15  
 cap may be established and then it never gets built for two three four five years whatever it may be I think a discussion  
 1:02:21  
 needs to be had in those parameters that if you request overlay it goes through the appropriate process it's approved  
 1:02:27  
 and you have X amount of days whether it's 365 days two years whatever may be  
 1:02:33  
 and then it becomes null and void to release that cap if if that's the  
 1:02:39  
 direction from the board supervisors to have an established cap because I can see someone just coming in and  
 1:02:46  
 grabbing so it has to be connected with the development

**Tom Bride**

and that could be tied into also the per you know like a permit  
 1:02:54  
 you have X time and if you don't start then you got to start the process  
 1:02:59  
 over again and that's a good idea so that somebody can't just lock it all up  
 1:03:04  
 and say oh there's nothing else available we got it you know yeah

**Dan Priestley**

and that you want that  
 1:03:11  
 enumerated with along with this versus relying on the building  
 1:03:18  
 permits

**Chris Zellmer Zant**

that's good point I don't remember seeing that in any of the other  
 1:03:25  
 development criteria that we went through I think I crossed it on one of  
 1:03:30  
 them did you 14 think 14 of our drop that down make sure it's in there  
 1:03:37  
 yeah yeah lot of other stuff  
 1:03:45  
 but project timeline yeah the yeah that was page 83  
 1:03:52  
 who's is that who did we use or a lot of a lot of the criteria  
 1:04:00  
 that's in here yeah combination of the counties that have a policy or have a have an  
 1:04:09  
 this was an overlay District utility skill system has her policy in  
 1:04:18  
 place project timeline is 6a [Dan Priestley: yeah that's within the proposed  
 1:04:26  
 overlay language]

**Jeff Hanson**

and what I'm thinking is you actually set start time you don't allow  
 1:04:33  
 for the flex you don't allow them to set their time I mean it's part of their application hey we expect to have this  
 1:04:38  
 constructed within x amount of months and then if it's not then

**Chris Zellmer Zant**

but we can  
 1:04:43  
 hold them to that too I mean without it actually being in writing we can say okay it's part of your application you  
 1:04:50  
 have to start it on that day and I think it could be done as part of the  
 1:04:55  
 the actual over

**Tom Bride**

overlay that that's the condition that when they apply apply  
 1:05:01  
 that that that's overlay it's 12 months and if you haven't I don't know if I  
 1:05:06  
 would say upon approval yeah upon yeah upon approval and then you and then I  
 1:05:11  
 guess you probably have to set if it hasn't if you haven't started by this date then this goes back to AP and you  
 1:05:20  
 have to start over again you lose and [Jeff Hanson: it'll it will still say AP just the  
 1:05:25  
 overlay right] right I mean it goes back it it's it loses the overlay Y and and  
 1:05:30  
 your bit your back with done yeah so that that's pretty important  
 1:05:36  
 that something like that's put in if that's the route that  
 1:05:41  
 that's and I I mean I think if it's project and they're going to go forward with it it's reasonable to ask that you  
 1:05:48  
 know you don't start it within this timeline then you're back and then because like  
 1:05:54  
 you said somebody otherwise could just tie up all the land and not do anything do anything  
 1:06:00  
 or have the Monopoly on it well

**Dan Priestley**

If you look kind of in the 89 and the  
 1:06:06  
 operation and maintenance plans and kind of decommissioning plans you'll see  
 1:06:11  
 various checkpoints they have to have a relationship the county and have tabs  
 1:06:21  
 on

**Chris Zellmer Zant**

yeah you know we're reporting in verification  
 1:06:35  
 scheduling

**Dan Priestley**

well again I would probably uh suggest you know uh you got the three  
 1:06:42  
 options there and it's kind of it's up to you as far  
 1:06:47  
 as uh what you're thinking as far as is an overlay feasible or is it uh uh the  
 1:06:55  
 other option was to strengthen the conditional use language uh from the existing district or move it over to the  
 1:07:02  
 development plan if uh you're to do something with this overlay though I would definitely suggest that uh the  
 1:07:09  
 language be kind of focused in the way that we want with some of these added concepts but brought into the  
 1:07:16  
 development plan as part of uh justifying  
 1:07:22  
 overlay

**Chris Zellmer Zant**

I know before when we talked about it the overlay was appealing because it had so many sets of eyes on  
 1:07:29  
 it had so many different [Tom Bride: yeah reviewed by all three] approval yeah supervisor Board of  
 1:07:36  
 adjustment Mission [Tom Bride: and then it can be condition specific to that area right]  
 1:07:43

**Dan Priestley**

you got to be aware that um you can run into lots of redundancy too and you've  
 1:07:49  
 got to have everything be uh practical feasible and many of these jurisdictions  
 1:07:55  
 that do the overlay um the overlay becomes the allowed use inside of so the overlay is  
 1:08:03  
 Project Specific so um I've tried to find an area where you put a conditional use  
 1:08:10  
 inside and double it up but there's it seems that the practicality and feasibility of  
 1:08:17  
 um you go to this permit criteria you go to this permit criteria and it becomes  
 1:08:23  
 very cumbersome as far as running through the process and those other jurisdictions like Linn  
 1:08:28  
 once you get through the grinder going through the zoning commission approving  
 1:08:34  
 the Board of Supervisors approving the overlay that would ultimately authorize the use so the conditional use would not  
 1:08:41  
 be a part of that so the the overlay would basically authorize that use and  
 1:08:47  
 so yes you would still have a level of public involvement but that would likely  
 1:08:52  
 remove the board of adjustment I'm just not seeing a clear pathway to do a  
 1:08:57  
 conditional use after you approve an overlay I think that that's probably way  
 1:09:02  
 too much from what I've read in some of the literature and I haven't found a jurisdiction but up because I originally  
 1:09:09

was thinking yeah we could probably do a real trim overlay District but then how  
 1:09:16  
 do you divide the responsibilities between the board of adjustment and from  
 1:09:21  
 the Board of Supervisors if the Board of Supervisors feel that this is good in this way and then the board of  
 1:09:26  
 adjustment we could run into a problem uh between both boards and so an overlay  
 1:09:32  
 is truly designed for the zoning commission and the board of of  
 1:09:38  
 Supervisors to kind of come to a conclusion whether that fits or not and  
 1:09:44  
 so I think ultimately what would happen is uh you would have a public  
 1:09:49  
 hearing uh scrutiny full level at the zoning commission level and that this would be brought up to the three public  
 1:09:56  
 hearings at the Board of Supervisors level so you would you would be at the four for sure on that or we could put  
 1:10:03  
 another mechanism in there if you wanted to have a multiple zoning commission ones but uh as far as uh pulling the  
 1:10:11  
 board of adjustment in I think that they might actually be out of the equation as  
 1:10:16  
 far as the the overlay District but if you were to continue with our current  
 1:10:22  
 policy um the other proposal in here um if the community is all set on it being in  
 1:10:30  
 industrial areas and not on the AG land I think it would make sense to have the  
 1:10:35  
 Zoning commission's Board of adjustment continue to do the hitting with added features if it's specific to industrial so  
 1:10:44  
 that's that's where all of these Concepts and proposals get kind of cumbersome

**Chris Zellmer Zant**

yeah  
 1:10:52  
 confusing m well that takes kind of the interesting  
 1:10:59  
 part of why we like the overlay away is that it had an extra set of eyes on  
 1:11:06  
 it does that change well it's it's I mean but I  
 1:11:12

**Tom Bride**

understand what you're saying just means the overlays got to  
 1:11:19  
 make sure everything's addressed and at that point once they [Chris Zellmer Zant: it doesn't make a  
 1:11:25  
 it's a major change as far as whether you think that's an effective] what does that allow if if the over you basically  
 1:11:31  
 have your conditions with overlay um either they meet them or they don't um  
 1:11:39  
 versus the conditional use site specific where maybe this is a little bit  
 1:11:45  
 different than this other one because it's it's a different piece of property  
 1:11:50  
 so there was some conditions you had to apply here that didn't by here how do you accomplish that with the overlay or  
 1:11:57  
 you

**Dan Priestley**

I think it could be very similar as far as the um the application process of  
 1:12:03  
 scrutinizing the neighborhood and having the ability for the supervisors to impose conditions that are recommended  
 1:12:11

**Tom Bride**

so those recommendations could still come from the zoning board then and and be applied to that overlay District  
 1:12:19  
 differently than maybe a different overlay District that was

**Dan Priestley**

yeah and if if

1:12:24

you all have a process and we'll use the conditional use for an example you find

1:12:29

a deficiency or something that could be improved or meet the requirement based

1:12:36

on a condition we usually have a condition for the purpose of bringing an application up to par to be compatible

1:12:42

with the uh area and so um the zoning commission identifies anything that they

1:12:49

find that might be needing a condition worthy of a condition and uh present

1:12:56

that in the ultimate final report to the Board of Supervisors you are all doing an investigation for the Board of

1:13:03

Supervisors and a recommendation capacity to tell them that here is the

1:13:09

determination of this commission we feel that this is suitable for this area

1:13:14

however this item needs to be addressed this item needs to be addressed and um then they can have the ability to impose

1:13:21

that

**Tom Bride**

the ability is still there it's just that you don't have that the board of adjustment they basically are doing

1:13:28

the work of the board of adjustment

**Jeff Hanson**

okay I think one we address that too in the overlay

1:13:33

proposal is to add the requirement for site plan review and approval at prnz at

1:13:38

planning level and the the Board of Supervisors So Not only would you have to meet those criteria that next level

1:13:45

not going to the conditional use permit would be through site plan review so this body could actually review a site

1:13:51

plan make the addition conditions as they see fit depending on the neighborhood the location the other

1:13:58

factors that come into play and also your public comment you're going to get public comment on each one of these that

1:14:03

are going to be differing right and so that site plan would then follow the overlay throughout the process yeah and

1:14:10

you wouldn't be dealing with the the legality of treating one different than the other because you

**Dan Priestley**

ultimately we

1:14:16

could have them sign off and do the building permit to and uh ultimately put it up as a board item to to really

1:14:23

assure the public and confirm that this is where the project is at this point

1:14:28

and they would they would basically approve it through a vote basically we could you know uh you have them be the

1:14:35

permitting body for that as well

**Chris Zellmer Zant**

so that was part of I with additional use it gives you that much more latitude and

1:14:42

flexibility with each application that's the beauty of it we don't want to lose

1:14:47

that so

**Dan Priestley**

but I will get back to and we're talking about this in theory but we're

1:14:52

still going to have to have that grand criteria right right what what it is  
 1:14:58  
 that will be the heart of a overlay District what threshold do they have to  
 1:15:05  
 meet

**Chris Zellmer Zant**

so included section 5.08 on page 55 in here and that's just ability scale  
 1:15:13  
 solar energy systems conditional use which is what the Industrial

**Dan Priestley**

yeah let me explain page 55 and  
 1:15:21  
 forwarder um sorry show late leave early no page 55 and forward this this is an  
 1:15:30  
 amendment to keep the exact same process and the exact same area and keep the  
 1:15:35  
 zoning commission the board of adjustment permitting inside of General industrial okay that was one of the the  
 1:15:41  
 options available was that we've had concerns to uh strengthen the  
 1:15:48  
 conditional use of further criteria it allows the commission and the board of of adjustment to ensure that they do  
 1:15:56  
 things such as impose uh um decommissioning and and various road use  
 1:16:02  
 agreements various other agreements ensure that those get built in by en  
 1:16:08  
 numeration okay and so that that's the rationale behind uh the utility solar  
 1:16:14  
 scale conditional use okay so that that's separate from the overlay okay that's what that's another option for  
 1:16:20  
 your recommendation

**Chris Zellmer Zant**

which is 76 is the utility scale Energy System overlay districts and then it goes into kind of  
 1:16:27  
 a different format but it covers a lot of the same types of things and you had the other thing red type in here

**Dan Priestley**

the  
 1:16:35  
 other thing while I still have it up here is um inside of the overlay  
 1:16:40  
 District you'll see some references to Battery Systems too and that's something that should be on the radar in terms of  
 1:16:47  
 um um maybe having as part of a recommendation so whatever path you take  
 1:16:53  
 on a a solar you might want to consider that as far as facilitating the the  
 1:16:59  
 permitting of these batteries so I would strongly suggest considering a form of  
 1:17:04  
 that language as part of the recommendation because we know if you're dealing with solar you're going to to very  
 1:17:10  
 likely be dealing with batteries

**Kim Alexander**

please forgive me for interrupting but you know what time  
 1:17:16  
 you're going to allow public questions

**Chris Zellmer Zant**

when we're done just  
 1:17:23  
 discussing I guess or we can do it whenever what do you guys want to do you  
 1:17:28

Do?

**Barb Parker**

you want to go now that'd be great yeah

**Chris Zellmer Zant**

I've got bit wind down are we ready to wind

1:17:35

down yeah I'm fine okay do we have more questions or something that's pressing okay I just wanted to clarify that we

1:17:42

had conditional language here use language and then we had the overlay language you're not suggesting

1:17:47

conditional use first part for just the industrial area and then this part for

1:17:53

**Dan Priestley**

I'm I'm my my S my suggestion is that we carefully examine what the public has to

1:18:00

say about um the priorities on solar as

1:18:06

far as the development plan I think it's been very apparent throughout the course of the debate and uh I think that the

1:18:13

development plan needs to coincide with this and so I I think ultimately you

1:18:19

could have multiple recommendations possibly routes they could take

1:18:24

supervisors could take and so I think that the the input is imperative as far

1:18:30

as potential areas I I think that uh we're we're of course being monitored

1:18:35

and being watched by developers and I and I and I encourage uh folks to

1:18:41

contact staff uh to to respond to our requests for comments because uh we need

1:18:47

more information as far as uh what kind of County we want to be and so

1:18:53

uh development plan needs to be a key part of it but I also think that uh um

1:18:59

you you have the ability to um strengthen the conditional use permit ordinance the problem is is if you do go

1:19:06

for an overlay how do you handle industrial in the future too so are you going to be left with a different set of

1:19:13

policies for the industrial and so we're going to have to find a way to marry these two items together guess that's

1:19:20

what I was asking are we having two different policies for two different yeah

**Dan Priestley**

so if you're doing an overlay

1:19:26

and you're doing the the other one you're going to have to have something that mirrors it but it's suitable for

1:19:32

the industrial area um if you're doing agricultural mitigation you're probably not going to worry about it so much on

1:19:38

industrial land so we we've just got to be able to keep everything prioritized

1:19:44

and divided

**Chris Zellmer Zant**

so okay easy what did you say Okay you may

1:19:53

speaking now great yes

**Kim Alexander**

my name is Kim Alexander I farm at Smithland and I

1:19:58

appreciate y'all's public service and doing this you could not pay me to do your job uh but I do appreciate what you

1:20:06



all are doing and I just want to ask a couple questions two or three questions  
 1:20:12  
 backing way up to the beginning on the fundamentals of this thing uh and and it  
 1:20:17  
 was very hard to hear I want to say that I appreciate the gentleman in the red shirt I could generally hear him but the rest of  
 1:20:23  
 you it was tough but so if I ask something that's already been answered please forgive me so uh gentleman said  
 1:20:32  
 something about a meeting with the Department of AG and the department of energy and they were  
 1:20:37  
 assessing communities and how they're coming along with their uh setting up  
 1:20:43  
 the framework for this whole uh green energy deal is that yeah um

#### Dan Priestley

basically as  
 1:20:50  
 you all know there's been some federal initiatives as far as this this renewable energy a lot of the literature  
 1:20:58  
 talks about the closing of the coals plant or uh plants and the replacement energy  
 1:21:04  
 and um one of the things uh that occurred at this meeting was uh they  
 1:21:09  
 wanted to um kind of understand concerns that we may have had from the local  
 1:21:15  
 level about the implementation of uh solar in the communities and this isn't  
 1:21:21  
 entirely a fresh brand new thing it's been out there for years but uh  
 1:21:27  
 they they want to know generally um what some of the challenges are whether it's  
 1:21:32  
 taking AG out of commission and placement Etc I understand so this is  
 1:21:37  
 this is first and foremost a topdown government intervention is that accurate  
 1:21:44  
 I I can't really directly say that as far as saying that um uh we we know that  
 1:21:52  
 there's information out there that there's a there's a compelling interest in Renewables for a future energy policy  
 1:21:58

#### Kim Alexander

especially from the government right and so the other question I so this is not  
 1:22:04  
 premarket Enterprise if I understood correctly again I apologize you're being so hard of hearing um this is not free  
 1:22:13  
 market uh Grassroots demand for this this is a another top down government  
 1:22:19  
 uh intervention in rural America rural Iowa uh and so I would submit to yall  
 1:22:28  
 The Challenge and the difficulty and again I appreciate what you all are doing you could not pay me to do your  
 1:22:35  
 job so I appreciate you all doing this uh I would submit to you that that the  
 1:22:40  
 biggest part of the challenge is trying to create something that there is no  
 1:22:46  
 grassroots demand for it is the is the problem that we can't make enough energy  
 1:22:52  
 from coal or natural gas no the problem is Big Brother government doesn't want  
 1:22:58  
 us to have that option and that ladies and gentlemen is a  
 1:23:04  
 recipe for disaster we're seeing these electric cars I read it a headline today  
 1:23:11  
 uh these electric cars in Chicago or wherever these big cities they they are frozen  
 1:23:17  
 robots premarket demand will take care of what we need not top down government  
 1:23:23  
 boondoggles paid for with non-existent tax money because they're just printing the stuff so um again I appreciate what  
 1:23:32  
 yall are trying to do but uh we do not need this there is no demand grassroots  
 1:23:39

demand for it it is government boondoggle and government uh to quote  
 1:23:44  
 that great western philosopher I think his name was Ringo Star he said everything government touches turns to  
 1:23:51  
 crap and that's what's going to happen folks if if you if you try to thread the  
 1:23:57  
 needle for big brother so any questions for me

**Barb Parker**

no thank you very much great thank  
 1:24:04  
 you all I appreciate it

**Chris Zellmer Zant**

thank you thank you check check do we have anyone [Barb Parker: what sorry I  
 1:24:13  
 Took] no no no you can say whatever you want whenever you want you know that  
 1:24:18  
 anyone else from the public want to comment  
 1:24:27

**Marty Dougherty**

Mary city city city plan the city city plan so we  
 1:24:34  
 and that go a little bit about this and we we just wanted to listen for a while  
 1:24:40  
 and be make a few comments on behalf of Sioux Cityum he's the expert planer so I I I do  
 1:24:48  
 Economic and Development so but um  
 1:24:53  
 I'll just start off Chris can had technical comments I guess but but  
 1:25:00  
 uh I do want to say thank you for the work we're doing obviously I'm impressed by how much detail depth we've gone into  
 1:25:06  
 here for for this getting some of the materials wow you guys spend a lot of time  
 1:25:13  
 studying this so know a whole lot more about it than than I be sure but um uh I  
 1:25:19  
 understand correctly the current process is in Woodbury County it's uh allowed solar these  
 1:25:25  
 large solar systems as a conditional use in industrial areas looking at AG and  
 1:25:33  
 you're looking at the whole thing so um and from the standpoint of the of  
 1:25:39  
 Sioux City Our concern is that and been brought up here a couple of times two mile area around the city is usually  
 1:25:45  
 where you have some interesting in jurisdiction in some areas Chris can explain but not in own we have some  
 1:25:52  
 things um subdivisions and so on and um we have been working very hard and  
 1:26:00  
 actually want to say um we don't necessarily U we're concerned with just  
 1:26:08  
 having it in industrial areas as well and and uh and I say that because in the  
 1:26:13  
 South we call the Southwood area which is the area south of the airport Port NE  
 1:26:18  
 um we city has actually worked for the county uh and we put a lot of infrastructure a  
 1:26:24  
 lot of investment in the area um we don't we're not growing like Des Moines or  
 1:26:30  
 something but we we have steady growth and that's an area we identified for industrial growth and uh we put a lot of  
 1:26:38  
 investment into water plants and streets uh water sewer utilities and so  
 1:26:44  
 on um and our concern is not necessarily the case but it's possible that if you  
 1:26:51  
 have thousand of Acres or hundreds of Acres going to solar um that will lose the  
 1:26:57  
 opportunity for other types of industrial growth um I don't want to say things I'm not know a a lot about but I  
 1:27:05

don't think there's a lot of jobs we're trying to build a you know factory or facility of some kind that employs  
 1:27:12  
 hundreds or thousands of people and and that's hard to do it doesn't happen overnight but we've been diligently  
 1:27:19  
 trying to to to have land available for them that I would also mention that the  
 1:27:24  
 C of su City Sergeant Bluff and wber County have gone in on the Interchange  
 1:27:29  
 which is taken several years to study and is now under design the cooperation with the Iowa DOT  
 1:27:34  
 of the I right in that same area which we think will lead to more industrial  
 1:27:40  
 growth um and we have some concern that a lot of that area was went to uh to  
 1:27:47  
 large solar Farms or large solar system arrays I'm not even sure the right terminology but that  
 1:27:54  
 might uh sort of impact what we think is going to be tremendous opportunity not  
 1:27:59  
 only for suity but for the Woodbury County and the whole region to see some significant growth um and so when you  
 1:28:07  
 say industrial ask you to consider different types of industrial growth um  
 1:28:14  
 energy production is one type but a lot of other kinds of of uh industrial  
 1:28:20  
 growth with kind of leading most concerned about so um and I also share  
 1:28:26  
 some concern of use of agricultural land uh Sioux City is we're larger City but  
 1:28:35  
 we're driven by Agriculture and that that's that drives our economy here Rich industrial Rich agricultural  
 1:28:42  
 land lots of livestock a lot of businesses industries that City and  
 1:28:47  
 majority I think are food production food related and so we have some concerns  
 1:28:52  
 too just in general about about taking really high quality farmland or  
 1:28:57  
 something that maybe should maybe maybe the solar and is not the highest best use of that land so so again I'll let  
 1:29:04  
 Chris comment a little bit on something may more technical but but our I  
 1:29:10  
 appreciate your consideration of this and um take into account not just City  
 1:29:16  
 but the other cities in Woodbury County and how they how they may we would likely be  
 1:29:21  
 impacted some of the residential areas too we've had again we're not growing as fast as Waukee or Ankeny or something but  
 1:29:27  
 we do have some good residential growth occurring um around the outskirts of  
 1:29:33  
 Sioux City we like that we' like that to continue as that we think without more  
 1:29:38  
 housing you don't have the people that don't have the job creation so I think it's vital to our whole  
 1:29:46  
 region

#### Chris Madsen

I think our main concern would be with the utility size that within two miles of a city's jurisdiction that  
 1:29:53  
 either those would be prohibited such like the wind uh turbine um I know that  
 1:29:58  
 was noted in your right up as well there's also some comment about a five mile or at least a FAA review within  
 1:30:07  
 certain distance of the airport we're working with our airport to get what their language would be on that with  
 1:30:13  
 their proposal they didn't know the five mile was really necessary just as long the  
 1:30:19  
 FAA um one thing that we do allow wind or solar energy in city as an  
 1:30:26  
 accessory that's something that obviously we would be in favor of if that's something you guys want to continue I'm not sure how your ordinance  
 1:30:33  
 addresses that infirm is accessory use or just the utility scale principle use  
 1:30:38  
 within miles is our major concern U we do appreciate the larger notification

1:30:43

here as well the one currently is about just a little over a mile outside city so we weren't aware of that one was

1:30:51

proposed but all that increased notification would being

1:30:56

for yeah

**Marty Dougherty**

on the airport deal we have talked to M CL airport

1:31:01

director we have we're going to submit a letter to you is that is that okay 'l

1:31:07

probably signed by the mayor he's been interested in this asked us to look into it so um but uh do you want to make sure

1:31:15

we express the concern about the airport because um uh within a certain distance

1:31:20

of runways it can affect planes probably not big planes with

1:31:25

smaller ones pilot provide there are some rules there where we'll get those to you into what what their concerns

1:31:34

more specific it is there are some some new some approvals

1:31:39

that have over this

1:31:45

type cause issues

**Chris Zellmer Zant**

with I think that was uh with the mid- americ we spent a lot

1:31:51

of time evaluating that information and making sure that was accurate we did have the FAA

1:31:57

faton yeah we had their blessings yeah so we wouldn't have moved forward on it if we hadn't

1:32:04

so that's a big that's a big issue

**Jeff Hanson**

to answer your question Chris and Dan can

1:32:10

you clarify this does not impact any accessory use or personal use of solar

1:32:15

right so anyone that's currently or plans to or has pending applications to

1:32:21

energize their personal property with solar this is not directed towards that

1:32:27

use correct

**Dan Priestley**

yeah this uh just for the record this uh debate ended up split in

1:32:33

August uh we had a original proposal that went through that uh treated this

1:32:39

as a conditional use originally on AG land and uh we addressed the accessory solar

1:32:45

In fact we kind of uh U we were more restrictive than Sioux City on Accessory

1:32:50

we' had it as a conditional use permit and uh you have it as a permitted accessory and we we went back and uh we

1:32:57

amended our ordinance uh to have the same designation as Sloux City has uh we did put some language in there for uh

1:33:05

limited net metering opportunities uh because the way when when we ran it through the county attorney's office uh

1:33:12

uh we wanted to make sure that um you could not convert an accessory situation

1:33:17

into a utility uh situation so to up based on the definition and so um uh we

1:33:26

do have a permitted accessory for use if somebody put one in the house or off City at this point

**Chris Madsen**

I guess from our

1:33:33

stance we would be only really concerned with the utility scale within that two miles there were accessories within two

1:33:44

miles thank you thanks

**Chris Zellmer zant**

anyone

1:33:50

else question

**David Linn**

1:33:56

Eastern sh really curious why or If you guys

1:34:02

discussed just expanding the general industrial to

1:34:08

accommodate these industrial scale

1:34:13

solar arrays whatever you want to call I mean if we just had more room South C

1:34:20

obviously I should obviously I'm a farmer out in the county and I really I'm not a big fan of solar I wasn't a big

1:34:27

fan of sold leing but it seems to me like the best way to accommodate all of

1:34:34

this stuff would be to keep it within an industrial zone area that would be a simple thing now I understand that

1:34:39

there's going to be people down there within that industrial zone that probably don't want to be zoned

1:34:44

industrial but the way it sounded uh even the farmers that are

1:34:51

already there there that may actually increase it value what he was talking about earlier so

1:34:58

why don't we just consider increasing to so well we already know

1:35:03

that transmission lines are there and and leave the rest of us

**Chris Zellmer Zant**

I think one of the things that had

1:35:10

come up in our discussions too was that because when you changed that zoning to industrial there's a lot of other things

1:35:17

that can happen in that industrial area not just solar [David Linn: that's right] there's a lot of things that aren't necessarily as

1:35:24

well compatible as they might be the farther you get away from that industrial area that we have right now I

1:35:31

mean we look at it when we have growth and we see that that's e that's definitely happened but right now well

1:35:37

but are some of the examples Dan that we have that go in industrial zones that may not be a priority

**Dan Priesley**

construction

1:35:44

contractor yards borrow pits all sorts of

**Chris Zellmer Zent**

heavy petroleum storage you know oh

1:35:52

don't we have room within the county I don't know sound like there's about 10 11,000 Acres 11,000 Acres now currently

1:35:57

**David Linn**

now currently it's in it's all West the of the Interstate is is there is there

1:36:03

more farmland just because that's less popular we have more ground in Woodbury

1:36:11

**Chris Zellmer Zent**

County out of s to the South and Highway 75

1:36:17

the there's a map yeah we got our m that's

1:36:22

why I have my paper clip on it maybe I can find it before you can you turned right to it before I did there it is

1:36:29

right there which one would you like existing

1:36:34

they V for either one

**Dan Priestley**

this is tough to see but the green

1:36:41

area there's predominantly all the ag L this is what's General Industrial right

1:36:46

now actually it's a purple that that's south of the airport there okay I see

1:36:51

good yeah and so this

**David Linn**

this area right here would still be available it's west of the Interstate it would be delineated

1:36:58

by the Interstate or what well the and it's primarily agricultural land

**Dan Priestley**

the plan the plan right now as historically

1:37:05

referenced that it's open space or recreational uh under the is that the

1:37:11

**Chris Zellmer Zant**

green stuff yeah yeah that's all it's kind of that's all BRS

**Dan Priestley**

yeah yeah so

1:37:18

conservation areas and all those things have been in mind for that type of zoning designation and so we're trying

1:37:25

to preserve that ground down here and keep it away from industrial it appears so

1:37:31

**David Linn**

yes that's that's what they're trying to I'm from right here like I said I've got Farm here down here in whatnot and I've

1:37:38

got Farm ground right within that green area that that the concentration board keeps trying to buy from okay and

1:37:44

they'll never get make sense of that designation I

**Chris Zellmer Zant**

1:37:49

better hide my jacket

1:37:57

**David Linn**

but it just seems to me that would be

1:38:04

best and just uh

**Dan Priestley**

again that's definitely a good development plan discussion right

1:38:10

absolutely y I'm sure we'll hear that again too

**Chris Zellmer Zant**

yoah yes thank

1:38:16

you anyone else

**Eilizabeth Widman**

well I wasn't prepare to talk

1:38:21

tonight I didn't realize people can say anything because last time we had work session it didn't allow people to say

1:38:26

things but I know there's a there's a a form in there I believe my son submitted

1:38:32

has talking about property values and it said overall if you consider the whole United States putting in silver facility

1:38:40

does affect your um value of your property but there were three um you

1:38:47

know and that was considering if you put it around urban centers on the east coast didn't affect anything but they

1:38:53

said there were three criteria that if you had it would decrease your property values 5% and that was um and I'm not

1:39:02

looking at it right now I don't remember exactly but it was the size of the project that um was going to be put in

1:39:08

and if it was in a rural setting and there was one more and I don't remember

1:39:14

if it was just in the midwest I don't remember what the third one was but on there somewhere and it says it'll

1:39:20

decrease your and um I appreciate Mr Alexander when he

1:39:26

said this has not been pushed by anybody and says he we're not getting enough energy um she looked up something on her

1:39:33

phone you're going to save \$15 a month by ruining all this ag land put in put in

1:39:40

solar it's very inefficient um and it's this has just

1:39:46

been pushed by people who have an economy who have a money incentive to do this

1:39:52

and there weren't those of us in the the AG community that said hey we want our AG taken away so we can have solar um

1:40:01

and I I just think it's really ironic that you want to take away ag

1:40:06

preservation land so the word preservation means you need to save it and and I think the the main uh one of

1:40:14

the the main Treasures of our county is the people and we don't chase away people

1:40:22

that want to live out in the in the county and people don't want to live by

1:40:27

these big set of things and I have a vested interest because they want to put this down in my area where I've been and

1:40:35

and um I I love the country I love to see the country and I also have a

1:40:40

question you talked about well these things could have ag uses now if they sign a lease with the company and I

1:40:48

understand um I found out um you could look online on things this

1:40:54

company that um the big one they want to sign up with if you look up their

1:41:00

headquarters it's a lawyer's office in Ohio somewhere this isn't even like a

1:41:05

business you know whatever and um

1:41:11

forgot um sorry ag uses something about EG

1:41:19

uses oh yes if you have ag uses so if you're sign if you're signing an agreement with a company they're in

1:41:27

charge of what's going to go on the farmer is not going to say oh I signed this with you you know several years ago

1:41:34

I suddenly want to put make sure that it has an ag purpose well that person's

1:41:40

not in charge of it anymore my understanding is when you sign an agreement company they're the person

1:41:46  
 that's in charge of it so I think all this discussion about well it's going to fit with a and the farmer wants to  
 1:41:53  
 have it a it's not the farmer that's going to decide these things it's that company that they've signed sign an  
 1:41:59  
 agreement with unless I'm misunderstand this but I don't see how the farmer has any say once you've  
 1:42:06  
 signed an agreement with the company

**Chris Zellmer Zant**

I don't have firsthand experience but my thought is that because of the contracts  
 1:42:12  
 that they use a lot of these issues will be addressed in those contracts but we  
 1:42:18  
 can't control those the only way we can control it with what we do with ag I mean what we do with our zoning ordinances I  
 1:42:25  
 mean that's all we can do contract these contracts or contracts there's another  
 1:42:31  
 outside of us option sign options options already been signed yeah and uh  
 1:42:37

**Elizabeth Widman**

so I have a concern about this discussion about well fits with that because we're going to do this well um  
 1:42:44  
 you know these companies don't live here they don't you know they don't have a  
 1:42:50  
 concern with how our turned out so that's my on spot two sound so  
 1:42:57  
 sorry thank you and you're Mrs Whitman yeah I'm sorry I'm Elizabeth Whitman yes

**Chris Zellmer Zant**

1:43:02  
 yes thank you anyone  
 1:43:08

**Greg Jochum**

else um Greg Jochum um just wanted to uh um the old  
 1:43:15  
 saying location location location um there's purposes for uh why they didn't  
 1:43:22  
 go to General Industrial um it's the transmission lines if the infrastructure is there um  
 1:43:29  
 it's already there for them to use transmission lines um General Industrial  
 1:43:35  
 does not have any transmission lines up in that area um that would double the  
 1:43:41  
 cost it make it makes it uh um not feasible for them to be in the general  
 1:43:47  
 industrial um the comment that um one of you said that you know General  
 1:43:55  
 industrial we don't have to worry about it because it's already Zoned General industrial um you can still farm the  
 1:44:00  
 general industrial um I gu I'm farming ground in the general industrial but I also have  
 1:44:08  
 ag preservation ground I would much rather have a conditional use or the overlay for that than have you know  
 1:44:16  
 ground in the you know not close to  
 1:44:22  
 the highways the interstates and all that being deemed General Industrial for  
 1:44:27  
 a project you know your spot I don't I don't see where that that be very  
 1:44:33  
 detrimental because ag preservation is good because in when the leases are up  
 1:44:39  
 and they decommission it to take everything out it goes back to farming you're not out anything whereas if it  
 1:44:45  
 goes to General industrial General industrial then it's stuck there and you know a concrete PL a  
 1:44:53  
 you know Warehouse can go up and there's nothing that anybody in the can do



1:45:01  
 can you know I I think if uh you know looking at you know going with  
 1:45:07  
 the the utility scales the scorecard uh you know that is something  
 1:45:13  
 if you go with an overlay or something using that uh which is it's designed for  
 1:45:19  
 the preservation and incentives gives you lots of options and lots of ways for them to score how these  
 1:45:25  
 projects are cited because you know obviously when it's done it goes back to the ag  
 1:45:36  
 production and and I think Linn County use the scorecard where we got that example  
 1:45:45  
 yeah and thank you for everything you guys do like Kevin  
 1:45:51  
 said it's t

**Chris Zellmer Zant**

but we appreciate your participation  
 1:45:57  
 in your comments and your thoughts and your ideas because it makes us think maybe outside the box too we haven't  
 1:46:02  
 thought about it you know it hasn't come up so if you don't say something we don't know your participation is greatly  
 1:46:10  
 appreciated surely anyone else uh

**Leo Jochum**

can I can I speak  
 1:46:18  
 [Chris Zellmer Zant: who who is speaking okay] this is Leo Yokum 1691 250th Street at seix and I I  
 1:46:28  
 kind of want to talk about Farmland the history what we had in Woodbury County and I'm going to back up  
 1:46:37  
 to what we had in Woodbury County Farm economy of the 70s we had a county that had a robust  
 1:46:45  
 live livestock industry it was supported in every small town in the county had a co-op elevator  
 1:46:53  
 farm machinery dealers livestock equipment dealers fuel Distributors local veterinary services  
 1:47:00  
 just to name a few this all fed into Sioux City and that  
 1:47:05  
 area had the major livestock yards had five or six slaughter houses and it also  
 1:47:11  
 brought along with it a tremendous amount of support businesses  
 1:47:17  
 now when the farm crisis of the 80s hit very few of these livestock  
 1:47:23  
 livestock producers in the county survived I know because I lived it and  
 1:47:29  
 at that time I was president of the Woodbury County pork producers our producer and Associate  
 1:47:36  
 membership went from over 300 members to under 30 in just three years that's how  
 1:47:42  
 fast and furious people were losing money as a result of that we had we had  
 1:47:51  
 some officials in Woodbury County and Sioux City that were really on the ball and today we have to applaud our  
 1:47:57  
 County and city leaders in the 80s and right up to our present time for their insight their proactive response to  
 1:48:04  
 recruiting and attracting new businesses to offset the loss of the Agricultural  
 1:48:10  
 Revenue I want to share um I have some facts here from the  
 1:48:16  
 food and agricultural industry economic impact study and this study is put on by the United  
 1:48:26  
 States Department of energy along with the food and agricultural department and these facts are  
 1:48:34  
 considered in Congress they've got them now and it's considered for the new farm bill and I'm going to just touch on just  
 1:48:41  
 a three things this stretches out over every  
 1:48:48

county in the United States it's also broken down by the state each  
 1:48:54  
 County and I took Iowa all 99 States but I just separated out Woodbury Plymouth  
 1:49:01  
 and Sioux mainly because Plymouth and Sioux County was brought up as being strong ag just like Woodbury the difference is  
 1:49:10  
 I want to take a look at ag jobs Woodbury has in 2023 this is  
 1:49:17  
 2023 at 348 direct ag jobs Plymouth County had  
 1:49:24  
 1572 ag jobs Sue County had 3,000 ag  
 1:49:29  
 jobs Woodbury County ranked 85 out of 99 counties in the ag jobs Department ag  
 1:49:37  
 wages Woodbury County 12,932 Plymouth County  
 1:49:45  
 7,283 Sioux County 17 I mean I'm I  
 1:49:51  
 got to back up 12,932 for Woodbury for Plymouth  
 1:49:58  
 7,283 mil Sioux County 176,50  
 1:50:03  
 195,000 compare that Sue County had 176 million to woodbury's 12 million in ag  
 1:50:10  
 wages ag output this is money coming from all of  
 1:50:16  
 the ag area that's Hogs cattle swine sheep Dairy and  
 1:50:23  
 crops Plymouth County had uh Woodbury yeah Woodbury County had  
 1:50:30  
 99,197,000 Plymouth County had 933 million  
 1:50:37  
 10 times the amount Sioux County had 1 billion 730 million  
 1:50:46  
 327,000 now to close this this impact study also showed that Woodbury County ranked real high very high in the  
 1:50:54  
 top 5% in manufacturing jobs and wholesale jobs in the  
 1:51:00  
 state that's direct correlation to the  
 1:51:06  
 leadership we had with the city officials and the county officials that saw how ag was  
 1:51:12  
 falling through no fall of its own but just through the ag economy it was tough Farmers went broke  
 1:51:20  
 Woodbury County needs industry so keep that Southbridge area for industry  
 1:51:26  
 open we also need other ways in the county in the ag economy in the ag  
 1:51:32  
 preservation area to bolster that we can bolster that with renewable energy with  
 1:51:40  
 utility solar it'll fit well we may be  
 1:51:45  
 we may be bringing agrivoltaics right into this it's it's a new one it it's coming on but the tax revenue coming in  
 1:51:54  
 the extra jobs that are going to be coming in from that on a normal basis after it's going after it's in operation  
 1:52:02  
 there's going to be eight very high paying jobs and there's going to be related businesses that are going to  
 1:52:08  
 have to help to maintain the grass maintain the equipment maintain the fences it's going to be a it's going to  
 1:52:15  
 be a plus for the economy it's clean it's efficient and it's very good for  
 1:52:20  
 the environment I I think the renewable energy lay overlay should be considered  
 1:52:27  
 and I think uh there's contracts out there that are very  
 1:52:32  
 solid and I I know you want to know where it's at but I know that once it's listed  
 1:52:41  
 where it's at it's a commitment you can't do anything about it once it's a  
 1:52:46  
 commitment just like somebody wanted to have a timeline on it  
 1:52:52  
 um if all of a sudden that company is in and has a contract going and they're ready to build it and all of a sudden we

1:53:00  
 get hit with something similar to covid then all of a sudden you got to  
 1:53:05  
 back up and you lose everything so we need yes put stuff in there that's  
 1:53:13  
 reasonable and I think we can have a very good um I think utility solar can  
 1:53:19  
 be very very good for the community uh it's safe  
 1:53:26  
 and I think it will just be good in general thank you

**Chris Zellmer Zant**

thank  
 1:53:35  
 you anyone  
 1:53:41  
 else no Commissioners no going once  
 1:53:47  
 going twice all right I think that is going to  
 1:53:54  
 conclude our work session got all your notes yeah okay

**WORK SESSION CONCLUDES AT 6:53 PM CST**

**Public Comment on Matters Not on the Agenda**  
 None

**Commissioners Comment or Inquiry**  
 None

**Staff Update**

Priestley pointed out that the fourth Monday of the month conflicts with holidays such as Memorial Day and recommended an alternative date should be put into stone to ensure the Commission can review applications during the month of May.

Priestley reminded everyone about the Zoning Commission public hearings on Monday, January 22 at 5:00 PM. Public hearings will be conducted regarding utility-scale solar energy systems and the Comprehensive Plan for 2040.

**Adjournment**

The meeting was declared adjourned by Chairperson Chris Zellmer Zant at 6:56 PM CST.

## APPENDIX – INFORMATION SUBMITTED FOR THE RECORD

Daniel Priestley

From: Naomi Widman <naomitoenies@gmail.com>  
 Sent: Tuesday, January 16, 2024 11:05 AM  
 To: Daniel Priestley  
 Subject: Solar Farms Cause Decline in Surrounding Property Values

**CAUTION:** This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. If you are asked for your username and password, please call WCICC and **DO NOT ENTER** any data.

Dear Mr. Priestley,

Could you please pass this information on to the Woodbury County Zoning Commission so that they have it for their work session meeting tomorrow evening? Or could you please give me an email contact so that I can send it to them? I could not find any contact information for the commission. I know my husband has sent information to you in the past concerning this so I thought I would contact you first.

Thank you for your time and attention!  
 ~Naomi Widman

Attention Zoning Commission:

Here is some information to lend insight regarding how solar farms negatively impact surrounding property values. I have included links to articles and have highlighted specific information from those articles. I hope this is helpful as you consider what the best course of action is for Woodbury County and its residents.

1. <https://www.ecowatch.com/property-values-of-homes-near-solar-farms-appraised-in-new-study.html>

A study of six states found that on average home prices decreased 1.5%. Most importantly, **"significant differences in property values were observed for homes near solar farm sites previously used for agriculture (average 3% decrease), rural locations (average 4.2% decrease) and solar farms with larger areas (average 3.1% decrease)."** All three of these factors are present for the land that currently has solar farm easements signed in Woodbury County. One of the areas studied was southern Minnesota which found declines of 4% in property values. When properties were 2-4 miles away from solar farms, their values were not significantly impacted.

Solar farms should be placed in or near industrial areas where they are less likely to negatively impact surrounding property values or placed greater than 2 miles from home owners so those property values are not impacted.

2. <https://insideclimateneews.org/news/15032023/solar-property-values/#:~:text=The%20Solar%20Industry%20reacts&text=%E2%80%9CThe%20report%2C%20which%20found%20no,country%20also%20show%20similar%20conclusions.%E2%80%9D>

This article also discusses the most recent study about solar farms and their negative impact on surrounding property values.

3. [https://eta-publications.lbl.gov/sites/default/files/lspvp\\_journal\\_article.pdf](https://eta-publications.lbl.gov/sites/default/files/lspvp_journal_article.pdf)

This is a link to the most recent study that is referenced in the aforementioned articles.

--

Naomi Widman, DNP, RN  
 Email: naomitoenies@gmail.com  
 Phone: 612-437-2603

**Minutes - Woodbury County Zoning Commission – January 22, 2024**

The Zoning Commission (ZC) meeting convened on the 22<sup>nd</sup> of January, at 5:00 PM in the Board of Supervisors' meeting room in the basement of the Woodbury County Courthouse, 620 Douglas Street, Sioux City, IA. The meeting was also made available via teleconference.

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**Meeting Audio:**

For specific content of this meeting, refer to the recorded video on the Woodbury County Zoning Commission "Committee Page" on the Woodbury County website:

- County Website Link:
    - o [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/)
  - YouTube Direct Link:
    - o [https://youtu.be/0yF9t1AqEVk?si=WoQYr\\_-luP1s77rK&t=13](https://youtu.be/0yF9t1AqEVk?si=WoQYr_-luP1s77rK&t=13)
- 

ZC Members Present:

Chris Zant, Barb Parker, Tom Bride, Jeff Hanson, Corey Meister  
Dan Priestley, Dawn Norton

County Staff Present:

Alan McGaffin, Terri McGaffin, Renee Weinberg, Jane Hey, Dan Bittinger, Cindy Hammann, Steve Corey, Amiee Krogh, Brian Sadler, JoAnn Sadler, Amber Widman, Sylvia Widman, Peter Widman, David Linn, Eric Nelson, Dolf Ivener, Bill Jochum, Scott Hennings, Naomi Widman, Christopher Widman, William Widman, Ezra Widman, Aliza Widman, Eliyanah Widman, Lew Weinberg, Ben Nesselhuf, Genise Hallowell, Will Dougherty, Jacob Joliet, Greg Jochum, Dale Lynam, Lynn Lynam, Melvia (?), Bob Fritzmeier, Roger & Gwen Brink, Rex & Jennifer Barber, Elizabeth Widman, Shari Zenor Kiple, Tom Jochum, Emily Segura, Daniel Segura, Wallace Wagner, Deb Harpenau, Kalyn Heetland, Doyle Turner, Cendejas family, Rebekah Moerer

Public Present:

Tom Treharne,

Telephone:

**Call to Order**

Chair Chris Zellmer Zant formally called the meeting to order at 5:02 p.m. All Commissioners were present.

**Public Comment on Matters Not on the Agenda**

Scott Hennings spoke regarding family-owned land, approximately 135 acres near Highway 20 that will be open for development.

**Approval of Previous Meeting Minutes**

- November 27, 2023 - Regular Meeting
  - o Motion by Bride. Second by Meister. Approved 4-0. 1 Abstention (Hanson)
- January 17, 2024 - Special Meeting Work Session
  - o Motion by Hanson. Second by Bride. Approved 5-0.

**Zoning Commission Public Hearing for Proposed Utility-Scale Solar Energy Systems Zoning Ordinance Amendment(s).**

The public hearing was opened by Zellmer Zant and Priestley read the staff comments into the record by offering an explanation of the purpose of the public hearing and made referenced to the work session that was held on January 17. The following considerations to address the permitting of utility-scale solar energy systems were offered:

**Consideration 1 –**

Consider updating the General Development Plan and/or Future Land Use Map to facilitate the potential expansion of the General Industrial (GI) and Limited Industrial (LI) Zoning Districts and consider adding additional requirements to the conditional use permitting process to make expectations clear for the applicants, area landowners, and the general public.

**Consideration 2 –**

Consider retaining the current permitting procedures in the Woodbury County Ordinance but add additional requirements to the conditional use permitting process to make exceptions clear for the applicants, area landowners, and the general public. Consider retaining the General Industrial (GI) Zoning District as the only allowed location for the consideration of a conditional use.

### Consideration 3 –

Consider establishing a utility-scale solar energy systems overlay zoning district that requires a rezone application to be reviewed by the Zoning Commission and considered for approval by the Board of Supervisors that must meet specific criteria for the appropriateness of whether a particular area in the Agricultural Preservation (AP) Zoning District is suitable for utility-scale solar energy systems. Consider adding additional requirements to the conditional use permitting process to make expectations clear for the applicants, area landowners, and the general public.

Priestley introduced material received from MidAmerican Energy. Motion to receive Bride. Second by Hanson. Approved 5-0. (See Appendix).

Priestley introduced a letter received from the City of Sioux City. Motion to receive by Hanson. Second by Bride. Carried 5-0. (See Appendix).

### Public Comment:

The Chair Zellmer Zant welcomed the public present to offer any comments they might have about the permitting of utility-scale solar energy systems. The following addressed the Commission:

### PUBLIC COMMENTS TRANSCRIPT – TIMESTAMP BEGINS AT 12:06 or 5:06 PM CT

The following transcript is provided “as is” and was generated via YouTube with some minor grammatical corrections to items such as addresses. For the most accurate account, please listen to the full audio hosted on the YouTube serves and linked via the Woodbury County website:

- o [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/)

#### David Linn

12:06

David Lynn 1410 Michigan Correctionville

12:14

I just wanted to stand in opposition of the solar in the AG

12:20

preservation land I think solar is very well suited to be in the industrial

12:25

ground and I wouldn't oppose that at all but in reading through a lot of the literature there uh from your last

12:31

packet you also stated that it would be there was one deal in there where was up to 5% slopes I think where where you

12:39

thought it would be appropriate and if you put a solar panel farm you know where they're right next to each other

12:44

on a 5% slope and we get a 2-inch rain you're going to have a mess I mean so I

12:50

really think this needs to be in the industrial area with the ground is pretty well flat or in river and creek

12:56

bottoms and that's why I think it should be in industrial area and not in the ag

13:01

Preservation. Thank you.

#### Dolf Ivener

13:15

hello my name is Dolf Ivener I live at 3400 Talbot Road and I would like to

13:20

speak for solar installations in our county um I'm a solar

13:27

installer uh not on massive scale on little scales to address your concern um

13:33

I have really steep hills yellow dirt and I put solar systems on them they don't wash um there's plenty of sun that

13:41

goes underneath the solar system effectively it's

13:47  
 sun it hits the ground it's no different than photosynthesis it's effectively the  
 13:53  
 same thing now some neighbors don't like to look at it but I'm afraid is this a slippery slope where my neighbor who  
 13:58  
 grows beek seeds tell me oh no we got to just grow beek seeds here right we're not no you know we don't we don't want  
 14:05  
 Dick Cal or Pioneer this is this doesn't increase traffic this just sits on the land it  
 14:12  
 doesn't sit any taller than a corn plant I mean I raise good corn get 12 feet tall top of a solar panel isn't over 12  
 14:19  
 feet tall so and another issue I think there's a lot of  
 14:25  
 complaints about taxes right I mean if these guys were to put a big system in I  
 14:30  
 mean what would the tax base be like to all the neighbors be a significant amount of money um and another issue is  
 14:38  
 and I saw it happen with the wind turbines it's just pretty difficult I think uh I work pretty hard to pay my  
 14:44  
 mortgage payments on my farms and the idea my neighbor gets to take the right away from me for what I want to grow on  
 14:51  
 my ground because they're going to look at it it's it's a pretty steep it's you  
 14:56  
 know it's a pretty steep price for me to pay for my neighbors to take the rights away from me so um in closing solar will  
 15:04  
 be a good deal it'll bring money to our economy it won't create road traffic I  
 15:09  
 mean nobody goes to I mean they just sit there in the Sun and collect the Sun so anyways I'm for it as a member of the community.

#### Renee Weinberg

15:38  
 My name is Renee Weinberg 3905 Country Club Boulevard um I know people are concerned  
 15:46  
 about agriculture um or agricultural land being used um I think the proposal  
 15:52  
 was that they would be planting grasses and plants underneath which would be  
 15:58  
 helping the ground even if it had the solar on it so that eventually um that  
 16:03  
 dies down and fertilizes the land so it doesn't hurt the land there's nothing hurting the land or taking it away from  
 16:10  
 the future if this is ever moved solar panels can be moved and I believe it's also a proposal to have a fence around  
 16:18  
 the entire area which would block off the view if this upset somebody or is  
 16:23  
 concern with you know this being something that's going to block their view something um it's supposed to bring  
 16:31  
 it's a \$440 million project so I would think that would be a huge um tax  
 16:40  
 increase uh job increases um clean jobs clean energy which is kind of the future  
 16:47  
 that we're trying to work towards thank you.

#### Daniel Segura

17:09  
 hello my name is Daniel Segura I'm from uh 3114 Pierce Street uh Sioux City, Iowa  
 17:16  
 and I don't live in the area I have family that lives in the area um the way I see it um there's a reason uh why uh  
 17:24  
 there's this um ag conservation uh land how it's been zoned that way um I think  
 17:31  
 um for many the perspective of many and I I included in that um I think there there would need to be a very good  
 17:37  
 reason to change it um after so many years of um people in the public relying  
 17:43  
 on that I know that there's um in many ways a shortage of of farmers  
 17:48  
 mainly because there's lower incentives when we have um not all land is suitable

17:55

for use and farm uh we have a lot of land that the soil is just not good enough um and so I think to just slowly

18:02

be eating away at the soil and and um we we also know a few things that have been brought up in the past about how um

18:09

there's a question how these solar panels would be disposed of um I think there is a significant risk that um

18:16

since they don't know how to dispose of them properly a lot of that would end up um in the earth at some point um but uh

18:24

I think with the current uh situation that we have with ag conservation land uh that's necessary to

18:31

incentivize um current farmers from buying more land and utilizing it as well as uh up and coming Farmers for

18:37

the next generation uh to want to continue farming um and I think that's an invaluable uh resource to have uh lots

18:44

of farmland in use in Iowa that's all I have thank you.

**Will Dougherty**

19:08

I'll go quick uh my name is Will Dougherty 1499 Northwest Urbandale Drive Urbandale

19:13

Iowa I work for Mid-American Energy um I've been at a few of these solar hearings and workshop sessions over the

19:19

past few months um I'll keep it brief uh a lot of the comments that we have for

19:25

the proposed um overlay districts ordinance that was in the packet for tonight um you all just accepted into

19:32

the the minutes for tonight's meeting so um I will have you know if you have any questions coming out of that as well um

19:39

I'd be more than happy to you know kind of answer why we we put some of those comments in there um overall I think just kind of after reviewing the

19:46

ordinance um we do just have some concerns if that is the path that the county wants to go down um just

19:53

with um some of the regulations within the the draft ordinance as it stands right now um

19:58

it appears that the draft ordinance was pulled largely from Linn County um Linn

20:04

County over the past prior to when they adopted this they spent a little over a year in the drafting process um with

20:11

several Community um volunteers industry experts um they brought in different

20:16

government agencies as well and they're they're a fairly um highly staffed County um the only concern that I really

20:22

have with is that the county that ordinance has not been uh vetted yet to to a full extent they do have two

20:27

projects there in the county that did get approved uh through a permit process over by the Dwayne Arnold plant that was

20:33

prior to the adoption of this ordinance that they have performed today um that's

20:38

really my only concern is just um I guess administratively how the county plans on keeping up with some of these

20:44

regulations that are in here um it is definitely one of the most thorough ordinances that I've seen across the state of Iowa for sure um I'm not saying

20:51

that you know this is an undevelopable ordinance by any means it's just kind of wanting to have a little bit of dialogue

20:56

with the county to see how some of these things are going to be enforced um to see what agencies or you know what

21:02

government uh staff is going to be in charge of either auditing it or reviewing the process and kind of the

21:08

administrative portions of it as well um but if you do have any questions regarding as you kind of go through your

21:13

drafting process reviewing the comments um any other comments here today you know from an operational side or a sighing

21:20

side as well um I'd be more than happy to answer any of those questions for you so thank you.

**Eric Nelson**



21:51  
Eric Nelson 1514 Jasper Avenue Merville, a couple points to make um I'm  
21:58  
kind of bookends on these hearings I was at the first one and um and now I'm at  
22:03  
this one and it looks like that the the number of participants um has doubled  
22:10  
from one to two I mean I think active people that are that are wanting to to  
22:16  
build is my understanding and now there's been some a few additional comments but not from people that are  
22:22  
actively wanting to build and so I just from where I'm sitting it looks like to me that the industrial zone that's  
22:29  
already been established with a lot of acres um is more than inclusive enough  
22:34  
for um a project or two um to be built on that property the other comment I  
22:41  
have is that it would look like to me you would set kind of a maybe a nasty  
22:47  
precedent to not do that when there's only a couple people that are asking to do the project and so you just think  
22:53  
about maybe kicking the door open to other projects that only have one or two people that are really interested um  
23:01  
and and and obviously there have been hundreds that have shown opposition over time to the same to the  
23:07  
same projects and then thirdly uh I think it's kind of uh ingenious to have someone from the city um telling the  
23:14  
county what to do but I'm guessing that if the county tried to tell uh a city official what to do that they would  
23:20  
probably take offense at that so I think that uh uh where the county authority  
23:26  
lies the county Authority lies and where the city authority lies the city authority lies thank you.

**Doyle Turner**

23:52  
Doyle Turner 2738 200th Street um  
24:01  
I think it makes a whole lot of sense at this point to wait for the development  
24:06  
plan um this is kind of going away from what our development plan says and if  
24:13  
we're going to do something that would make a lot more sense from a legal standpoint to deal with it with the  
24:19  
development plan first we're kind of getting the cart ahead of the horse here the other thing that I'd like to say is  
24:25  
people like to talk about tax revenue you cannot compare property taxes to the  
24:31  
taxes off of a solar farm because you're you're paid based off of  
24:38  
what that solar farm produces uh Will Dougherty had said before that I believe it  
24:43  
was 24 to 25% efficient is what the solar is at in this  
24:48  
area um the real thing that these these things are after is the transmission  
24:56  
lines and we pay get paid off of what goes through that transmission line uh I  
25:01  
know I've read articles that Mid-American is actually looking at some nuclear across the state we would be  
25:08  
much better to have something that was a lot more efficient going through those  
25:13  
utility transmission lines paying on a lot more than 24 to  
25:19  
25% so in order to truly get an apples to apples comparison on this you can't  
25:25  
compare it to farm property tax you have to compare it to what we could make off those transmission lines if we were  
25:31  
using a more efficient source of energy thank you  
25:38

Chair Chris Zellmer Zant: Doyle Doyle you may want to disclose that you're on the Board of Adjustment Turner: what?  
25:46

Zellmer Zant: do you want to disclose that you're on the board of adjustment. Turner: yeah that's fine okay. Zellmer Zant: I I just thought I'd want to make that public yeah that's fine thank you

**Tom Treharne**

26:02

yes this is Tom Treharne with Nextera Energy to can you hear me Zellmer Zant: we have someone on the phone you

26:09

get phone first yeah okay phone first please thank you so my name's

26:17

Tom yes my name's Tom Treharne with Nextera Energy um just one thing I in reading

26:25

the packet I wanted to clarify um if the recommendation of staff is to proceed

26:31

with the a retention of the current policy which is to allow um solar in the

26:37

as a conditional use only in the general industrial district or district I'd like to if that could be clarified at some point

26:45

um also I'm just as it relates to the proposal

26:51

ordinance that's been identified in the packet I would agree with what Mr. Dougherty

26:56

said and that you know the the overlay zone does

27:02

provide the opportunity for a project to move forward um the proposal does have a

27:08

lot of requirements um in it that were vetted to a longer process and I'm not

27:14

going to repeat everything he said but I do agree with that and um it's my

27:21

understanding that even coming out of this public hearing the recommendation would be how to proceed and there would

27:26

be additional time for comments relative to the ordinance so I'll save my

27:32

comments relative to a future ordinance for another time but I guess I I would like that clarification what staff's

27:39

recommendation is on moving this forward if I could ask that question thank

Dan Priestley:

27:53

you um we we'll kind of continue with the public hearing and I'll I'll uh

27:58

clarify that at the end for a note so we can move on to the next

**Bob Fritzmeier**

28:05

next okay I'm Bob Fritzmeier and at uh

28:13

2933 Leech here in Sioux City and I was I was authorized by the

28:20

executive committee of the Northwest Iowa Sierra Club to um speak on their

28:27

behalf also so actually there are five other members of that with myself and so

28:33

I'm speaking for the other six of us one of the most significant

28:40

uh benefits of of solar which I'm in favor of would be to reduce the

28:47

emissions of the carbon dioxide and that that has been uh proven

28:53

to be necessary you know for the good and the well-being of our community um

29:01

Woodbury County and the wider you know wider country

29:07

too carbon dioxide is and those kind of dangerous pollutants are come from you

29:14

know don't don't come from solar energy and by lowering those those

29:20

concentrations we'd be helping the future generations that are coming and  
 29:25  
 that need our help now and planning for the future another aspect of this is that  
 29:33  
 solar energy systems are conservative in the use of water they don't need the large volumes  
 29:39  
 of cooling water that's needed for the fossil fuels that are currently in use  
 29:48  
 you know here in In Woodbury County I think that the board would be well to adopt that overlay  
 29:56  
 system because it would help to conserve those precious water resources and we  
 30:01  
 know I mean just just in the last few months uh we've had drought conditions  
 30:07  
 not only here in this part of Iowa but in other you know states around here too  
 30:14  
 so that would would help the situation and one one of the speakers  
 30:20  
 made a reference to the the soil underneath the these these  
 30:25  
 panels and those actually would would foster with the with solar panels in  
 30:31  
 there the grasses that would be allowed to grow there would be you know have the  
 30:36  
 rainfall soaking in absorbing and really rejuvenating the soil so that when you  
 30:43  
 know 30 years if in 30 years the the solar installation would be retired then  
 30:49  
 the land could just well be restored then and returned to you know the  
 30:56  
 agricultural thank you for being here to listen to us

**Alan McGaffin**

31:15  
 My name is Alan McGaffin I live at 1122 South Paxton in Sioux City and I'm a  
 31:22  
 proponent of solar Farms as well I want to tag on what Bob just said I think and  
 31:28  
 this was mentioned earlier the portability of a solar farm  
 31:34  
 is above and beyond what we think of of of a power source you can't pick up a  
 31:40  
 Coal fired plant or a uranium fired plant and move it it just doesn't happen  
 31:48  
 the same with a wind turbine a wind turbine can be deconstructed and torn  
 31:54  
 down raised and and moved relocated if necessary but not as easily as a solar  
 32:01  
 panel can now I know an industrial solar farm would be sizable but nevertheless  
 32:07  
 as Bob said if we wish to convert that land in 20 or 30 years that land is  
 32:12  
 suitable it's undamaged and it can be used for other purposes it's not even been paved over so I think the  
 32:19  
 portability Factor the water conservation Factor as Bob pointed out  
 32:24  
 are just uh solar panels aren't pretty but  
 32:30  
 neither are our our other power sources we've just got to make a a choice of uh  
 32:36  
 of what what we can tolerate and what we can't and uh I I would like  
 32:43  
 to have your board look favorably on solar panels thank you very  
 32:48  
 much thank

**Peter Widman**

32:54

you anyone else my name is Peter Widman I live on 1847  
 33:01  
 Old Highway 141 rural Sergeant Bluff and I just want to thank you for this opportunity to speak with you a little  
 33:06  
 bit um I think this ties in nicely to what the last two guys said I want to talk about Virginia a little bit and the  
 33:12  
 reason I want to talk about Virginia they're on The cutting edge of solar and where solar could be potentially going  
 33:17  
 and um and just as a fact I'm not for putting solar large industrial  
 33:24  
 solar complexes on ag land I think they should be in the industrial in Virginia in 2020 the  
 33:32  
 Virginia General Assembly and the governor signed the Virginia clean economic economy act um and in that act  
 33:41  
 their largest utilities by 2045 and 2050 need to be carbon neutral um by  
 33:48  
 2021 in the state there was more than 2,000 acres a week that would be take that were being taken out of a land and  
 33:55  
 put into solar farms and there's some more points I want to bring up here too  
 34:01  
 um you know the the a lot of the solar developers are  
 34:07  
 courting state and local leaders wanting to put on a land  
 34:13  
 um they want to focus on the short-term benefits some mention taxes  
 34:19  
 um and uh and they don't want to think about the future ramifications of allowing the industrial power plants on  
 34:25  
 land that is supposed to be res for ag ag use trading one form of environmental degradation for  
 34:32  
 another um Dr Rattan Lal distinguished professor of soil science at Ohio State  
 34:38  
 University points out that soil sequesters more than three times the amount of carbon locked in all the plants and animals on the earth yet  
 34:45  
 construction and maintenance of industrial size solar facilities prevent the natural process of soil replenishing from occurring they're taking out  
 34:51  
 thousands of acres of trees crop land acres that that sequester carbon dioxide  
 34:56  
 so if carbon dioxide is a pro is a problem some would say what about the  
 35:01  
 crops that are taking that out um it's it's ironic in in in Virginia um  
 35:10  
 to be become carbon free in less than 25 years means there would be a lot more carbon sequestering farmland loss to the  
 35:15  
 commonwealth how much solar farms require as much as six to eight acres to produce just one megawatt of electricity  
 35:20  
 up to 104,000 acres of forest and farmland would need to be sheathed in solar panels made of glass and highly  
 35:25  
 toxic metals like lead and cadmium toride to produce about 13,000 megawatts of electricity and that's only when the  
 35:32  
 Sun's shining um Chinese government is subsidizing  
 35:38  
 solar panels to make them cheaper they're using dirty coal to make  
 35:43  
 them and they're using forced labor to produce them less than 1% of the solar  
 35:48  
 panels in the United States are made in the US and over 85% of them are made in  
 35:53  
 China some to think about um  
 35:59  
 um if you think about it some of the solar farms are erected in 2021 in Virginia they will become head way sites  
 36:05  
 by 2036 and that's even before the Virginia clean economy act carbon free mandate kicks in uh once you deal with  
 36:13  
 the cost of waste electricity from solar ends up being four times higher than they had anticipated Virginia is on track to lose  
 36:19  
 a massive amount of food growing and carbon carbon sequestering farmland for inefficient and intermittent technology  
 36:25  
 that would quadruple electricity prices and create thousands of acres of toxic waste local officials who are thinking  
 36:32

about approving special use permits to allow more industrial size solar facilities to be built on a land in  
 36:37  
 their jurisdictions owe it to their constituents to think about all I also  
 36:42  
 would like to submit these two articles here for you guys just to read can I do  
 36:52

Motion to accept two articles by Meister. Second Bride. Motion approved 5-0. Documents available in the appendix.

**Amber Widman**

37:25  
 Hi my name is Amber Widman I live at 1847 Old Hwy 141 and I'm here today to  
 37:34  
 tell you why I oppose changing the current regulations for ag preservation to allow um the large use uh scale  
 37:41  
 utility solar on ag land um I studied agricultural engineering at Iowa State University and I was in the soils and  
 37:48  
 structures department so this is kind of like my area I love technology I really do but um if you look at the things that  
 37:56  
 have been talked about in the meetings we've been talking about solar panels that fold up or um planting  
 38:01  
 pollinator things under them or alternative crops I have Purdue they're they're they are experimenting with this  
 38:08  
 stuff right now they're trying to get patents this is not in effect anywhere in the world okay the Iowa State they  
 38:15  
 are trying to do the alternative crops underneath and this is the first they said it is the first um of its kind and  
 38:23  
 they say this is unbiased research we will report on what we find and people can decide whether this is a system that  
 38:29  
 is feasible or not um here we've got uh get myself out of over here um  
 38:37  
 the costs of the agrivoltaics tend to be higher than traditional solar development due to modified system  
 38:42  
 structures and more complex design and installation so all these people are talking about this is going to be ag and energy at the same time it's  
 not  
 38:49  
 there yet the technology is not there yet we cannot be making regulations for  
 38:54  
 something that hasn't even been figured out how they're going to do it they're still engineering it they're still  
 38:59  
 coming up with it they're still doing the research they're still they're they're building these research facilities and they're measuring what  
 39:06  
 does happen to the soil when we have these here what is the carbon what happens to the carbon what about these  
 39:11  
 pollinator farms do they actually increase the the bees and do they actually um help the crops that are on  
 39:17  
 there's a lot of claims out there guys that people are just putting out there they're still being researched and I  
 39:23  
 just um my engineering mind says let's not jump the gun here let's not get  
 39:28  
 the cart ahead of the horse let's not make regulations before we know what they are um one thing that's been  
 39:35  
 mentioned is to you know allow them this is a very specific thing like allow them up to 15 feet so that cattle can graze  
 39:41  
 on them nowhere do they let cattle graze under these because they damaged them cattle are too big that's what they  
 39:48  
 found out so if we have in our regulation where they can be up to 15 feet high that's on based on something  
 39:55  
 that's not even real yet and think about a 15 foot high solar panel and think  
 40:00  
 about the winds that we have in Iowa how much do you think is under the ground to hold it up I know they like to say that  
 40:06  
 these are movable but really what do they think they're on wheels they're not something has to hold them up right okay  
 40:14  
 and then just another point I got in trouble last time I got up here with some of our neighbors who  
 40:19  
 are for it and I just want to say that my position is not against their personal property rights okay the the  
 40:26  
 way I look at this I am not telling them what they can do with their land they are not just trying to build a greenhouse or hog confinement on their

40:33  
 property there are large utility companies trying to come into our county and install thousands of acres of  
 40:39  
 industrial solar panels these large projects would not happen without government subsidies and just to to wind up real  
 40:46  
 quickly don't be deceived it's not agriculture it's not good for the county thank  
 40:52  
 you oh and can I submit some documents too thank you.

Motion to accept documents by Parker. Second Melster. Motion approved 5-0. Documents available in the appendix.

Elizabeth Widman

41:55  
 My name is Elizabeth Widman and I live at 1665 220th Street Sergeant  
 42:01  
 rural Sergeant Bluff and I've been before uh this committee already and one  
 42:08  
 of the reasons I came up here is because I want to make a correction on something that I said at one of the meetings I had  
 42:14  
 looked at a plat map and took the people that spoke at the meeting and I said  
 42:20  
 there were signed agreements uh down by me and Sergeant Bluff which is correct but then I said there were signed  
 42:26  
 agreements by Rock Branch and that was not correct because there are not signed agreements right now so I just want to  
 42:33  
 correct that there there's interest in putting large utility out there but I  
 42:38  
 just wanted to correct that and uh the reason I found that out is because I discovered that in Dan Priestley's  
 42:45  
 office they have uh information on all the signed agreements that have been  
 42:50  
 done and there's 2,230.72 Acres that have been  
 42:57  
 signed up in rural Sergeant Bluff by where I live which is a would be a  
 43:02  
 huge uh utility facility put on agriculture land and uh at the last meeting your  
 43:10  
 work session you talked about there are unintended consequences to um things that you do  
 43:18  
 and in looking online one of the things that happens when you uh change these is  
 43:24  
 lawsuits you have lawsuits from people who want to put one in and you didn't  
 43:31  
 let them do it with your regulations you have people that don't want them in that  
 43:37  
 your regulations made and I think that has to be a consideration because it does cost money for the  
 43:44  
 taxpayers to um have legal help to you know defend on these  
 43:51  
 lawsuits and uh another unintended consequence um you're basically picking  
 43:58  
 and choosing uh among the farmers if you let you know this is just the start  
 44:03  
 2,230 Acres go into solar you have um those people that farm they're going to  
 44:09  
 be looking for new places to farm and they're going to have an infusion of money from uh these companies that want  
 44:16  
 to put in solar and they're going to be looking for new land to rent new land to buy and this will be detrimental for small  
 44:24  
 and medium family farmers and new farmers and um so I guess I never stated  
 44:32  
 I'm opposed to putting utility solar on ag preservation land I think it belongs  
 44:39  
 in the industrial the the way you have it right now and like I said it it kind  
 44:46  
 of tires me out to hear people say well in 30 years this can be put back into  
 44:53  
 farming I live out in the country I love being out in the country and I said in  
 44:58

time I will be 97 years old if I'm still around before this would be considered

45:04

put back in ag so thank you for all you do and I just ask that you leave um

45:09

industrial solar where it belongs and in industrial land

45:24

already

Jesus Cendejas

45:35

Jesus Cendejas, Salix, IA, um just I've been here once before and kind of want to

45:41

make the same appeal to you guys today um as a lesser magistrates yourselves and those making this decision as you

45:47

guys are informing them um it is it's your it's your duty and and this shows it right there's been a lot of a lot of

45:53

discussion on on how we can make this work with the overlays and all that um but

45:59

one of the things I would still like for you guys to consider is you know some of us live in morningside some of us live out

46:05

in the country so the ones most affected by this are the people that are going to going to be there I know it's been

46:11

brought up to you guys the effects on on soil you know if there is degradation

46:16

um you know top soil takes doesn't take a couple of years to restore that takes a long time there's regenerative

46:22

practices that could be exercised to speed up that process but it's not going to be overnight um scripture talks about

46:29

leaving an inheritance to our children which is not just monetary that's important uh but it's also dealing with

46:35

what we have and making it better um so the idea of of again 20 30 years 40

46:41

years even depending on if you extend the use of these solar panels like it's not going to be the same thing they're working with right now and so

as you

46:49

consider these things um again I know if I don't have to look at it it doesn't bother me because I'm I'm not living

46:55

there but there there are many who are there um so again just keep considering that as as not just as how you have this

47:01

project come into being but the fact that there are people I mean there's most of them are here a lot of them

47:07

aren't um but again there's different interests you know I understand if if I was approached and I had hundreds

47:13

thousands of acres and I said we'll give you 20 times more than than leasing it out there's a temptation there I

47:18

understand that and again love my neighbors that's one of the things I'm called to do but I just ask that you

47:24

would please consider um that it's it's not working around it again someone mentioned these are all models and and

47:31

and theoretical concepts that have not been proven and so you cannot alter the the life of people who live there based

47:38

on a theoretical concept or a model that's not been proven to be um again you're you're changing much and again

47:45

whether you're raising crops for for feed or or for ethanol whatever may be

47:50

those things that that are wasted they're actually not wasted a lot of that stuff that's that comes out of you know making an goes to to feeding

47:58

animals you know things that that we enjoy eating I like steak you know I like all these things so that's stuff

48:03

still being used so it's not just about energy it's about what are we taking away also right you're taking food you

48:10

know and we've seen that we've looked at the news when you know all of a sudden all these factories of chickens you know

48:16

caught fire or you know or things were destroyed like we know there's there's an attack in our food and again

48:22

ultimately um there's there is a I'm not saying that that my neighbors are are

48:27

being influenced by this but there is are you guys familiar with the song rich Richmond North of Richmond if not you

48:33

should go listen to it well there is this idea that there there are ideologies being pushed right and this  
 48:39  
 whole go green you know that belch and cows are the enemy that's not true but  
 48:44  
 there is an agenda that that that we're facing there and sub subsidizing these types of things that the government's  
 48:51  
 paying for would just tell us that it's it's much greater than how we how can we better Woodbury County right so if you  
 48:58  
 back this up you're also backing up these ideologies that are not just affecting us here but other counties are  
 49:04  
 attempting to do the same and ultimately a country so consider that as you're making decisions for this and again um  
 49:11  
 thank you for for your time and um for for listening hearing us  
 49:16  
 out

#### Amy Krogh

49:38  
 My name is Amy Krogh 2381 Port Neal Road Sergeant Bluff Iowa um I'm not  
 49:45  
 here to say that I'm opposed to solar energy solar energy has its place solar  
 49:51  
 energy does not have its place on ag preservation ground my husband's family  
 49:56  
 is a fifth generation farmer we raise cow calf we also do row crop in this area  
 50:03  
 um so to say that a in Woodbury County is on a decline is not  
 50:08  
 true um when you take ground and take it out of its intended use which in this  
 50:14  
 case ag use very rarely does it ever go back into ag use planting cover crops  
 50:21  
 underneath solar panels is not ag use that might be soil conservation purpose  
 50:28  
 but it is not AG use I can tell you we raise cattle and there's no way that we  
 50:35  
 would put cattle underneath of solar panels absolutely no way it's a  
 50:41  
 non-starter it's not beneficial for the cattle they're going to get hurt it's not beneficial for the solar panels to  
 50:47  
 have you know 1,500 to 2,000 pound animals running around underneath solar  
 50:52  
 panels that's actually quite ludicrous to think that anybody would want to do that I would tell you that once ad  
 51:00  
 ground is gone you guys are worried about tax revenue and the increased revenue when ground comes out of tax  
 51:06  
 usage you're not only affecting the farmers' income you're affecting the implement dealers the seed dealers the  
 51:13  
 fuel producers the chemicals the fertilizer companies everybody that goes into making ag work you're dep you're a  
 51:21  
 detriment to their income and as far as if I'm if correct the way that the tax  
 51:27  
 revenue comes back to the county is regulated on these solar panels and these solar implementations by the state  
 51:34  
 in a formula that is state controlled it's not controlled at the county level so at any given time the county or the  
 51:41  
 state can choose that regulation to change how much actual revenue comes back to Woodbury County that's not in  
 51:48  
 our control that's at the state level it's no different if if some other state  
 51:54  
 government group has some special interest and chooses to choose to take that tax revenue and reappropriate it to  
 52:01  
 another project special pet project than Woodbury County is out when you take ag  
 52:07  
 ground and take it out of its intended purpose the people that lose is all of  
 52:12  
 us that choose to have food to eat gas to drive your cars all sorts of  
 52:19  
 different revenues that would be impacted by taking this and changing this ordinance to allowing this to be on



52:24  
ag ground thank you

Naomi Widman

53:01  
okay sorry I had to pass my baby off um Naomi widman 1866 220th Street um rural

53:09  
Bronson I um my family farms and we also

53:15  
live right in the area where the proposed um where easements have been

53:20  
signed for these large scale utility solar farms and so I am not necessarily opposed to solar

53:28  
I want to make that clear but I want to specifically address um putting overlays

53:34  
on agricultural protected land so I one thing that is um was

53:42  
interesting to me I've been to a meeting before and then since then have done a little more research on how solar farms

53:49  
affect the surrounding um properties and homeowners

53:55  
um so I just wanted to discuss that a little bit um there was a recent large scale study done in the United States um

54:02  
it was in 2022 and it shows that solar farms large solar farms do decrease surrounding home

54:09  
values the study shows that the decrease is not as significant when you average in coastal areas like California

54:15  
Connecticut when solar farms in your large urban areas so they pulled all of that data and if you Google it it'll say

54:22  
it doesn't decrease it that much it's only slightly but when you look at the specific data for rural areas in the

54:30  
midwest from this study where agricultural land was converted into solar farms the decrease in residential

54:37  
property values is incredibly significant there was a 4 to 5% decrease in values so if you own a \$400,000

54:46  
acreage out in the country your value could decrease by almost \$20,000 and this decrease in value was noted for

54:52  
homes within a half mile of the solar farms it wasn't until you got over two

54:58  
miles away that there was no effect seen and because of this potentially damaging effect it's crucial that Woodbury County

55:04  
developed solar energy strategically so as to have minimal impact on the

55:09  
surrounding homeowners and residents so I would encourage you guys to not grant overlays on ag protected land

55:16  
particularly when it's benefiting a few select individuals and

55:22  
I think we are all aware of that the easement that of been signed or are by a very small maybe two or three forgive me

55:30  
if I'm wrong if it's four um people in in in our area it's a very

55:36  
small amount so to to affect all of the surrounding home

55:41  
owners um and acreage owners just to benefit financially these couple of

55:48  
individuals or families I think it is is not fair I don't think it's strategic development of solar utilities in our in

55:56  
our county um so if the county feels it is in the best interest of the general

56:02  
public um to bring solar energy in and develop that I think it needs to be

56:08  
strategically developed and not just handpicked out areas in the middle of

56:14  
Ag land and Grant overlays to these people because they requested them ! I don't personally think that makes sense

56:21  
we have a 20-year development plan that's going to be finished this spring if I would encourage you guys to wait

56:28  
until that's been finished and then we can visit it in the next development plan and see what would be best for the

56:34

county and the general public Zellmer Zant: Mrs Whitman your time is up I'm sorry. Widman: okay thank  
56:42  
you

**Christopher Widman**

57:06  
I'll go I'm Christopher Whitman uh 1866 210th Street Bronson Iowa 51007  
I'm a fifth generation farmer um I love living in the country and I have boys that lord willing I'll put my farm  
57:20  
on to later when they grow up and whatnot and I love that preservation land  
57:25  
and I don't I stand up here saying I don't think that solar utility has a place in ag preservation land um I think  
57:33  
one thing that's kind of stuck out to me is that there's two different kinds of people in the county there's the people  
57:38  
that live in the cities and they're getting their power from MidAmerican Energy there's the other citizens in the  
57:44  
county that they're connected to REC and the reality is you need I mean I haven't  
57:50  
heard anything about what REC is talking about this whether Rec wants it or not some people have gotten up here and said  
57:56  
this is going to save residents money but the reality is if they hook into MidAmerican MidAmerican already has two power plants  
58:04  
in the county and they already have cheap electric if they don't hook into REC basically what we're going to do is  
58:11  
the REC residents they're not going to save any money because they're not getting power from it and so I think  
58:17  
that we just don't need it an ag land because the reality is REC is getting their power from NIPCO and NIPCO needs  
58:23  
to say whether they want this or not um and that the only thing that's really  
58:28  
going to go down for these individuals are their property values and not their power bills and it's not beneficial for  
58:34  
the people out in the county to do this the other thing I would like to also point out is the people that have come to these meetings in the past  
that the  
58:41  
people speaking in for this are the people that have signed contracts that's the reality at the last two meetings on  
58:48  
the 27th there was 13 people that got up and spoke six of them were in favor  
58:55  
one said they like solar but didn't say anything about ag preservation land one said they lived they were for it but  
59:00  
they lived in Monona County there were two representatives from energy companies and there were two land owners  
59:08  
and those land owners have signed contracts that I have right here that are public  
59:13  
information then the next meeting came on January 17th those two same land  
59:19  
owners showed up for it and here's their signed contracts again and the reality  
59:26  
is the public isn't really for this we don't have a lot of people showing up saying we want utility solar and a  
59:32  
preservation land the reality is we have these few residents that have signed  
59:38  
contracts and they want to make big out of it I think we need to tell them we have a 20 years owning plan let's stick  
59:44  
to it they need to sell their a land and go buy industrial land and if they love solar so much then they need to do that  
59:52  
and I'm sure that these individuals are going to come back up here after m tonight and they're going to tell you how great it is for the county but I  
59:59  
would like to submit this to the record these are public information's signed easement contracts with names of who has  
1:00:08  
these easements signed I'd like to Smith this to the  
1:00:13  
record

Motion to accept documents by Melster. Second Bride. Motion approved 5-0. Documents available in the appendix.

**Tom Jochum**

1:00:49

Good afternoon I'm Tom Yokum 422 Huntington Drive Sergeant Bluff

1:00:55

Iowa and uh you know you've got a big decision there's a lot of pros and a lot of cons to this um I'm for

1:01:03

It okay as at the September 26 Board of Supervisors meeting Supervisor Taylor

1:01:09

and Nelson revisited considering allowing utility scale solar and discuss the two

1:01:16

different options were explored the discussion began with the possibility of reclassifying certain farmland to light

1:01:22

Industrial which could basically take land out of agricultural preservation Mr

1:01:28

Priestley introduced the concept of renewable energy overlay which he stated would be situational and on a case by

1:01:35

case basis Mr Priestley also stated that this would allow for the preservation of farmland while still

1:01:41

allowing for solar while the supervisor's consideration for the light industrial could be applied I think the

1:01:48

overlay concept would be more appropriate especially at a time when research at our land grant

1:01:54

universities are studying the possibility of certain agricultural practices within the solar arrays

1:02:00

additionally when the solar lease expires the land and the overlay will revert back to agricultural production

1:02:07

In reality this is very similar to the 10 15 or 30-year CRP contracts that the

1:02:13

Farm Services Agency offers which is that when the CRP lease

1:02:19

expires the Farmland can go back into agricultural production the same as when a the solar lease expires according to

1:02:26

the map that was published in the packet there are about 330 Acres that are in the CRP program and are already out of

1:02:34

production so I do support adopting the renewable energy overlay for the AP Zone

1:02:40

as it will also allow for the land to return to production thank

1:02:48

you

**Greg Jochum**

1:03:30

uh Greg Yokum 1629 270th Street um I'm

1:03:36

in favor of the overlay on ag preservation uh main reason once if it

1:03:43

is zoned industrial or anything else it cannot go back into agricultural

1:03:48

production everything else can be um it can be changed if it if it stays ag

1:03:55

preservation with an overlay I think that would be the optimum uh for the

1:04:02

county um I am uh a farmer I have um as

1:04:07

you probably will be looking at uh those leases I have a signed lease um it

1:04:14

doesn't say it's going to go in it still has to go through many many steps of approval before it can get approved um

1:04:22

this is just a first step in the process um I guess uh um there is power

1:04:31

lines transmission lines that go through my property two ways it goes through all the properties that's what they look at

1:04:39

and you know with Mid America looking at there being here in support of it with

1:04:44

the two power plants that they have and eventually um they'll be shutting one of

1:04:50

them down for sure um there is going to be a need for power power and uh um I

1:04:57

see as a great um benefit for the county to have

1:05:04  
 this um and that's all I have to say thank you for your time and your consideration thank  
 1:05:15  
 you

**Elizabeth Cendejas**

1:05:34  
 I'm Elizabeth Cendejas from Salix Iowa um and  
 1:05:41  
 I just want to read an article here by Robert Bryce you can find it on Forbes website it's called build it and they  
 1:05:47  
 won't come and Iowa farmer explains backlash against big solar it explains  
 1:05:53  
 some of the concerns that I have about big solar farming in this article we hear from Jessica Peterson a sixth  
 1:05:59  
 generation farmer from Benton County Iowa she talks about her family fight against solar project being pushed by  
 1:06:06  
 Chicago based in energy she says the land that this project is proposed on is  
 1:06:11  
 in the top 10 to 15% of farmland in the state of Iowa and is recognized as  
 1:06:16  
 nationally significant which the state of Iowa possesses a large amount of when it  
 1:06:22  
 comes to nationally significant prime agricultural land they are project  
 1:06:27  
 projecting this to be the largest utility scale solar project in the state as well as the largest battery storage  
 1:06:32  
 facility in the state of Iowa this project will most likely set a precedent for the entire state of Iowa  
 1:06:39  
 when it comes to utility scale solar there is strong opposition to this project from the community for a large  
 1:06:45  
 number of reasons there are people who have concerns about property value losses lack of mindfulness when it comes  
 1:06:51  
 to siting uh siting of the plant and the productivity of the soil they are citing solar panels on choking out small  
 1:06:58  
 town growth wildlife concerns taking away land from farmers who rent land for their livelihoods of farming drainage  
 1:07:04  
 issues while with tile damage lack of fire and disaster recovery plans lack of  
 1:07:10  
 proper setbacks from people's properties the county requires minimum of 50 feet from a property line the mental health  
 1:07:17  
 component with the construction phase and those who live amongst the project hurting small businesses and towns and so on homes in and  
 around the small  
 1:07:24  
 towns are already not selling as quickly as they once were due to the possibility of this project coming to fruition  
 1:07:30  
 renewable promoters claim that industrial scale solar will not hurt property values or the growth of the towns it will impact but we are already  
 1:07:37  
 seeing the repercussions of it even before the project has been started people in the area are truly truly  
 1:07:44  
 living through a nightmare knowing that this may be the largest solar plant project in our beautiful state of Iowa  
 1:07:51  
 there are some that are finding out that they have the possibility of being being surrounded by solar panels on two three  
 1:07:56  
 if not all four sides of their properties we do see this as a community station statewide and nationwide  
 1:08:03  
 crisis the World Bank reports that the US has 18% arable land to grow crops on  
 1:08:09  
 our productive soil is Iowa's biggest asset and our most important natural resource that we have in this state and  
 1:08:14  
 to see industrial scale solar proposed on such rich soil is incredibly heartbreaking and  
 1:08:20  
 irresponsible they proposed that the land will be farmable when a project is decommissioned in 35 to 50 years but  
 1:08:27  
 there is no proof that that of that as there is not a solar project that has been decommissioned from productive  
 1:08:33  
 farmland after that long we also do not believe that industrial scale solar  
 1:08:38  
 projects belong where people live in surrounding communities that want to grow and prosper we are fighting for

1:08:44  
 much more than that we are fighting for the potential of the future of farming in Linn County and in our state the  
 1:08:49  
 ability for our community to live in a symbiosis with each other again the growth of smalltown Iowa the businesses  
 1:08:55  
 they want that want to stay successful in small communities the mental and physical health and safety of the people  
 1:09:01  
 who live here and their overall well-being the access of affordable energy to Consumers and so much more  
 1:09:07  
 Elizabeth thank you those are some concerns that that community had and I believe there are some that we have as  
 1:09:14  
 well thank you

**Ann Johnston**

1:09:50  
 Ann Johnston Salix, Iowa um someone made a reference to CRP  
 1:09:59  
 land as CRP land does not have millions of ugly solar panels that need to be  
 1:10:05  
 disposed of when the years out of production are  
 1:10:10  
 up and may I also remind the panel and the people here that the solar  
 1:10:18  
 panels are made by women and children who who are  
 1:10:24  
 physically and sexually molested in the Chinese Communist land of  
 1:10:34  
 China

**Shari Zenor Kiple**

1:11:22  
 Hi I'm Shari Zenor Kiple I live at 811 Cottonwood Trail in Sergeant Bluff  
 1:11:27  
 my parents uh farm south of Merville and really wanted to be here tonight but could not so I would just like to  
 1:11:33  
 reiterate all of the things that from that Forbes article fully agree with that and I would just like to say that just because you call it a solar farm  
 1:11:41  
 doesn't mean that it has any like calling it a farm is crazy because you  
 1:11:46  
 can't and saying that it can go back into ag use after 30 or so years  
 1:11:52  
 doesn't mean you can wave a magic wand and then all of the damage that's been done or all of the the things that have  
 1:12:00  
 been um introduced into that Farmland that those will just go away that will still be there right it doesn't just it  
 1:12:07  
 doesn't just go away and it's not really a fair comparison as she had just stated too to compare it to CRP and say oh you  
 1:12:13  
 can have CRP ground and it you know after its lifespan it goes back into ag ground it's natural things that are in  
 1:12:21  
 the ground as I understand my dad farms and I'm not fully into farming as much as uh he  
 1:12:26  
 probably wished that I would have been but I do get that and I think that that that comparison to um to say that a  
 1:12:33  
 solar a solar farm can be converted back into ag use after that time it's not a  
 1:12:40  
 comparison um to CRP at all um because you can't just wave a magic wand and have all that damage undone so I think  
 1:12:47  
 all of the things that were have been stated about small small town life and  
 1:12:53  
 all the things that make our state and our county so rich you know this is all  
 1:12:58  
 about integrity and it's about the Legacy we want to leave for our kids and is  
 1:13:04  
 it is that really worth um is it really worth it I guess would be something to  
 1:13:10  
 consider I thank you for your time

**Chris Zellmer Zant**

thank  
 1:13:17  
 you anyone else  
 1:13:33  
 going once going  
 1:13:39  
 twice going three times we need a motion to go out of the  
 1:13:46  
 public hearing

Parker motioned to close public hearing. Second by Hanson. Carried 5-0.

Bride inquired with Priestley about the overlay process. Priestley explained that the overlay would be reviewed by the Zoning Commission and considered for approval by the Board of Supervisors to determine if a particular area of ag land was suitable or not for solar. Bride explained he prefers the conditional use permit (CUP) option which would give more review from rural board members. The two Boards (Zoning Commission and Board of Adjustment) are, by law, composed of members residing in the rural, unincorporated areas of Woodbury County. A CUP review by both boards would be done by all committee members residing in the unincorporated areas of community, as opposed to the Board of Supervisors which has all but one member from the rural community. Although there has been leases for land, no companies have submitted applications for permits to the zoning department. Bride is aware that land in General Industrial (GI) may be limited, a 2-mile setback from the city limits would take some available land for commercial scale solar.

Zellmer Zant also pointed out an overly district would only involve Zoning Commission and Board of Supervisors.

Priestley addressed Tom Treham's comments and offered an extended explanation about the utility-scale solar debate. Priestley touched on a number of issues including a history of the 2005 comprehensive plan and the development of the 2008 zoning ordinance which placed emphasis on the permitting of electrical energy generation facilities in industrial zones. Priestley discussed the lead up to the 2040 comprehensive plan which has included minimal input about the permitting of renewable energy assets. Priestley discussed how the proposed map most reflects the 2005 comprehensive plan. He also discussed the challenges with changing zoning ordinance with a different permitting mechanism that is much different than the existing conditional use process. Priestley summarized the rationale for the debate and pointed to the importance of appreciating the possibility of unintended consequences. Priestley pointed to the importance of the comprehensive plan in the creation of ordinance and the assessment of what the public wants.

Zellmer Zant pointed out that 14 counties in Iowa have utility-scale ordinances and this is new grounds with a lot of information to still be learned.

Bride stated the future land use map that was put together in 2005 must have been fairly accurate, since the new draft map is virtually the same. When looking ahead 20 years, there will probably be a need to allow solar or community solar, although how it will fit and where will need to be determined. Setbacks will be one factor in where they could be placed. The concern with the overlay plan is that it takes the decision-making away from the unincorporated residents who could serve on the board and places it with the Supervisors who might reside in the incorporated areas.

Meister remarked it has been a long process, many have been brave and spoke up. It is a hard to decision, dealing with new information to review. Meister cited his previous service on the Board of Adjustment and indicated that he trusts the conditional use permit process and agrees it should also be involved in the review and permitting process. He indicated a preference toward the first option that facilitates the conditional use permit procedures.

Parker offered her appreciation for the public comments. Parker would like to see the process continue as it is with the first conditional use permit option. She indicated that there is a lot to be learned and we need to move forward and follow the comprehensive plan to assure compatibility.

Hanson thanked the public in attendance and referenced his recent appointment to the Zoning Commission by the Board of Supervisors and stated this is his first regular meeting in addition to the works session that was held on January 17. Hanson indicated that he is not in favor of only allowing utility-solar in the industrial areas. The decision will impact not only direct agriculture but also ag related goods and services. Land in GI that solar may

take would possibly be needed for other uses. Hanson indicated that going into the meeting he considered the overlay district as a way to go but would like to wait until the new development plan is reviewed and possibly modified to determine the best path. With the Land Use Map of 2005 being virtually the same as proposed new map, the overlay district for utility solar farms may change the environment for future land use maps. With public involvement, more information needs to be discussed.

Zellmer Zant pointed out much work has been put into the new comprehensive plan. Two-three years and several public hearings. Zellmer Zant indicated that it was a long process and the public has been encouraged to provide comment.

Erin Berzina and Corinne Erickson from SIMPCO stated the planning for the Comprehensive Plan began with a public survey, they attended Woodbury County Fair collecting surveys. They have received 400-450 responses. Started developing goals and objectives. Published and hosted open houses to discuss the plan in Homick, Anthon, Merville, and Sergeant Bluff. Turnout was low. Have continued to accept public comments.

Bride has seen issues destroy connections with neighbors and friends, such as with the wind turbine debate. Does not want that to happen with this issue.

Zellmer Zant asked Commissioners, after all the information presented and public comment, if they were ready to make a motion.

Bride stated a CUP in AP district was first talked about, now he would recommend approval of the conditional use permit for industrial areas only. He indicated that he doesn't believe we are ready to make the change above that without some further thought and information.

Bride made a motion to approve the conditional use permit for industrial areas only and strengthen that with some other conditions including that it be sent back to the Zoning Commission prior to being officially approved and the opportunity for the county attorney to review. Priestley asked for clarification that the motion entails a conditional use permit in the general industrial with the condition that staff and the county attorney's office go through it and bring it back to the Zoning Commission for another public hearing. Parker seconded the motion. Motion carried 4-1. Hanson made a statement that "I don't disagree that they should be allowed in industrial zoned properties. I also think they can be allowed in other zoning districts with further analysis..."

#### **Public Hearing for Proposed Woodbury County Comprehensive Plan 2040**

Erin Berzima and Corinne Erickson presented an overview of the goals and priorities of the 2040 Comprehensive Plan. The public has been highly encouraged to provide input. The plan is a vision for the future of Woodbury County, not policy, and will be in place. They have met with a steering committee, county departments and public to assemble goals and objectives for the next 20 years. Meeting attendees were encouraged to pick up a summary of the information they have put together.

David Linn stated he feels the green, (open space for parks) is excessive.

Doyle Turner stated acreages that are on farm to market roads (residential) are turning into city streets. There needs to a limit to residential on farm to market routes.

#### **Motion to Close Public Hearing**

Motion by Hanson close the public hearing. Second by Parker. Carried 5-0.

Bride thanked SIMPCO for their time and consideration. Wants to clarify that Map is not Zoning, just potential Land Use.

#### **Items Not on Agenda**

None

#### **Commissioner Comment of Inquiry**

None

**Staff Update**

Priestley noted that a public hearing about the comprehensive plan will be schedule at a later date. Once approved by the Zoning Commission, the Board of Supervisors will likely schedule three public hearings for the considerations. Priestley announced that the draft floodplain maps will take effect on July 17, 2024. This will required the county to undertake some amendments to the floodplain regulations in the zoning ordinance.

**Adjourn**

Motion to adjourn by Meister. Second by Parker. Approved 5-0.



# APPENDIX

Daniel Priestley

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**From:** Dougherty, William (MidAmerican) <William.Dougherty@midamerican.com>  
**Sent:** Friday, January 19, 2024 11:00 AM  
**To:** Daniel Priestley  
**Subject:** RE: [INTERNET] Revised Comments Requested on Utility-Scale Solar for Public Hearing and Work Session  
**Attachments:** 2024-01-17\_DRAFT Solar Ordinance\_packet zoning commission MEC Comments.pdf

**CAUTION:** This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. **If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.**

Dan,

Please see MidAmerican's attached comments to the draft section addressing Utility-Solar Energy Systems Overlay District. Please let me know if you have any questions. I will be in attendance at the meeting on Monday, January 22. Thanks and take care.

Will Dougherty, P.E.  
Project Developer  
O: 515-242-4383  
C: 515-587-7255



**From:** Daniel Priestley <dpriestley@woodburycountyiowa.gov>  
**Sent:** Wednesday, January 10, 2024 12:48 PM  
**To:** Daniel Priestley <dpriestley@woodburycountyiowa.gov>  
**Subject:** [INTERNET] Revised Comments Requested on Utility-Scale Solar for Public Hearing and Work Session  
**Importance:** High

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**To:** Woodbury County Stakeholders

**From:** Daniel J. Priestley, MPA – Woodbury County Zoning Coordinator

**Date:** January 10, 2023

**Subject:** Zoning Commission Public Meetings for Consideration of Utility-Scale Solar Energy Systems in Unincorporated Woodbury County

**Due to a change, please disregard the previous email. This email has the correct hyperlinks. Please disregard the previous email.**

Please offer any written comments or concerns you might have about utility-scale solar energy systems zoning ordinance amendment proposals that are going before the

Woodbury County Zoning Commission for consideration. You can access information about the proposals by visiting the following link:

[https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-17\\_packet\\_zoning\\_commission\\_958.pdf](https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-17_packet_zoning_commission_958.pdf). Beginning on page 2, you will find a preliminary staff report that is inclusive of the contents of the utility-solar discussions up through this date. Below, please find the meeting schedule. If you wish to submit written comments, please send them to us no later than January 19 before 11:00 AM CST. Please let me know if you have questions at 712-279-6609 or by replying to this email.

The **Woodbury County Zoning Commission** will hold a **“Work Session”** on **January 17, 2023** and a **“Public Hearing”** on **January 22, 2023** to consider zoning ordinance amendments about the regulation of utility-scale solar energy systems in the unincorporated areas of **Woodbury County**. Both meetings will start at **5:00 PM** at the **Woodbury County Courthouse, 620 Douglas Street, Basement Board of Supervisors Meeting Area**.

#### Meetings:

- **Work Session** – Wednesday, January 17, 2023, 5:00 PM, Woodbury County Courthouse, 620 Douglas Street, Basement - Board of Supervisors Meeting Area.
  - Meeting Agenda and Backup Materials (Download):
    - [https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-17\\_packet\\_zoning\\_commission\\_958.pdf](https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-17_packet_zoning_commission_958.pdf)
- **Public Hearing** - Monday, January 22, 2023, 5:00 PM, Woodbury County Courthouse, 620 Douglas Street, Basement - Board of Supervisors Meeting Area.
  - Meeting Agenda and Backup Materials (Download):
    - [https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-22\\_packet\\_zoning\\_commission\\_6695.pdf](https://www.woodburycountyiowa.gov/files/committees/meetings/2024-01-22_packet_zoning_commission_6695.pdf)

**Again, please respond to this email with any comments or documentation that you would like to offer the Zoning Commission on the subject.**

Please let me know if you have questions via email reply or via phone at 712-279-6609.

**Please reply with your comments on or before January 19, 2024 before 11:00 AM.**

Respectfully,

-----

**Daniel J. Priestley, MPA** - Zoning Coordinator  
**Woodbury County Community & Economic Development**  
620 Douglas Street, 6<sup>th</sup> Floor  
Sioux City, IA 51101  
Office: (712) 279-6609  
Fax: (712) 279-6530  
Email: [dpriestley@woodburycountyiowa.gov](mailto:dpriestley@woodburycountyiowa.gov)  
Web: [www.WoodburyCountyCED.com](http://www.WoodburyCountyCED.com)

## **Section 5.09: Utility-Scale Energy Systems Overlay Districts**

### **1. Utility-Scale Solar Energy Systems Overlay District (US-SESOD)**

- A. Purpose and Intent.** The Utility-Scale Solar Energy Systems Overlay District (US-SESOD) is intended to be mapped as an overlay of the Agricultural Preservation (AP) Zoning District. The US-SESOD zone is intended to allow for the orderly development of utility-scale energy projects including utility-scale solar energy systems, community solar systems, and agrisolar or agrivoltaic systems. This section establishes an overlay district that serves the following purposes:
- (1) To provide a reasonable and thoughtful balance to limited development and use of utility-scale energy systems in the AP Zoning District.
  - (2) To encourage the continued role of agriculture as the primary economic sector in the unincorporated areas of Woodbury County and the continued preservation of its rural character.
  - (3) To encourage development that conforms to the vision, goals, and policies in the Woodbury County Development Plan.
  - (4) To encourage sustainable and energy efficient development and reasonable access to renewable energy not limited to solar.
  - (5) To maintain or enhance soil health for future agricultural use after project decommissioning.
- B. Jurisdiction.** This Ordinance is adopted by the Woodbury County Board of Supervisors and governs all lands within the unincorporated areas of Woodbury County, Iowa. This Ordinance and its provisions shall not apply to those properties or projects occurring within the incorporated cities of Woodbury County.
- C. Applicability.** It shall be unlawful to construct, erect, install, alter or locate any US-SES within unincorporated Woodbury County, without first obtaining a Conditional Use Permit from the Woodbury County Board of Adjustment and the associated agreements from the Woodbury County Board of Supervisors or obtaining rezoning to the US-SESOD as outlined in this Ordinance.
- (1) No application for a US-SESOD shall be granted without first submitting all required information and documentation, and paying all associated fees to the County.

- D. Zoning Ordinance Map Amendment (Rezone) Required.** In addition to all submittal requirements of Section 2.02.4 of this Ordinance for a Zoning Ordinance Map Amendment, this Section sets the requirements specific to the US-SESOD.
- E. Geographic Location and Area Limitations.** The US-SESOD shall be geographically located in those areas currently zoned Agricultural Preservation (AP). The US-SESOD shall be capped to 9,500 acres over the Agricultural Preservation (AP) Zoning District. No more than 9,500 acres shall be established as the overlay of the Agricultural Preservation (AP) Zoning District. Each granted Zoning Ordinance Map Amendment (rezone) shall reduce the cap by the number of acres approved in each rezone until the original cap is reduced to 0.
- F. Allowed Uses.** The specific land uses allowed as principal allowed, conditional and accessory in the AP Zoning District are allowed in the US-SESOD in addition to the following use(s) which are hereby established as allowed uses:
- (1) Utility-Scale Solar Energy Systems (US-SES)
  - (2) Community Solar Systems
  - (3) Utility Agrisolar Systems
- Concentrating solar power systems are prohibited.
- G. Dimensional Standards.** Section 3.04 includes a table of comparative dimensional standards for all zones. The dimensional standards of the AP Zoning District shall apply to the US-SESOD unless otherwise stated in this Ordinance.
- H. Supplemental regulations.** All pertinent provisions of Article 5, Supplemental Regulations, shall apply to uses and development in the US-SESOD.
- I. Major Site Plan Required.** A major site plan shall be submitted and reviewed prior to the approval of a utility-scale solar installation. The area to be used for the utility scale solar installation shall require rezoning to the US-SESOD.
- J. Notification Requirements.** To assist in providing adequate notice to interested parties, the application for a Zoning Ordinance Map Amendment (Rezone) to the US-SESOD shall:
- (1) Within 14 days of filing the rezoning application with the Woodbury County Community and Economic Development Department, mail a notice via first class mail to property owners and tenants within one (1) mile of the subject site explaining the request and identifying the subject property.

- (2) Prior to the application being heard at the Planning and Zoning Commission meeting, the applicant shall host a public informational meeting held at a location reasonably accessible to all identified property owners.
- (3) Applicants must mail a notice of the public informational meeting via first class mail to property owners and tenants within one (1) mile of the subject site.
- (4) Applicants must submit a certified abstractor listing of the names and mailing addresses of all owners of real property lying within one (1) mile from the subject property with their application materials as required in this Ordinance.

#### **K. Review and Decision-Making Process**







- (1) **Evaluation Criteria.** The Planning and Zoning Commission shall base their recommendation and the Board of Supervisors shall base their decision on the requested zoning ordinance map amendment to the US-ESD on the following criteria:
  - (a) The proposed US-SESOD will be in harmony with the general purpose and intent of this Ordinance and the goals, objectives and standards of the general plan.
  - (b) The proposed US-SESOD will not have a substantial or undue adverse effect upon adjacent property, the character of the neighborhood, traffic conditions, parking, utility facilities, and other factors affecting public health, safety and general welfare.
  - (c) The proposed US-SESOD will be located, designed, constructed and operated in such a manner that it will be compatible with the immediate neighborhood and will not interfere with the orderly use, development and improvement of surrounding property.
  - (d) Essential public facilities and services will adequately serve the proposed US-SESOD.
  - (e) The proposed US-SESOD will not result in unnecessary adverse effects upon any significant natural, scenic or historic features of the subject property or adjacent properties.
  - (f) The proposed use or development, at the particular location is necessary or desirable to provide a service or facility that is in the public interest or will contribute to the general welfare of the

neighborhood or community.

- (g) All possible efforts, including building and site design, landscaping and screening have been undertaken to minimize any adverse effects of the proposed use or development.
- (h) Compatibility and conformance with the policies and plans of other agencies with respect to the subject property;
- (i) <sup>1</sup> Consideration of the Corn Suitability Rating 2 (CSR2) of the <sup>2</sup> property;
- (j) Consideration of a slope no greater than 10%;
- (k) Compatibility with other physical and economic factors affecting or affected by the proposed US-SESOD;
- (l) Conformance with Woodbury County Utility Scale Solar Scorecard. All projects shall meet the minimum passing threshold of 100 Points in the Woodbury County Utility Scale Solar Scorecard, as enumerated below
- (i) Planned percent of native species of the entire site's vegetative cover:
1. 25-35%, +12 points
  2. 36-50%, +20 points
  3. 51-65%, +28 points
  4. 66-80%, +36 points
  5. >80%, +40 points
  6. <25%, -0 points
- (ii) Planned number of species in entire site's vegetative cover:
1. 5-9 species, +8 points
  2. 10-15 species, +12 points
  3. 16-19 species, +16 points
  4. >20 species, +20 points
- (iii) Site Planning and Management
1. Site has approved vegetation management plan, +20 points
  2. Site has approved agricultural impact mitigation plan, +20 points
- (iv) <sup>4</sup> Percent of site in a medium (65-82) CSR2 area <sup>5</sup>
1. 10-15%, -2 points
  2. 26-50%, -3 points

## Summary of Comments on 2024-01-17\_packet\_zoning\_commission\_958.pdf

Page: 4

- 
-  Number: 1 Author: t26100 Subject: Highlight Date: 1/17/2024 10:47:03 AM
- 
-  Number: 2 Author: t26100 Subject: Sticky Note Date: 1/17/2024 9:20:14 AM  
MidAmerican would recommend striking CSR2 as a consideration. The draft 2040 Comp Plan does not contain any mention of CSR2, or what an objective cutoff for consideration may be. This consideration is highly subjective and could be contested by any submitting or opposing party that disagrees with the Zoning Commission's or Board's view.
- 
-  Number: 3 Author: t26100 Subject: Highlight Date: 1/17/2024 10:47:05 AM
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-  Number: 4 Author: t26100 Subject: Highlight Date: 1/17/2024 10:47:09 AM
- 
-  Number: 5 Author: t26100 Subject: Sticky Note Date: 1/17/2024 9:35:13 AM  
There is no grading system for if there are portions of land over a CSR2 of 82. How will the county handle any project that contains lands of CSR2 over 82, no matter the percentage of the overall site?
- 
-  Author: t26100 Subject: Sticky Note Date: 1/19/2024 10:46:09 AM  
Again, MidAmerican would recommend striking CSR2 as a consideration.
-



3. 51-75%, -4 points
4. >75%, -5 points

(v) Percent of site in a low (<65) CSR2 area

1. 10-15%, +6 points
2. 26-50%, +8 points
3. 51-75%, +10 points
4. >75%, +12 points

(vi) Number of agrivoltaics practices on site

1. 1 practice, +5 points
2. 2 practices, +10 points
3. >2 practices, + 15 points
4. No practices, 0 points

(vii) Planned percentage of the entire site's vegetative cover that includes flowering plants

1. 10-25%, +4 points
2. 26-50%, +8 points
3. 51-75%, +12 points
4. >75%, +16 points
5. No flowering plants, -15 points

(viii) Planned seasons with at least three blooming species present

1. Spring (April - May), +5 points
2. Summer (June - August), +5 points
3. Fall (September - October), +5 points

(ix) Percentage of site that is graded

1. 0-10%, +20 points
2. 10-30%, +10 points
3. 30-50%, 0 points
4. >50%, -10 points

(x) Increased Setbacks

1. No non-participating dwellings within 300' of project boundaries, 0 Points
2. No non-participating dwellings within 500' of project boundaries, +30 points
3. No non-participating dwellings within 750' of project boundaries, +35 points
4. No non-participating dwellings within 1000' of project boundaries, +40 points

- 3. No non-participating dwellings within 1250' of project boundaries, +45 points

(xi) Average Solar Height

- 1. >24", +5 points
- 2. >26", +10 points
- 3. >28", +15 points
- 4. >30", +20 points
- 5. >32", +25 points

(xii) Exceptional Good Neighbor Practices

- 1. Good neighbor payments for adjacent non-participating landowners, +10 points
- 2. Good neighbor payments for tenant farmers displaced by the project, +10 points
- 3. Agreement to source labor locally, +15 points.

(m) Any other relevant factors.

(2) Planning and Zoning Commission Recommendation. The Planning and Zoning Commission shall review and make a recommendation on the proposed US-SESOD to the zoning district map as follows:

- (a) Hearing required. The Planning and Zoning Commission shall conduct a public hearing on the proposed US-SESOD in accordance with this Ordinance.
- (b) Notification. Public notification of the Planning and Zoning Commission hearing on the proposed US-SESOD of the official zoning map shall be as required by subsection 2.02-1. B(1). Such notices shall provide information on the time, date, and location of the hearing and a brief description of the proposed change to the US-SESOD.
- (c) Time Limit for Recommendation. A recommendation to the Board of Supervisors for approval, approval with conditions or disapproval on the proposal, shall be made within 35 days of the conclusion of the public hearing unless the petitioner consents to an extension of time. If no recommendation is made within 35 days from the conclusion of the public hearing, the issue will be forwarded to the Board of Supervisors with no recommendation.

(3) Board of Supervisors Action. Following receipt of the recommendation of the Planning and Zoning Commission, the Board of Supervisors shall consider and act upon a proposed amendment to the zoning district map

as follows:

- (a) **Hearing Required.** The Board of Supervisors shall conduct a public hearing on the proposed US-SESOD in accordance with the procedures outlined in this Ordinance.
- (b) **Notification.** Public notification of the Board of Supervisors hearing on the proposal shall be as required in this Ordinance.
- (c) **Decision.** Following the public hearing, the Board of Supervisors may:
  - (i) Defer consideration of the proposal; or
  - (ii) Reject the proposal; or
  - (iii) Proceed subject to subsections (iv) and (v) below, to adopt an ordinance approving the amendment to the zoning district map.
  - (iv) **Super majority required.** A 60 percent majority of the Board of Supervisors shall be required to adopt the proposed amendment of the US-SESOD if the owners of more than 20 percent of either (a) the area of the subject property or (b) the area of real property lying within 500 feet of the subject property file a written objection prior to the conclusion of the public hearing.
  - (v) The Board of Supervisors may impose restrictive conditions upon approval of an amendment to the US-SESOD if, before the conclusion of the public hearing, the owner agrees to the conditions in writing.

**L. Application Materials.** In addition to all submittal requirements of a major site plan, the Zoning Ordinance Map Amendment (Rezone) application, and the US-SESOD, the application for a utility scale solar installation shall include the following information on the site plan or in narrative form, supplied by the utility scale solar installation owner, operator or contractor installing the structures:

- (1) The name and address of the applicant, as well as the proposed owners or operators of the project, including the contact information (name, address, telephone and email) of their authorized representatives. The application shall designate the entity who would be the permit holder of the conditional use permit and building permit.

- (2) Documentation of the applicant's legal control over the private property necessary for the project, signed by the property owner. Such legal control must vest in the permit holder of the Conditional Use Permit at the time of its issuance.
- (3) A certified abstractor listing of the names and mailing addresses of all owners of real property lying within one (1) mile from the subject property shall be provided with the application.
- (4) A plat of survey showing the parcels on which the utility-scale solar structures and associated assets will be included in the project area.
- (5) Legal descriptions of all properties, leased and/or owned, identified to be part of the project area.
- (6) A Development Plan including:
  - (a) Project timeline. Project timeline showing how the site will be developed from beginning to end.
  - (b) Site plan. A professionally prepared site plan drawn to scale shall showing the location and spacing of every solar panel/array, all other facilities to be constructed and associated with the project, and all existing assets located in the project area. Specifically, the site shall include:
    - (i) North arrow and scale.
    - (ii) Property lines and physical dimensions of the project area.
    - (iii) Setback locations from the property line locations clearly marked for the applicable Zoning District.
    - (iv) Location of the right-of-way.
    - (v) Location and layout of vehicle parking, loading and queuing areas, street accesses, and driveways.
    - (vi) Easements present on the property including those for utilities.
    - (vii) Total number, location and spacing with dimensions (length, width, & height) of solar panels/arrays and all other supporting structures including the distances from the property lines and other structures.

- (viii) Location with dimensions (length, width, & height) of existing structures and distances from the property lines and other structures.
  - (ix) Location of underground and/or overhead electric lines.
  - (x) Location of field tile.
  - (xi) Location of well.
  - (xii) Location of the sanitary infrastructure (e.g. – Septic tank and system).
  - (xiii) Location of topography lines (2 foot contours).
  - (xiv) Flood hazard area designations.
  - (xv) Such other information as the Zoning Director may require to determine compliance with the provisions of this and other Woodbury County Ordinances.
- (c) **Structure Plans.** Architectural and/or engineer plans and specifications prepared pursuant to the acceptable professional standards.
- (d) A map showing the separation distances of the project area from adjacent property lines; occupied residences; unoccupied non-residential buildings; public rights-of-way; public drainage districts; public conservation areas; cemeteries; city limits; airports (public and private); lakes; and permanent water courses.
- (e) Setback analysis showing the minimum setback requirements, or any agreed on greater setback provisions, are met by the project.
- (f) **Grading plan.** This plan shall include all proposed changes to the landscape of the site (e.g., clearing, grading, topographic changes, tree removal, etc.). The plan shall include soil erosion and sediment control considerations and storm water management practices as referenced in this Ordinance. A storm water pollution prevention plan (SWPPP) and permits from the Iowa Department of Natural Resources and other applicable government bodies must be submitted.
- (g) **Geotechnical report.** A site-specific geotechnical report shall be submitted by a professional licensed engineer qualified in the field of geotechnical engineering, registered in the State of Iowa, and

prepared in accordance with generally accepted geotechnical and environmental engineering practices to assess the potential risk of slope instability or landslide for the proposed development in its existing and post developed state.





- (h) Floodplain data. Development within the Special Flood Hazard Area (SFHA) shall comply with federal, state, and local regulations. Proposals for the US-SESOD shall include base flood elevation data for the footprint of the project area. Proposals shall also include the elevation of the proposed development site (natural ground).
- (i) Utility plan. Planned location of all utilities, including underground or overhead electric lines.
- (j) Landscaping/Screening plan. Planned location of all plants and screening.
- (k) Road Impact Analysis. An inventory of the existing road network to be utilized for construction and maintenance of the facility and details on how the project will impact those roads over the life of the project, including during installation and decommissioning.
- (l) Interconnection agreement. Provide the interconnection agreement with the utility company.
- (m) Operation and Maintenance Plan.
- (n) Decommissioning plan.
- (o) Agricultural Impact Mitigation Plan.
- (p) Vegetative Management Plan.
- (q) Wildlife/Biological Habitat Assessment & Mitigation Plan.
- (r) Setback analysis showing the minimum setback requirements, or any agreed on greater setback provisions, are met by the project.
- (s) Emergency Response Plan.
- (t) Any Federal Aviation Administration (FAA), or other federal, state, or local permits or approvals that are necessary for the project. Applicant shall submit a copy of the actual permit, or proof that the permit has been filed with the appropriate agency.

- (u) Such additional information as the County may request due to the unique circumstances with the project.
- (v) Any other information necessary to describe the intended development plan. Applicants are encouraged to have on-going discussions with the county zoning staff, county engineer, and other associated county departments during the preparation of the application.

**M. Site and Structure Requirements.**

- (1) **Setbacks.** Setbacks for all structures (including solar arrays) must adhere to the minimum principal setback standards for the zoning district where the project is located in addition to dwelling and stream corridor setbacks unless otherwise specified in this Ordinance.

Separation Distances (Setbacks). All US-SES, accessory structures and any upgrades to existing solar energy systems shall observe the following setbacks, to be measured from the edge of the solar panels and equipment (not underground facilities such as cable or fencing):

| Protected Area TBD                    | Setback Requirement TBD  |
|---------------------------------------|--|
| Adjacent Property Lines               | 50 feet* TBD?  <sup>2</sup>  <sup>3</sup>  |
| <sup>1</sup> Occupied Residence       | 1000 feet TBD?  <sup>2</sup>  <sup>3</sup> |
| Unoccupied Non-Residential Building   | 100 feet TBD?  |
| Public Road Right-of-Way              | 100 feet TBD?  |
| Public Drainage District Right-of-Way | 100 feet TBD?  |
| Public Conservation Area              | 1 mile TBD?  |
| Cemetery                              | 600 feet TBD?  |
| City Limits                           | 2 miles TBD?   |
| Airports (public and private)         | FAA consultation and determination required. TBD?  |

\* US-SES to be built on more than one parcel and parcels are abutting, a zero (0) side or rear setback shall be permitted to the property line in common with the abutting parcel(s).

**Setback Waivers.** Property owners and municipalities may require a waiver from the setbacks as established in this Section, except for the following protected areas: airports, cemeteries, public conservation areas, and public road rights-of-way.

PROVIDED, a waiver shall not alter any other non-waived setback requirement.

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Number: 1 Author: t26100 Subject: Highlight Date: 1/17/2024 10:47:28 AM

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Number: 2 Author: t26100 Subject: Sticky Note Date: 1/19/2024 10:48:41 AM

This Occupied Residence Setback would nullify section K.11.x Increased Setbacks. A setback of 1000 feet from all non-participating dwellings receives 40 points on the scorecard. The setback minimum should be aligned with the lowest scoring option (i.e. 300 feet – Zero points). A three hundred foot setback from occupied residences, along with Evaluation Criteria (b) [the US-ESO will not have substantial or undue adverse effect upon adjacent property] and the vegetative screening requirements are effective.

Author: t26100 Subject: Sticky Note Date: 1/17/2024 9:51:49 AM

Also, the Protected Area titles (i.e. occupied residence) should be reflected in the scorecard (where dwelling is used instead of occupied residence).

Number: 3 Author: t26100 Subject: Sticky Note Date: 1/19/2024 10:49:42 AM

The Center for Rural Affairs recommends a occupied residence setback between 100 and 200 feet.

<https://www.cfra.org/sites/default/files/publications/lowa-solar-siting-resource-guide.pdf>



To effectuate such a waiver, the applicant must provide the Zoning Director with a recordable instrument signed by all owner(s) (or the controlling governmental entity) of the affected protected area that specifically identifies the nature and extent of the waiver. All waivers must be reviewed by the Board of Supervisors for compliance with this Section; and if deemed compliant, it shall be recorded in the office of the Woodbury County Recorder by the applicant. No waiver shall be granted for setbacks less than the required minimums for the Zoning District.

- (a) Solar panels, structures, and electrical equipment, excluding fences and power lines for interconnection, shall be kept a minimum of one thousand (1000) feet from dwellings, unless the property owner waives the setback. Waiver must be in writing and recorded.
- (b) Solar panels, structures, and electrical equipment, excluding fences and power lines for interconnection, shall be kept a minimum of one hundred and twenty (120) feet from the centerline of all stream corridors and open ditches containing perennial flow throughout the majority of the growing season.
- (2) Screening. Project shall provide vegetative screening for all dwellings within 1,000 feet of the project boundaries.
- (a) Applicant shall submit a screening plan for each dwelling within 1,000 feet of the project boundaries.
- (b) Screening may be waived by the owner of a dwelling. Waiver must be in writing and recorded.
- (c) Screening may be waived by the Zoning Administrator upon submission of a viewshed study from the applicant demonstrating that the project is not within the viewshed of the dwelling due to topography, existing vegetation, or other factors. The point of reference used in the viewshed study shall be as close to the dwelling as possible.
- (d) Any vegetative screening within the project boundaries shall be maintained throughout the life of the project by the project owner. Any screening on the dwelling property shall be maintained by the project owner for no less than twelve months.
- (e) Deciduous trees shall have a minimum caliper of 1.5" when planted, shall be at least six (6) feet tall within three (3) years of installation, and shall have a minimum mature height of twelve

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|   |                |                      |                             |
|---|----------------|----------------------|-----------------------------|
| ✍ Number: 1   | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:47:33 AM |
| 📌 Number: 2   | Author: t26100 | Subject: Sticky Note | Date: 1/19/2024 10:49:55 AM |
| This is higher than most ordinances MidAmerican has reviewed. If screening/landscaping requirements are implemented, this setback may be excessive (i.e. if a dwelling unit is shielded from visual impacts with vegetative screening, what is the purpose of the additional distance). |                |                      |                             |
| ✍ Number: 3   | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:47:36 AM |
| ✍ Number: 4   | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:47:38 AM |
| ✍ Number: 5   | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:47:41 AM |
| ✍ Number: 6   | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:47:42 AM |
| ✍ Number: 7   | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:47:46 AM |
| 📌 Number: 8   | Author: t26100 | Subject: Sticky Note | Date: 1/19/2024 10:50:05 AM |
| Screening requirements are measured from the project boundary but dwellings (occupied residence) setbacks are measured from solar panels, structures, and electrical equipment.   |                |                      |                             |
| ✍ Number: 9   | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:47:49 AM |

(12) feet.

(f) Screening plans shall use no less than two varieties of tree.

- (3) Utility connections. Reasonable efforts shall be made to place all utility connections from the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions or requirements.
- (4) Grading plan. A grading plan shall be submitted and shall include all proposed changes to the landscape of the site (e.g., clearing, grading, topographic changes, tree removal, etc.).
- (5) Glare minimization. All solar panels must be constructed to minimize glare or reflection onto adjacent properties and adjacent roadways and must not interfere with traffic, including air traffic, or create a safety hazard.
- (6) Compliance with local, state and federal regulations. Utility scale solar installations shall comply with applicable local, state and federal regulations.
- (7) Appurtenant structures. All appurtenant structures shall be subject to bulk and height regulations of structures in the underlying zoning district.
- (8) Floodplain considerations. Utility scale solar installations are considered to be maximum damage potential structures and facilities for purposes of the floodplain district regulations.
- (9) Fencing/security. A security fence must be installed along all exterior sides of the utility scale solar installation and be equipped with a minimum of one gate and locking mechanism on the primary access side. Security fences, gates and warning signs must be maintained in good condition until the utility scale solar installation is dismantled and removed from the site.
- (10) Panel Height. To encourage the establishment of a diverse native seed mix, panels shall be installed a minimum of 24" from the lower edge of the panel at maximum tilt to the ground.

**N. Avoidance and mitigation of damages to public infrastructure.**

- (1) Roads. Applicants shall adhere to the Woodbury County Road Use and Repair Agreement, and in doing so, shall identify all roads to be used for the purpose of transporting batteries, parts, cement, and/or equipment for

construction, operation or maintenance of the US-BESSOD and obtain applicable weight and size permits from the impacted road authorities prior to construction.

- (2) Existing road conditions. Applicant shall conduct a pre-construction survey, in coordination with the impacted local road authorities to determine existing conditions of roads identified pursuant to Section 5.09.1 L(1). The survey shall include photographs or video and written documentation of the condition of the identified road facilities. The applicant is responsible for on-going road maintenance and dust control measures identified by the Woodbury County Engineer during all phase of construction.
- (3) Drainage system. The applicant shall be responsible repair of damage to public drainage systems stemming from construction, operation or maintenance of the solar installation. Applicant shall acknowledge any damage to public drainage systems and the responsibility for repair in a timely manner within 72 hours of damage discovery.

O. **Operation and maintenance plan.** The applicant shall submit a plan for the operation and maintenance of the solar installation including all necessary services, frequency of service, preventative maintenance measures, and monitoring. The operation and maintenance plan should include at a minimum:

- (1) Preventative maintenance practices and schedules for all on-site equipment including but not limited to: inverters, panels, equipment pads, tracking systems, transformers, access entrances, internal roads, gates, fencing, security systems, stormwater management installations.
- (2) Annual reporting and verification to county on the status or changes to ongoing service schedule.
- (3) Schedule of all other monthly, annual, or semiannual reporting requirements for other submittals including: agricultural impact mitigation plan, decommissioning plan, and vegetation management plan.
- (4) Noise. No operating solar energy equipment shall produce noise exceeding any of the following limitations, with the exception of initial construction and routine maintenance. Adequate setbacks and effective noise mitigating equipment shall be used to comply with these limitations:
  - (a) An hourly average noise level of fifty-five (55) dBA during the day (between sunrise and sunset), and an hourly average noise level of fifty (50) dBA at night (between sunset and sunrise), as measured

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| Number: 2 | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:02 AM |
| Number: 3 | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:04 AM |
| Number: 4 | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:06 AM |
| Number: 5 | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:08 AM |
| Number: 6 | Author: t26100 | Subject: Sticky Note | Date: 1/19/2024 10:50:37 AM |

Within 72 hours of discovery may not be feasible in all cases (i.e. weather conditions, scheduling delays with laborers). MidAmerican would suggest striking the 72 hour repair requirement and instead add in that the project owner must notify the county for expected repair timeline within a 3 days of discovery.

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at the occupied dwelling of any adjacent property containing an existing residential structure. If the ambient sound pressure level exceeds 55 dBA during the day or 50 dBA at night, the standard shall be the ambient Leq (equivalent continuous sound pressure level) plus 5 dBA.

- (b) A baseline noise evaluation shall be completed by a board certified professional by the Institute of Noise Control Engineering (INCE), or an appropriately licensed Professional Engineer (PE) prior to construction of the proposed solar site.
  - (c) A post-construction noise evaluation shall be performed by a third-party board certified professional by the Institute of Noise Control Engineering (INCE), or an appropriately licensed Professional Engineer (PE) following commencement of commercial operation of the project to verify compliance with the County's standards.
  - (d) The owner(s) of an adjacent property may voluntarily agree, by written and recorded waiver, to a higher noise level.
- (5) Issue resolution protocols. Contact information for responsible party to address issues that may arise (damaged equipment causing excessive noise, etc.).
- (6) Disposal/recycling plan for damaged or obsolete facility equipment or hazardous waste. No storage of inoperable or obsolete equipment shall be allowed to remain on-site. Site operator shall be responsible for the cleanup of debris related to storm damage.
- (7) Cleaning chemicals and solvents. During operation of the proposed installation, all chemicals or solvents used to clean photovoltaic panels should be low in volatile organic compounds and the operator should use recyclable or biodegradable products to the extent possible. Any on-site storage of chemicals or solvents shall be referenced.
- (8) Maintenance, repair, or replacement of facility. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to emergency response officials. Any retrofit, replacement or refurbishment of equipment shall adhere to all applicable local, state and federal requirements.
- (9) Repowering. At the discretion of the zoning administrator, proposals to replace more than twenty five percent (25%) of the panels in a facility within a twelve (12) month period may be required to submit a plan for review and approval. A repowering event does not include replacement

of panels in previously approved locations due to weather damage, equipment failure, or a force majeure event.

- (a) The plan shall include updated information for some or all of the reports and plans required by this section, as determined necessary by the zoning administrator.
- (b) The zoning director shall review and approve, conditionally approve, or deny the repowering plan.

**P. Decommissioning, abandonment, and site restoration plan.**

- (1) The application must include a decommissioning plan that describes the following:
  - (a) The anticipated life of the utility scale solar installation.
  - (b) The anticipated manner in which the project will be decommissioned, including plans to recycle components and dispose of any hazardous materials.
  - (c) The anticipated site restoration activities.
  - (d) The estimated decommissioning costs in current dollars.
  - (e) The method for ensuring that funds will be available for decommissioning and restoration of the site.
- (2) Decommissioning cost considerations. The applicant shall provide the basis for estimates of net costs for decommissioning the site. Site restoration activities as described later in this section.
  - (a) Removal of any hazardous materials at the facility, as determined by a Toxic Characteristic Leaching Procedure (TCLP) or other similar test approved by Woodbury County and as described in the facility's Operations and Maintenance Plan. TCLP testing shall be performed prior to any ground disturbance at the project site.
  - (b) Salvage value shall not be included in the cost estimate.
  - (c) The cost basis shall include a mechanism for calculating adjusted costs over the life of the project.
- (3) Site restoration activities. Restoration activities shall include, but not be limited to, the following.

- (a) Removal of all components and equipment.
- (b) Soil in project area shall be decompacted and seeded with a cover crop, unless otherwise specified in the approved vegetation plan and/or agricultural impact mitigation plan.
- (c) For any part of the energy project on leased property, the plan may incorporate agreements with the landowner regarding leaving access roads, fences, gates or repurposed buildings in place or regarding restoration of agricultural crops or forest resource land. Any use of remaining structures must be in conformance with the regulations in effect at that time.
- (d) <sup>1</sup>Performance agreement and proof of financial surety. At the time <sup>2</sup>  
<sup>3</sup>permitting, the applicant, facility owner, or site operator shall  
<sup>4</sup>provide a Performance Agreement and accompanying financial  
<sup>5</sup>surety instrument to cover the cost of decommissioning in  
<sup>6</sup>accordance with the following:
- (i) Decommissioning funds shall be an amount equal to the total costs for decommissioning the site, plus a ten percent (10%) contingency.
- (ii) Decommissioning funds shall be maintained in the form of a performance bond, surety bond, bank letter of credit, stable parent company guarantee, or other form of financial assurance as approved by the County. Any financial document evidencing the maintenance of the decommissioning funds shall include provisions for releasing the funds to the County in the event decommissioning is not completed in a timely manner.
- (iii) Prior to any ground disturbance, grading or construction activity on the site, twenty-five percent (25%) of total estimated decommissioning costs shall be provided by any of the means listed above. An additional twenty five percent (25%) shall be provided within five (5) years and ten (10) years of the date of initial approval, and the remaining twenty five percent (25%) of the total reestimated decommissioning costs shall be provided within fifteen (15) years of the date of initial approval. From that point forward, 100% of the total estimated decommissioning costs as determined by the most recent reestimation shall be maintained in the decommissioning fund until the end of the functional life of the project.



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| Number: 2  | Author: t26100 | Subject: Sticky Note | Date: 1/17/2024 10:12:29 AM |
| MidAmerican would recommend adding language to allow for a bond to be waived by the county if the project owner "maintains not less than an investment grade credit rating or (2) is a public utility regulated by the Iowa Utilities Board" |                |                      |                             |
| Number: 3  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:18 AM |
| Number: 4  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:20 AM |
| Number: 5  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:22 AM |
| Number: 6  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:24 AM |

(iv) Financial surety shall be maintained for the life of the project.

(v) Proof of recertification of the financial surety instrument must be submitted to the County annually.

(vi) Every five (5) years, the facility owner or operator shall retain an independent Licensed Iowa Engineer approved by the County to re-estimate the total cost of decommissioning and attest that the value of the financial surety instrument is appropriate. This report shall be filed with the County and shall incorporate any new industry information learned since the last cost determination.

(vii) The required amount of the decommissioning fund shall match the re-estimated cost of decommissioning. Within ninety (90) days of filing the reestimation report with the County, the facility owner or operator shall cause the fund balance of the financial surety instrument to be adjusted to ensure that it matches the re-estimated decommissioning cost.

(e) Escrow Account. At the time of permitting, the applicant, facility owner, or site operator shall provide at least \$100,000 per megawatt of project in an escrow account in addition to the total decommissioning funds that shall remain in the account up until one year after the last day of the decommissioning upon successful completion will be returned to the application/owner/operator. Any interest earned in the account shall belong to the County.

(f) Commencement of site decommissioning. Decommissioning of the site shall commence at the time identified in the project decommissioning plan or performance agreement, or when the facility is determined to have been abandoned.

(i) Decommissioning shall be completed in accordance with the approved decommissioning plan.

(ii) The landowner or tenant shall notify the Zoning Administrator both when the project is discontinued and when decommissioning is complete.

(iii) Third-party verification, as well as County verification of completed decommissioning will be required before the financial surety may be released.

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| Number: 1  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:43 AM |
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| Number: 3  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:48 AM |
| Number: 4  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:50 AM |
| Number: 5  | Author: t26100 | Subject: Sticky Note | Date: 1/17/2024 10:17:55 AM |
| Why would the county require both a Decommissioning Fund and a Escrow Account for decommissioning? These requirements, when combined, are excessive and would negatively impact ratepayers for any regulated utility that would operate a project in the county. |                |                      |                             |
|  | Author: t26100 | Subject: Sticky Note | Date: 1/17/2024 10:18:31 AM |
| MidAmerican recommends striking the entirety of the Escrow Account requirement.  |                |                      |                             |
| Number: 6  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:53 AM |
| Number: 7  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:55 AM |
| Number: 8  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:48:58 AM |

(iv) The facility will be considered abandoned in the following circumstances:

1. Upon termination or expiration of the solar farm leases/easements or
2. After one year without production, storage of energy, or use as a backup facility.
3. Exceptions could be made for:
  - (a) A force majeure event that has occurred or is occurring, which will prevent the facility from resuming operation within 12 months.
  - (b) If the facility is in the process of being repowered.
  - (c) The project is pending completion of construction of the facility due to a backlog of cases or service requests in the MISO queue.
  - (d) A situation in which the project owner can provide evidence to the county board of supervisors, that the facility's period of continuous inactivity is due to circumstances beyond the project owner's control and that the facility has not been abandoned.
  - (e) Appeal of the notice of abandonment from the county within a set time of the project owner's receipt of the notice in which the project owner explains the reasons for operational difficulty and provides a timeframe for corrective action that the county deems reasonable.

**Q. Agricultural Impact Mitigation Plan (AIMP)**

- (1) The applicant shall submit an AIMP detailing strategies to avoid or mitigate detrimental impact to agricultural land resulting from the construction, operation, maintenance and/or decommissioning of the solar project. The primary goal of the AIMP is long-term protection of soil health to ensure the project area can be used for productive agricultural use both during, and at the end of the functional life of the

project.

(2) The AIMP shall include, but not be limited to, the following information:

(a) Project overview. Provide general background, list of project components, and construction timeline.

(b) Environmental/Agricultural Monitoring

(i) On-site monitoring to be conducted by third party environmental/agricultural professional during construction.

(ii) Report of findings to be submitted to county every 30 days during construction.

(iii) Responsible for verification and monitoring during and post construction of:

1. Soil segregation, stockpiling, backfilling, respreading methods
2. Trenching, & foundation installation
3. Compaction avoidance and decompaction practices
4. Grading Plan adherence
5. Wet weather conditions planning
6. Drain tile system
7. Erosion and sediment control measures
8. Installation and effectiveness of stormwater management structures
9. Invasive species prevention and mitigation

(c) Best Management Practices During Construction and Operation

(i) Best Management Practices (BMPs) shall be included that demonstrate Low Impact Development (LID) measures the applicant will take during construction to minimize

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Number: 2 Author: t26100 Subject: Sticky Note Date: 1/19/2024 10:55:31 AM  
What county department will be in charge of reviewing these reports?

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Number: 3 Author: t26100 Subject: Highlight Date: 1/17/2024 10:29:08 AM

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negative impact to long-term soil health and future agricultural viability. BMPs should preserve topsoil, reduce or eliminate compacted soils, test and design the project with regard for protection of existing soil profile below 12 inches, include robust long-term soil health monitoring protocols, invasive species prevention, and establish and maintain native, deep-rooted vegetative ground cover.

(d) Subsurface Drain Tile Survey, Avoidance & Mitigation Plan

- (i) Documentation and mapping of existing drain tile systems within the entire project area including elevation, location, and size of tile inlet and outlets
- (ii) Plan for relocation, removal or restoration of tile damaged during construction
- (iii) Description of long-term maintenance and plan for ongoing review of existing and newly constructed tile systems (if applicable).

(e) **Pre-construction Soil Health Analysis and Long-Term Soil Monitoring Plan** 

(i) Prior to construction, a soil analysis shall be conducted and assessed by a third-party professional to establish baseline soil health.

(ii) Required sampling protocol:

1. Pre-Construction and Post- Construction Baseline Surveys

- (a) One sampling location per zone shall be created based on random sample method or soil type, with each zone not to exceed 20 acres.
- (b) Two samples shall be collected from each sampling location (for example, the plow layer from 0 to 8 inches and subsoil from 8 to 16 inches).
- (c) Each sample shall consist of a minimum of 10 subsamples collected from disparate

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☞ Number: 2 Author: t26100 Subject: Sticky Note Date: 1/19/2024 10:56:23 AM  
Does the county have any similar requirements for other development or businesses in the county?

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✓ Number: 3 Author: t26100 Subject: Highlight Date: 1/17/2024 10:26:30 AM

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locations surrounding the sample location in each zone. Samples shall be analyzed for soil health and soil chemical parameters during the same seasonal period and at the same sampling locations once prior to construction and once postconstruction to establish a baseline.

- (d) In-field assessment resource evaluations shall be performed in conjunction with soil health testing for the purpose of tracking compaction, soil organic matter and aggregate stability indicators.
- (e) Soil sample analyses shall utilize a laboratory testing program that includes standard chemical analysis for Phosphorous, Potassium, Calcium, Sulfur, pH, Cation Exchange Capacity (CEC), base saturation, and organic matter, and soil health analyses for soil respiration, wet aggregate stability, and active (permanganate oxidizable) carbon.

2. Year 5 through end of project life

- (a) Same sampling protocol as above except frequency shall occur once every five years.
- (b) Third-party evaluation and report on soil condition changes against baseline data throughout the lease period. Frequency of reporting shall match sampling protocol.

(f) Soil Protection and Compaction Avoidance

- (i) Plan should include, at a minimum, a narrative or plan for LID construction practices and methods to be used during each stage of construction for protecting and preserving topsoil. Practices and methods should address, at a minimum, topsoil removal, segregation, stockpiling, replacement during backfill, and resspreading, grading minimization, compaction prevention, wet weather conditions, and postconstruction decompaction.

- I. All project areas in agricultural production at the time of permit issuance, shall be seeded with temporary cover within three months of commencement of pre-construction/civil activities (mobilization) if disturbance is not intended to occur within two months.

(g) Erosion and Sediment Control

- (i) The applicant agrees to conduct all roadwork and other site development work in compliance with a national pollutant discharge elimination system (NPDES) permit as required by the state department of natural resources and comply with requirements as detailed by jurisdictional authorities during the plan submittal. If subject to NPDES requirements, the applicant must submit the permit for review and comment, and an erosion and sediment control plan before beginning construction. The plan must include both general "best management practices" for temporary erosion and sediment control both during and after construction and permanent drainage and erosion control measures to prevent damage to local roads or adjacent areas and to prevent sediment-laden run-off into waterways.

(h) Stormwater Management Plan

- (i) For the purposes of pollutant removal, stormwater rate and runoff management, flood reduction and associated impacts, the applicant shall provide a detailed analysis of pre- and post-development stormwater runoff rates for review by local jurisdictional authorities. Such review may incorporate infiltration components consistent with practices as detailed in the state stormwater management manual.

R. **Vegetation Management Plan.** The application must include a vegetation management plan with the primary function of promoting long term soil health, through plant stand persistence, plant diversity, and use of deep-rooted perennials by utilizing recognized establishment and maintenance practices for native vegetation. The Vegetation Management Plan shall include:

- (1) A description of the site characteristics including project location, size of the project in terms of acres, existing vegetation, current land uses, soils on and adjacent to the site using, topography with and adjacent to project site using 2' contours, and a description of the general hydrologic conditions of the site and adjoining areas noting any significant features

(public waters, water bodies, drainage ways, wetlands, farmed wetlands, restorable wetlands, sinks, hydric soils, etc.).

- (2) A description of the management areas with maps including but not limited to the following: areas under the arrays, perimeter plantings, and any other designated management areas within or adjacent to the site.
- (3) A description of the management objectives for each management area including:
  - (a) Short-term management objectives for each area (seed establishment 0-5 years). The emphasis will be on management strategies used during the vegetation establishment phase such as: cover crop and soil stabilization, weed and non-native species management, targeted re-seeding, etc.
  - (b) Long term management objectives for each area (5 years after establishment to end of permit) such as: target goals such as the percentage of the site covered by native species, development of a monitoring plan, and management strategies such as supplemental seeding.
- (4) Establishment and management practices including:
  - (a) Site preparation (schedules/sequence of planned construction, planting, and management activities).
  - (b) Eliminating soil compaction prior to seeding.
  - (c) Seedbed preparation.
  - (d) Invasive species prevention.
  - (e) Cover crop planting and temporary covers.
  - (f) Establishment methods in years 0-5.
  - (g) Management methods in year 6 and beyond.
  - (h) Grazing practices (if applicable).
- (5) Seeding and planting practices including:
  - (a) Seed mixes (names, ounces/acre in Pure Live Seed), seeds per sq ft., % of mix based on seeds per sq ft). A complete list of seeds shall be provided as well as a map denoting the seed mix areas.

Prior to seed procurement, seed origin shall be added to the list of seeds.

- (i) At a minimum, ground under and around the solar array shall be planted with a perennial vegetated ground cover that includes a mix of perennial grasses and wildflowers that will preferably result in short stature prairie with a diversity of forbs and flowering plants that bloom throughout the growing seasons. Perennial vegetation (grasses and forbs) used shall be native on a regional basis (preferably to Iowa) but where appropriate to the ground cover plan goals, may also include other naturalized and non-invasive species which limit noxious and invasive species encroachment, provide habitat for pollinators and wildlife, build soil health, and/or provide other ecosystem services (i.e. clovers). Non-native species shall be limited to the following: legumes, not exceed 20 seeds per square foot and grasses, not to exceed 15 seeds per square foot.
- (ii) Wherever native vegetation is discussed, including in the Woodbury County Utility Scale Solar Scorecard, native vegetation shall be defined as seed mix plan that meet criteria as described within the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Iowa 327 Conservation Cover Standard and supporting reference documents developed through the use of the Iowa NRCS Native Seed Calculator, or any other similar standard as approved.
- (iii) Cover Crop and other short-term seeding methods shall be utilized for the purpose of site stabilization for all areas in agricultural production within three months of commencement of pre-construction/civil activities (mobilization) if planned disturbance is not intended to occur within 2 months of the time of permit issuance, preventing growth of noxious and invasive species, and aide in long term vegetative establishment. In addition to seed criteria specified above cover crop choice(s) shall meet or exceed 80% by volume of Pure Live Seed at time of use, be seeding date and zone appropriate for the selected species and be based on minimum thresholds as described within the USDA - NRCS Iowa 340 Cover Crop Standard, or other similar standard as approved.

- (b) If visual screening is part of the project, provide a complete list of plantings as well as the size of the plantings.
  - (c) Summarize steps taken to ensure that any pesticides used at or near the site will not drift and impact native vegetation.
  - (d) Describe how planting will be conducted in each area (array, perimeter, detention area, etc.) including the sequence of planting, time of planting, and planting method.
- (6) Vegetation monitoring and adaptive management practices to be used on site including:
- (a) Construction monitoring. For compliance with the Agricultural Impact Mitigation Plan, a third-party qualified site monitor shall be required to be present on site during construction to ensure soil health is maintained.
  - (b) Vegetation establishment and monitoring plan. A qualified third-party independent monitor shall complete vegetation monitoring activities and provide reports to Woodbury County staff. Reports shall be submitted annually during the establishment phase (first 5 years) and every three years afterwards. Reports shall include: summary of site conditions and management activities, description of adaptive management actions implemented, description of any management challenges, an evaluation on whether the project is meeting stated management objectives.
  - (c) Adaptive management practices. Adaptive management approach shall use the results of the annual report and other site visits to determine measures necessary to achieve the stated management objectives.

#### **S. Wildlife and Habitat Assessment and Mitigation Plan**

- (1) The applicant shall submit a Wildlife and Habitat Assessment and Mitigation Plan detailing strategies to avoid, or mitigate for, detrimental impact to existing habitat and wildlife resulting from the construction, operation, maintenance and/or decommissioning of the solar project. Consideration of established migration patterns, emphasis on habitat fragmentation avoidance, and allowance for limited wildlife movement into and through the array zones via wildlife friendly fencing design shall be considered.

(2) Fenced array areas are limited to 160 acres before establishment of a wildlife corridor shall be required.

(3) Solar panels, structures, electrical equipment, and fencing, excluding power lines for interconnection, through established drainageways. Drainageways shall be defined as stream corridors and open ditches containing perennial flow throughout the majority of the growing season.

#### T. Emergency Response Plan.

(1) The applicant shall submit an emergency response plan prior to any ground disturbance at the project site detailing the planned response actions that will be taken by the solar facility operator, including any battery energy storage systems in the event of an emergency situation. These actions are intended to minimize health risks to personnel and people in the surrounding community, as well as minimize adverse impacts to the environment.

(a) The plan shall include, but is not limited to, a detailed narrative of response procedures and the facility representatives responsible for management of the following plausible contingencies that could occur at the facility: natural disaster/severe weather, fire, security incident, capacity/transmission, environmental, chemical, pipeline (if applicable), and medical. It shall include procedures for a site evacuation, designated egress routes and emergency staging areas.

(b) The plan shall include a stand-alone section detailing the emergency response protocols specific to battery energy storage areas (if applicable).

(c) The plan shall be developed in coordination with local first responders, Woodbury County Emergency Management & Woodbury County Public Health personnel.

U. **Future Operators.** Future operators, successors, assignees, or heirs shall agree in writing to accept and to conform to all conditions of approval in the staff report. Prior notice to the County of the intent to sell or transfer ownership shall be done in a timely manner. Such agreement shall be filed with and accepted by the County before the transfer to a new operator, successor, assignees, or heirs shall be effective.

## 2. Utility-Scale Battery Energy Storage Systems Overlay District (US-BESSOD)

A. **Purpose and Intent.** The Utility-Scale Battery Energy Storage Systems Overlay District (US-BESSOD) is intended to be mapped as an overlay of the Agricultural

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Limiting fencing to 160 acre blocks will add a substantial amount of additional fencing to a solar project and would not guarantee wildlife would adhere to man-made 'wildlife corridors'.

**Preservation (AP) Zoning District.** The US-BESSOD zone is intended to allow for the orderly development of utility-scale battery energy storage projects. This section establishes an overlay district that serves the following purposes:

- (1) To provide a reasonable and thoughtful balance to limited development and use of utility-scale battery energy storage systems in the AP Zoning District.
- (2) To encourage the continued role of agriculture as the primary economic sector in the unincorporated areas of Woodbury County and the continued preservation of its rural character.
- (3) To encourage development that conforms to the vision, goals, and policies in the Woodbury County Development plan.
- (4) To encourage sustainable and energy efficient development and reasonable access to renewable energy.

**B. Jurisdiction.** This Ordinance is adopted by the Woodbury County Board of Supervisors and governs all lands within the unincorporated areas of Woodbury County, Iowa. This Ordinance and its provisions shall not apply to those properties or projects occurring within the incorporated cities of Woodbury County.

**C. Applicability.** It shall be unlawful to construct, erect, install, alter or locate any US-SESOD within unincorporated Woodbury County, without first obtaining a Conditional Use Permit from the Woodbury County Board of Adjustment and the associated agreements from the Woodbury County Board of Supervisors or obtaining a Zoning Ordinance Map Amendment (Rezone) to the US-SESOD as outlined in this Ordinance.

- (1) No application for a US-SESOD shall be granted without first submitting all required information and documentation, and paying all associated fees to the County.

**D. Zoning Ordinance Map Amendment (Rezone) Required.** In addition to all submittal requirements of Section 2.02.4 of this Ordinance for a Zoning Ordinance Map Amendment, this Section sets the requirements specific to the US-BESSOD.

**E. Geographic Location and Area Limitations.** The US-BESSOD shall be geographically located in those areas currently zoned Agricultural Preservation (AP). The US-BESSOD shall be capped to 9,500 acres over the Agricultural Preservation (AP) Zoning District. No more than 9,500 acres shall be established as the overlay of the Agricultural Preservation (AP) Zoning District. Each granted Zoning Ordinance Map Amendment (rezone) shall reduce the cap by the



number of acres approved in each rezone until the original cap is reduced to 0.

**F. Allowed Uses.** The specific land uses allowed as principal allowed, conditional and accessory in the AP Zoning District are allowed in the US-BESSOD in addition to the following use(s) which are hereby established as allowed uses:

(1) Utility-Scale Battery Energy Storage Systems Overlay District (US-BESSOD)

**G. Dimensional Standards.** Section 3.04 includes a table of comparative dimensional standards for all zones. The dimensional standards of the AP Zoning District shall apply to the US-BESSOD unless otherwise stated in this Ordinance.

**H. Supplemental regulations.** All pertinent provisions of Article 5, Supplemental Regulations, shall apply to uses and development in the US-BESSOD.

**I. Notification Requirements.** To assist in providing adequate notice to interested parties, the application for a Zoning Ordinance Map Amendment (Rezone) to the US-BESSOD shall:

- (1) Within 14 days of filing the rezoning application with the Woodbury County Community and Economic Development Department, mail a notice via first class mail to property owners and tenants within one (1) mile of the subject site explaining the request and identifying the subject property.
- (2) Prior to the application being heard at the Planning and Zoning Commission meeting, the applicant shall host a public informational meeting held at a location reasonably accessible to all identified property owners.
- (3) Applicants must mail a notice of the public informational meeting via first class mail to property owners and tenants within one (1) mile of the subject site.
- (4) Applicants must submit a certified abstractor listing of the names and mailing addresses of all owners of real property lying within one (1) mile from the subject property with their application materials as required in this Ordinance.

**J. Review and Decision-Making Process**

- (1) **Evaluation Criteria.** The Planning and Zoning Commission shall base their recommendation and the Board of Supervisors shall base their decision on the requested zoning ordinance map amendment to the US-

ESO on the following criteria:

- (a) The proposed US-BESSOD will be in harmony with the general purpose and intent of this Ordinance and the goals, objectives and standards of the general plan.
- (b) The proposed US-BESSOD will not have a substantial or undue adverse effect upon adjacent property, the character of the neighborhood, traffic conditions, parking, utility facilities, and other factors affecting public health, safety and general welfare.
- (c) The proposed US-BESSOD will be located, designed, constructed and operated in such a manner that it will be compatible with the immediate neighborhood and will not interfere with the orderly use, development and improvement of surrounding property.
- (d) Essential public facilities and services will adequately serve the proposed US-BESSOD.
- (e) The proposed US-BESSOD will not result in unnecessary adverse effects upon any significant natural, scenic or historic features of the subject property or adjacent properties.
- (f) The proposed use or development, at the particular location is necessary or desirable to provide a service or facility that is in the public interest or will contribute to the general welfare of the neighborhood or community.
- (g) All possible efforts, including building and site design, landscaping and screening have been undertaken to minimize any adverse effects of the proposed use or development.
- (h) Compatibility and conformance with the policies and plans of other agencies with respect to the subject property;
- (i) Consideration of the Corn Suitability Rating 2 (C:SR2) of the property;
- (j) Consideration of a slope no greater than 10%;
- (k) Compatibility with other physical and economic factors affecting or affected by the proposed US-BESSOD;
- (l) Conformance with Woodbury County Utility Scale Solar Scorecard. All projects shall meet the minimum passing threshold


of 100 Points in the Woodbury County Utility Scale Solar Scorecard, as enumerated below:

- (i) **1** Planned percent of native species of the entire site's **2** **3** vegetative cover:
1. 25-35%, +12 points
  2. 36-50%, +20 points
  3. 51-65%, +28 points
  4. 66-80%, +36 points
  5. >80%, +40 points
  6. <25%, +0 points
- (ii) **4** Planned number of species in entire site's vegetative cover **5**
1. 5-9 species, +8 points
  2. 10-15 species, +12 points
  3. 16-19 species, +16 points
  4. >20 species, +20 points
- (iii) Site Planning and Management
1. Site has approved vegetation management plan, +20 points
  2. Site has approved agricultural impact mitigation plan, +20 points
- (iv) Percent of site in a medium (65-82) CSR2 area
1. 10-15%, -2 points
  2. 26-50%, -3 points
  3. 51-75%, -4 points
  4. >75%, -5 points
- (v) Percent of site in a low (<65) CSR2 area
1. 10-15%, +6 points
  2. 26-50%, +8 points
  3. 51-75%, +10 points
  4. >75%, +12 points
- (vi) **6** Number of agrivoltaics practices on site **7**
1. 1 practice, +5 points
  2. 2 practices, +10 points
  3. >2 practices, +15 points
  4. No practices, 0 points
- (vii) **8** Planned percentage of the entire site's vegetative cover **9**  
**10** in includes flowering plants
1. 10-25%, +4 points
  2. 26-50%, +8 points

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|  |                |                      |                             |
|--|----------------|----------------------|-----------------------------|
| Number: 1  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:41:57 AM |
| Number: 2  | Author: t26100 | Subject: Sticky Note | Date: 1/17/2024 10:43:19 AM |
| This should not apply to BESS. BESS are much more concentrated facilities, more akin to a substation than a solar array. |                |                      |                             |
| Number: 3  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:41:59 AM |
| Number: 4  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:43:40 AM |
| Number: 5  | Author: t26100 | Subject: Sticky Note | Date: 1/17/2024 10:43:34 AM |
| Same comment as above.   |                |                      |                             |
| Number: 6  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:43:48 AM |
| Number: 7  | Author: t26100 | Subject: Sticky Note | Date: 1/17/2024 10:43:58 AM |
| Not applicable to BESS.  |                |                      |                             |
| Number: 8  | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:44:17 AM |
| Number: 9  | Author: t26100 | Subject: Sticky Note | Date: 1/17/2024 10:44:13 AM |
| Not applicable to BESS.  |                |                      |                             |
| Number: 10   | Author: t26100 | Subject: Highlight   | Date: 1/17/2024 10:44:20 AM |

- 3. 51-75%, +12 points
- 4. >75%, +16 points
- 5. No flowering plants, -15 points

(viii) **1** Planned seasons with at least three blooming species  **2**

- 3** present
  - 1. Spring (April - May), +5 points
  - 2. Summer (June - August), +5 points
  - 3. Fall (September - October), -5 points

(ix) Percentage of site that is graded

- 1. 0-10%, +20 points
- 2. 10-30%, +10 points
- 3. 30-50%, 0 points
- 4. >50%, -10 points

(x) Increased Setbacks

- 1. No non-participating dwellings within 300' of project boundaries, 0 Points
- 2. No non-participating dwellings within 500' of project boundaries, +30 points
- 3. No non-participating dwellings within 750' of project boundaries, +35 points
- 4. No non-participating dwellings within 1000' of project boundaries, +40 points
- 5. No non-participating dwellings within 1250' of project boundaries, +45 points

(xi) **4** Average Solar Height  **5**

- 1. >24", +5 points
- 2. >26", +10 points
- 3. >28", +15 points
- 4. >30", +20 points
- 5. >32", +25 points

(xii) Exceptional Good Neighbor Practices

- 1. Good neighbor payments for adjacent non-participating landowners, +10 points
- 2. Good neighbor payments for tenant farmers displaced by the project, +10 points
- 3. Agreement to source labor locally, +15 points

(m) Any other relevant factors.

**(2) Planning and Zoning Commission Recommendation.** The Planning and Zoning Commission shall review and make a recommendation on the

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✎ Number: 1 Author: t26100 Subject: Highlight Date: 1/17/2024 10:44:24 AM

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✎ Number: 2 Author: t26100 Subject: Sticky Note Date: 1/17/2024 10:44:38 AM  
Not applicable to BESS.

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✎ Number: 3 Author: t26100 Subject: Highlight Date: 1/17/2024 10:44:26 AM

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✎ Number: 4 Author: t26100 Subject: Highlight Date: 1/17/2024 10:44:31 AM

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✎ Number: 5 Author: t26100 Subject: Sticky Note Date: 1/17/2024 10:44:44 AM  
Not applicable to BESS.

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proposed US-BESSOD to the zoning district map as follows:

- (a) **Hearing required.** The Planning and Zoning Commission shall conduct a public hearing on the proposed US-BESSOD in accordance with this Ordinance.
  - (b) **Notification.** Public notification of the Planning and Zoning Commission hearing on the proposed US-BESSOD of the official zoning map shall be as required by subsection 2.02-1. B(1). Such notices shall provide information on the time, date, and location of the hearing and a brief description of the proposed change to the US-BESSOD.
  - (c) **Time Limit for Recommendation.** A recommendation to the Board of Supervisors for approval, approval with conditions or disapproval on the proposal, shall be made within 35 days of the conclusion of the public hearing unless the petitioner consents to an extension of time. If no recommendation is made within 35 days from the conclusion of the public hearing, the issue will be forwarded to the Board of Supervisors with no recommendation.
- (3) **Board of Supervisors Action.** Following receipt of the recommendation of the Planning and Zoning Commission, the Board of Supervisors shall consider and act upon a proposed amendment to the zoning district map as follows:
- (a) **Hearing Required.** The Board of Supervisors shall conduct a public hearing on the proposed US-BESSOD in accordance with the procedures outlined in this Ordinance.
  - (b) **Notification.** Public notification of the Board of Supervisors hearing on the proposal shall be as required in this Ordinance.
  - (c) **Decision.** Following the public hearing, the Board of Supervisors may:
    - (i) Defer consideration of the proposal; or
    - (ii) Reject the proposal; or
    - (iii) Proceed subject to subsections (iv) and (v) below, to adopt an ordinance approving the amendment to the zoning district map.
    - (iv) Super majority required. A 60 percent majority of the Board of Supervisors shall be required to adopt the

proposed amendment of the US-BESSOD if the owners of more than 20 percent of either (a) the area of the subject property or (b) the area of real property lying within 500 feet of the subject property file a written objection prior to the conclusion of the public hearing.

- (v) The Board of Supervisors may impose restrictive conditions upon approval of an amendment to the US-BESSOD if, before the conclusion of the public hearing, the owner agrees to the conditions in writing.

**K. Application Materials.** Utility scale battery energy storage systems that are meant to store and/or supply energy for the primary purpose of wholesale or retail sales of generated electricity, and that are proposed either as part of a utility scale solar project or wind farm or as a standalone project requires rezoning to the US-BESSOD. A complete application shall include the following:

- (1) Major site plan required. A major site plan shall be submitted and reviewed prior to the approval of a utility scale battery energy storage system. This site plan shall also include the following in addition to other requirements in this Ordinance:
  - (a) Power and communications lines.
  - (b) A preliminary equipment specification sheet that documents the proposed battery energy storage system components, inverters and associated electrical equipment that are to be installed. A final equipment specification sheet shall be submitted prior to the issuance of building permit.
- (2) Additional information. In addition to all submittal requirements of a major site plan and rezoning application, the application for the battery energy storage system shall include the following:
  - (a) Property legal descriptions. Legal descriptions shall be submitted for the subject property (leased and/or owned) on which the battery energy storage system will be located.
  - (b) Pre-construction survey of nearby roads that may be impacted by construction of the facility.
  - (c) Interconnection agreement.
  - (d) Operation and maintenance plan.



- (e) Title investigation report.
  - (f) Emergency response plan.
  - (g) Decommissioning plan.
  - (h) Setback analysis showing the minimum setback requirements, or any agreed on greater setback provisions, are met by the project.
- (3) Site and structure requirements.
- (a) Setbacks.
    - (i) All components of the battery energy storage system shall be setback at least two hundred (200) feet from a property line or right-of-way.
    - (ii) All components, except the interconnection point, installed as part of the battery energy storage system shall be setback at least five (500) hundred feet from the nearest property line including an occupied structure not located on the subject property. However, if the developer of the facility can obtain and record with the County Recorder a written, signed, and notarized statement from the owner of the property containing said structure waiving this setback, the minimum setback from may be reduced to two hundred (200) feet.
    - (iii) If the battery energy storage system is to be installed in conjunction to a new utility-scale solar facility, the battery energy storage system shall be sited so as to be located within the interior of said facility, with the banks of solar panels lying between the battery energy storage system and the edges of the facility.
    - (iv) All components of the battery energy storage systems shall be setback a minimum of one hundred and twenty (120) feet from the centerline of all stream corridors and open ditches containing perennial flow throughout the majority of the growing season.
  - (b) Height. Battery energy storage system shall not exceed the maximum height for the zoning district in which it is located.
  - (c) Fencing Requirements. The battery energy storage system including all mechanical equipment, shall be enclosed in fencing,

with a self-locking gate, and shall be a primarily woven wire or agricultural style fencing. The fence shall contain appropriate warning signage that is posted such that is clearly visible on the site. The warning signage shall include the type of technology associated with the battery energy storage system, any special hazards associated, the type of suppression system installed in the area of the battery energy storage system, and 24-hour emergency contact information, including reach-back phone number. Security fences, gates and warning signs must be maintained in good condition until the installation is dismantled and removed from the site.

- (d) Landscape buffer and screening. In an effort to mitigate any potential negative effects and reduce the visual impact of the facility, the perimeter of the facility shall be landscaped to create a visual screen from neighboring properties. Landscaping shall be installed within a planting area around the facility, in accordance with the following standards:
- (i) The landscaping buffer shall preferably use trees, shrubs, grasses and forbs that are native to Iowa, or where appropriate may include naturalized and noninvasive species.
  - (ii) The landscaping buffer shall use a combination of trees and plants to provide a vegetative screen. Trees shall be at least six (6) feet tall within three (3) years of installation and shall have a minimum mature height of twelve (12) feet or the height of any fencing, whichever is taller.
  - (iii) The planting area shall be located immediately adjacent to and outside the use area and shall extend no further than fifty (50) feet beyond the outside of the use area, which includes the security fence, required parking areas, required stormwater infrastructure, or other structures or infrastructure required or proposed with the development.
  - (iv) At the discretion of the approving authority, the minimum mature height of vegetative screening may be modified where the applicant can show good cause or practical difficulty.
  - (v) If the battery energy storage system is being constructed within the interior of a utility-scale solar facility, Planning and Zoning staff may waive or modify the requirements in

this subsection specific to battery energy storage systems.

- (e) Floodplain considerations. Utility scale battery energy storage systems are considered to be maximum damage potential structures and facilities for purposes of the floodplain district regulations.

(4) Avoidance and Mitigation of Damages to Public Infrastructure.

- (a) Roads. Applicants shall adhere to the Woodbury County Road Use and Repair Agreement, and in doing so, shall identify all roads to be used for the purpose of transporting batteries, parts, cement, and/or equipment for construction, operation or maintenance of the US-BESSOD and obtain applicable weight and size permits from the impacted road authorities prior to construction.
- (b) Existing road conditions. Applicant shall conduct a pre-construction survey, in coordination with the impacted local road authorities to determine existing conditions of roads identified pursuant to Section 5.09.2 A(4)(b). The survey shall include photographs or video and written documentation of the condition of the identified road facilities. The applicant is responsible for on-going road maintenance and dust control measures identified by the Woodbury County Engineer during all phase of construction.
- (c) Drainage system. The applicant shall be responsible for repair of damage to public drainage systems stemming from construction, operation or maintenance of the installation.

(5) Operation and maintenance plan. The applicant shall submit a plan for the operation and maintenance of the battery energy storage system, including all necessary services, frequency of service, preventative maintenance measures, and monitoring. The operation and maintenance plan should include at a minimum:

- (a) Preventative maintenance practices and schedules for all on-site equipment.
- (b) Annual reporting and verification to county on the status or changes to ongoing service schedule.
- (c) Noise. The one (1) hour average noise generated by from the battery energy storage system, components, and associated ancillary equipment shall not exceed a noise level of fifty-five (55) dBA as measured from the occupied dwelling of any adjacent property containing an existing residential structure. Applicants may submit equipment and component manufacturer noise ratings

at the time of application to demonstrate compliance. If the ambient sound pressure level exceeds 55 dBA, the standard shall be the ambient Leq (equivalent continuous sound pressure level) plus 5 dBA.

- (i) At the discretion of the approving authority, the applicant may be required to provide a baseline noise evaluation study completed by a board certified professional by the Institute of Noise Control Engineering (INCE), or an appropriately licensed Professional Engineer (PE) prior to construction of the proposed solar site.
  - (ii) To document decibel level if there is a complaint on an operational system, at the discretion of the Zoning Administrator, the owner shall commission a report providing Operating Sound Pressure Level measurements from a reasonable number of sampled locations at the property line of any adjacent property containing an existing residential structure or any property zoned residential to demonstrate compliance with this standard. Report shall be completed by a board certified professional by the Institute of Noise Control Engineering (INCE), or an appropriately licensed Professional Engineer (PE).
  - (iii) The owner(s) of an adjacent property may voluntarily agree, by written waiver, to a higher noise level.
- (d) Issue resolution protocols. Contact information for responsible party to address issues that may arise (damaged equipment causing excessive noise, etc.).
- (e) Disposal/recycling plan for damaged or obsolete facility equipment or hazardous waste. No storage of inoperable or obsolete equipment shall be allowed to remain on-site. Site operator shall be responsible for the cleanup of debris related to storm damage.
- (f) Fire safety compliance. The applicant shall document and describe how the fire safety system and its associated controls will function and be maintained in proper working order.
- (g) Storm water management considerations.
- (i) A run-off catch basin or other similar facility may be required to prevent contaminants from leaving the project area. If required, the applicant shall describe how the basin

will be maintained for the life of the project.

- (ii) Applicant shall contact the Iowa Department of Resources and Woodbury Soil and Water Conservation District to request recommendations for stormwater management practices to be used on the site. These recommendations may be considered by the Planning & Zoning Commission and the Board.

(6) **Tile Investigation Report.** The applicant must submit a tile investigation report for the entire project area, identifying all drain tiles located therein. The applicant shall maintain and protect all drain tiles located within the project area and shall repair or replace any drain tiles damaged as a consequence of the installation or removal of the battery energy storage system and/or associated components.

(7) **Emergency Response Plan.** A copy of the approved emergency response plan shall be given to the system owner, the local fire department, and local fire code official. A permanent copy shall also be placed in an approved location to be accessible to facility personnel, fire code officials, and emergency responders. The emergency operations plan shall include the following information:

- (a) Procedures for safe shutdown, de-energizing, or isolation of equipment and systems under emergency conditions to reduce the risk of fire, electric shock, and personal injuries, and for safe start-up following cessation of emergency conditions.

- (b) Procedures for inspection and testing of associated alarms, interlocks, and controls.

- (c) Procedures to be followed in response to notifications from the battery energy storage system, when provided, that could signify potentially dangerous conditions, including shutting down equipment, summoning service and repair personnel, and providing agreed upon notification to fire department personnel for potentially hazardous conditions in the event of a system failure.

- (d) Emergency procedures to be followed in case of fire, explosion, release of liquids or vapors, damage to critical moving parts, or other potentially dangerous conditions. Procedures can include sounding the alarm, notifying the fire department and Woodbury County Emergency Management, de-energizing equipment, and controlling and extinguishing the fire.

- (e) Procedures for dealing with battery energy storage system equipment damaged in a fire or other emergency event, including maintaining contact information for personnel qualified to safely remove damaged battery energy storage system equipment from the facility.
  - (f) Other procedures as determined necessary by the County to provide for the safety of occupants, neighboring properties, and emergency responders.
  - (g) Procedures and schedules for conducting drills of these procedures and for training local first responders on the contents of the plan and appropriate response procedures.
- (S) Decommissioning and site restoration plan. The decommissioning and site restoration plan shall address and/or ensure the following standards:
- (a) Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
  - (b) The anticipated life of the battery energy storage system.
  - (c) The estimated decommissioning costs and method of ensuring funds will be available. Estimates for the total cost for decommissioning the site shall be determined by a Licensed Engineer. Salvage value shall not be included in the cost estimate. Cost estimate shall include a mechanism for calculating adjusted costs over the life of the project.
  - (d) The manner in which the site will be restored, including a description of how any changes to the surrounding areas and other systems adjacent to the battery energy storage system, such as, but not limited to, structural elements, building penetrations, means of egress, and required fire detection suppression systems, will be protected during decommissioning and confirmed as being acceptable after the system is removed.
  - (e) A listing of any contingencies for removing an intact operational energy storage system from service, and for removing an energy storage system from service that has been damaged by a fire or other event.
  - (f) Following a continuous one-year period in which no energy is stored, or if substantial action on construction or repairs to the project is discontinued for a period of one year, the permit holder will have one year to complete decommissioning of the battery energy storage system. At the discretion of the zoning

administrator, the continuous one-year period that triggers decommissioning may be extended if the applicant demonstrates ongoing commitment to the project through activities such as but not limited to making lease payments or documentation of ongoing maintenance or repairs.

(i) Decommissioning shall be completed in accordance with the approved decommissioning plan.

(ii) The landowner or tenant shall notify the Zoning Director both when the project is discontinued and when decommissioning is complete.

(g) At the discretion of the approving authority, financial surety may also be required.

(9) Future Operators. Future operators, successors, assignees, or heirs shall agree in writing to accept and to conform to all conditions of approval in the staff report. Prior notice to the County of the intent to sell or transfer ownership shall be done in a timely manner. Such agreement shall be filed with and accepted by the County before the transfer to a new operator, successor, assignees, or heirs shall be effective.

(10) Compliance with local, state and federal regulations. Utility scale battery energy storage systems shall comply with applicable local, state and federal regulations.



January 22, 2024

Dan Priestly  
Zoning Administrator  
Woodbury County

Re: Proposed Utility-Scale Solar Energy Systems

Dear Dan,

I am writing on behalf of the City of Sioux City ("City"). The City has reviewed the *Preliminary Staff Report for the Considerations for the Permitting of Utility-Scale Solar Energy Systems in Unincorporated Woodbury County, Iowa revision dated January 10, 2024*. The City would like to express several concerns regarding the proposed utility-scale solar energy systems zoning:

1. The City of Sioux City and Woodbury County have been working extensively together to develop the Southbridge Industrial Park and the area south of the airport to bring new industry, job growth, and investment to Sioux City and Woodbury County. This effort has included significant taxpayer investment in streets, utilities, and rail in this area.

As a critical part of this effort the City of Sioux City, City of Sgt. Bluff, and Woodbury County have also partnered to plan and construct a new I-29 interchange that will increase access and marketability of the Southbridge Industrial Park and the surrounding area.

Page 48 of the Preliminary Staff Report states:

*It is imperative to note that multi-acre utility-solar sites can reduce the amount of available land in the General Industrial (GI) areas for other developmental purposes. Acres taken out for utility-solar could impact the benefits of services ran to industrial areas such as sewer and water.*

The City shares this concern and believes that large utility-scale solar energy systems in this area may hamper these efforts and create an obstacle to further industrial development in the area, and we request a setback be required in this critical area.

2. An additional concern relates to Sioux Gateway Airport. FAA review is required for many types of development that may impact pilot safety. Large-scale solar panels may present a potential risk. We request any approvals include a required FAA review and approval within 2 miles of the airport.
3. At the same time the City is experiencing growth of new residential and commercial areas. The shortage of available quality housing continues to provide major challenges in attracting business and workforce growth in Iowa communities. A recent study indicated housing demand in Iowa is



expected to grow by 42,000 households by 2030. We have a concern that large industrial-scale solar-energy systems located too close to the City may impede this beneficial community growth.

To address these concerns the City respectfully requests a setback be required from City corporate boundaries. The City would support the creation of a protected area of two (2) miles from a city's corporate boundary and also a requirement of FAA consultation and approval. These protected areas would be similar to the recently approved requirements for wind turbines located in Woodbury County.

The City of Sioux City supports the efforts of Woodbury County to provide renewable energy sources. The City also supports solar energy systems as an accessory use to industrial development. However, there are significant concerns that the location of industrial-scale solar-energy systems may have a substantial negative impact on the potential growth of the City's residential and industrial areas. Therefore, I urge you to consider a revised version of this proposal that includes a protected setback area from a City's corporate boundary. If City Staff can be of any assistance as you work on these proposals, please feel free to contact us. Thank you for your consideration.

Sincerely,



Robert E. Scott  
Mayor  
City of Sioux City

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Office of  
ENERGY EFFICIENCY & RENEWABLE ENERGY

**SOLAR ENERGY TECHNOLOGIES OFFICE**

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Solar Energy Technologies Office

# The Potential of Agrivoltaics for the U.S. Solar Industry, Farmers, and Communities

APRIL 17, 2023

Solar Energy Technologies Office »

The Potential of Agrivoltaics for the U.S. Solar Industry, Farmers, and Communities




**MICHELE BOYD**

Michele Boyd is the program manager of the Strategic Analysis and Institutional Support team within the Solar Energy Technologies Office.

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 A farmer harvests crops at Jack's Solar Garden, a 1.2 megawatt community solar garden and agrivoltaics research site in Colorado. Photo by Werner Slocum / National Renewable Energy Laboratory

*This blog post was originally published as an article in PV Tech POWER.*

Large-scale solar energy installations are a relatively new form of development in many rural areas. Solar energy development can create clean energy, jobs, and other economic benefits in these communities. At the same time, the conversion of agricultural land, which tends to be flat and sunny, to solar energy development can raise local concerns that delay or derail projects. Agrivoltaics – the co-location of solar energy installations and agriculture beneath or between rows of photovoltaic panels – has the potential to help ease this land-use conflict.

To address climate change, the Biden-Harris Administration set a goal to decarbonize the electricity sector by 2035. Solar energy, which currently provides about 4% of U.S. electricity supply, has a key role in this decarbonization. According to the U.S. Department of Energy's Solar Futures Study, solar energy could supply as much as 40% of U.S. electricity by 2035.

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This level of solar deployment could require about 5.7 million acres, or 0.3% of the U.S. contiguous land area. While this is a small percentage of U.S. land, it is in addition to other types of infrastructure development that are also leading to the conversion of farmland. Moreover, large-scale solar energy is not going to be evenly distributed across the landscape, because it must be located near transmission lines. Combining agriculture and solar on the same piece of land might be a solution, which is why DOE is funding \$15 million in research on how agrivoltaics could work for farmers, the solar industry, and communities.

Agrivoltaics is still a nascent business model. Based on data collected so far by the National Renewable Energy Laboratory, there are over 2.8 GW of agrivoltaic sites in the U.S., the majority of which involve sheep grazing and/or pollinator habitat. Growing crops under solar panels has been largely confined to research test plots, though this is beginning to change. At least five commercial solar-crop sites are operating in Colorado, Massachusetts, and Maine.

A few states are encouraging the construction of agrivoltaics through incentives or research. Massachusetts has enacted a feed-in tariff adder of \$0.06/kWh for agrivoltaic projects through its Solar Massachusetts Renewable Target (SMART) program. New Jersey authorized an agrivoltaics pilot program of up to 200 MW on unreserved farmland and funded an R&D system at the Rutgers New Jersey Agricultural Experiment Station. Colorado has also funded agrivoltaics research.

Agrivoltaics has the potential to help farmers adapt to climate change and diversify their income through land lease payments or other business structures. Research in the drylands of Arizona found that farming under solar panels can decrease evaporation of water from the soil and potentially reduce irrigation requirements. Agrivoltaics can also improve crop yield and crop resistance in extreme weather, such as droughts. Adding farming to existing solar energy sites is being explored as an approach to increase access to land for historically disadvantaged groups, such as Black and immigrant farmers. At the same time, questions remain for farmers about how to do agrivoltaics, including which crops are suitable in a shaded environment.

For the solar industry, agrivoltaics has the potential to facilitate siting of solar installations, improve solar PV panel performance by cooling the panels, and lower

Received from Amber Widman

operations and maintenance costs by limiting the need for mowing. Yet the capital costs of agrivoltaics tend to be higher than traditional solar development due to modified system structures and more complex design and installation. To make agrivoltaics a widely available option for developers, questions about cost, worker safety, liability, and other business, legal, and regulatory issues will need to be addressed.

For communities, agrivoltaics could help keep farmland in production - and help sustain rural farmland economies. More research is needed, however, to understand whether - and under what conditions - communities are likely to support solar development if it combines both energy and agriculture.

All agrivoltaic stakeholder groups - from developers to farmers to financiers and insurers - will need to understand each other's priorities and establish common goals to realize the potential benefits. Communities will need to see tangible benefits from agrivoltaics.

To help bring agrivoltaics to maturity, DOE's research is examining how agrivoltaics can impact both agriculture and energy production and how agrivoltaics can fit into agricultural communities and economies, including public perceptions. Our projects, like the **AgriSolar Clearinghouse**, are providing technical assistance and developing resources to lower the barrier of entry for agricultural producers and solar developers. We are collaborating with the U.S. Department of Agriculture on foundational research to help understand the economic value and tradeoffs and ecological impacts of agrivoltaics projects. DOE is also funding the development of new technologies that could facilitate agrivoltaics and help lower the cost premium.

Agrivoltaics is not a panacea for all farmland conservation or solar development needs, but it is a potential tool in the toolbox for meeting our climate goals, supporting farmers by keeping farmland in production, and supporting the economies of rural communities.

**Learn more about agrivoltaics research** funded by the U.S. Department of Energy Solar Energy Technologies Office.

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Farm, Food, Life.

# modern farmer



FARM FOOD NEWS

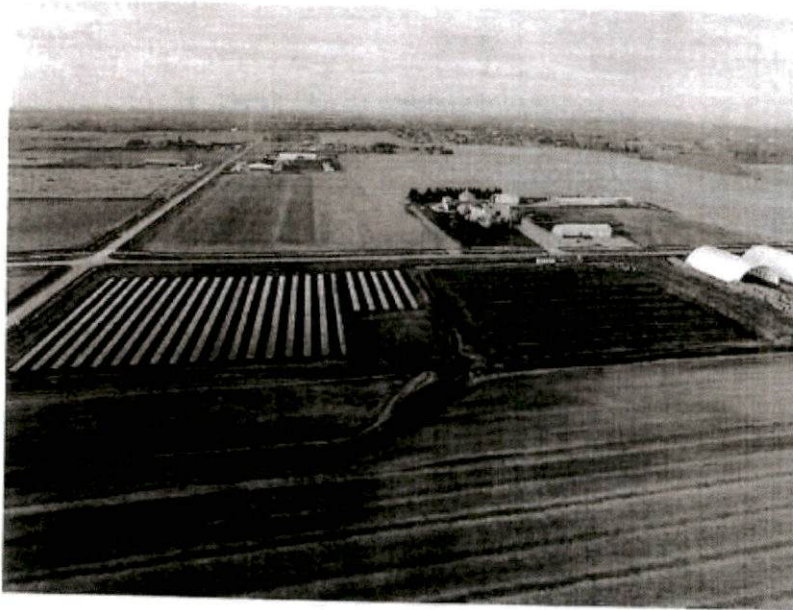
RESEARCH, TECHNOLOGY

## Crop and Energy Production Merge in Iowa Project

FEB. 02, 2021

Teri Queck-Matzle

A new study underway at Iowa State University explores how farming and solar energy might coexist.



The Kari and Billie Energy Solar Center at Iowa State University is the first utility-scale agricultural solar farm in the Midwest.

Photograph courtesy of August Crowley.

Solar power may be the answer to the world's future energy needs. **But its benefit is limited if it hampers our ability to produce food.**

Using farmland for solar panels, especially in the agriculture-heavy Midwest, is fraught with controversy. "There is concern that solar energy will prevent land from being used for farming," says Matt O'Neal, professor of entomology and Henry A. Wallace Chair for Sustainable Agriculture at Iowa State University.



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### EXPLORE MODERN FARMER

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A new study underway at Iowa State University seeks to answer that question.

"Solar panels don't have to be disruptive. It doesn't mean farming the land has to stop," says O'Neal. "We want to look at possibilities and profitability."

A multi-disciplinary team of ISU professors, graduate and undergraduate students is working with Alliant Energy through a public-private partnership to study the potential of agrivoltaics, the simultaneous use of areas of land for both solar panels and agriculture. The team includes horticulturalists, economists, environmentalists, sociologists, engineers and even entomologists.

The project is the first of its kind. "There has been research conducted, but not on a utility scale," says Nick Peterson, Strategic Partnerships Manager with Alliant Energy, "and not in a public/private partnership with a land grant university."

There has also been little research conducted in the Midwest, the heart of agriculture, where farmland is gold.

## The solar farm

Alliant Energy completed construction on the 10-acre Alliant Energy Solar Farm on the ISU research farms near Ames, Iowa in the fall of 2023. Managed by the ISU College of Agriculture and Life Sciences, the research farms are used to study livestock production and the agriculture industry.

Alliant designed, built, owns and will operate and maintain the 3,300 solar panels and 16 inverters at an ultimate estimated cost of around \$4 million.

The ISU team will plant fruits and vegetables beneath and among the panels to measure not only plant growth but the effect on energy production.

"One of the questions before the electrical engineers is the effect of the vegetation on the panels," says Peterson. "Engineers know from previous study, particularly out of Colorado, that panels that are cooled can absorb more energy. What we're studying now is how different types of panels and vegetation impact energy production."

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The solar array consists of two types of panels—fixed and single access tracker.

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Fixed panels are like those often found on rooftops. As the name implies, they stay in one fixed position. For scientific method purposes, the lowest edge of the panel sits at two heights, five feet or 2.5 feet.

Tracker panels move with the sun. They are placed at five or eight feet. All panels are bi-facial, meaning they absorb sunlight on both sides.

Horticulturalists are growing raspberries, strawberries, summer squash, peppers and broccoli, along with control grasses. The first of the raspberries and the grass mix went in this fall. The remainder of the crops will be planted in the spring.

Traditional Iowa crops such as corn and soybeans were avoided due to the need for large equipment and the small acreage.

Issues such as harvest timing and growing season will be studied, as well as climatic impacts. O'Neal sees specific varieties eventually being developed for the environment.

The harvested crops will be sold to the university's dining halls.

The crops, along with flowering perennials, were chosen with natural attraction of pollinators in mind, and the project will include beehives, with researchers studying how the bees develop and what kind of honey they produce. Other projects in various parts of the country have utilized sheep grazing in their agrivoltaics, but livestock was ruled out at ISU due to limited area and water availability.

"Bees are livestock, too," says O'Neal.

## More questions

While the bees, plants and energy production are under study, sociologists and economists will weigh in.

Sociologists will study public perception of agrivoltaics and solar power in general. Researchers will look at how such a project could affect a community and will track how information based on science leads to future community decisions.



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“There are valid concerns about how land will be used in the future,” says O’Neal. “People are leery about ag land being used for recreation, urban development or energy production.” Wildlife conservation is a concern, including pollinators. Some see solar arrays as disruptive to agriculture, Iowa’s top industry. “This project will give the public a chance to see if various modifications to a solar farm make these sitings more palatable.”

“The bottom line is this is Iowa, and we should be growing things,” says Peterson. “For us to be good stewards of our customers, we need to be looking at how we can maximize land use.”

For Alliant Energy, the economics of power production are front and center. Peterson says 52 percent of Alliant’s energy comes from a mix of renewable sources such as wind and solar. The rest comes from natural gas and a few remaining coal plants set to retire by 2040.

A three-person economics team will study the cost and profitability of the solar farm. “Every step can be costly,” says Hongli Feng, assistant professor at the ISU Department of Economics, “from the land to the ground preparation, to the seeds and equipment and labor.”

Based on the cost tracking, the team will create an enterprise budget tool for farmers and solar field developers.

The basic business model is based on reality.

“The land lease agreement between ISU and Alliant Energy follows what landowners might experience if the energy company chooses a site on their land,” says O’Neal. “We want to look at what that relationship would be like.”

“Much of the existing research is regionally specific,” adds Feng. “We need to see how it applies to Iowa and the Midwest.”

## The partnership

Alliant Energy has been active in research conducted by ISU’s Electric Power Resource Center for more than 60 years. According to EPRC director Anne Kimber, the center’s research focuses on integrating renewable energy into the existing structure that wasn’t designed for it.

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In addition to the ongoing research, Iowa State University has a five-year strategic plan for operational sustainability, which includes goals for tripling the use of renewable energies and ultimately, carbon neutrality.

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"ISU called Alliant to explore what sustainable energy production on the research farm might look like," says Peterson. "ISU has added several new facilities to its research farm in recent years, including a feed mill and a turkey teaching and research facility. These projects give students the opportunity to learn agriculture and the agriculture industry firsthand, but they come with operating costs."

The Alliant Energy Solar Farm will produce 1.375 MW of power at maximum capacity, enough to power the equivalent of around 200 homes. The renewable energy ISU receives will offset a portion of the university's annual carbon emissions.

That alone is a pragmatic goal. But Ray Klein, director of partnerships at Iowa State University's College of Agriculture and Life Sciences, saw more opportunity. He proposed leveraging the project for academic and ag industry research.

The result was a four-year, \$1.8-million grant from the US Department of Energy, the largest grant awarded by the agency for such a project.

## The research

Iowa State University is a land-grant teaching college, and the project includes surveys, seminars and field days to share findings with agriculture producers and the public through Iowa State University Extension and Outreach.

"When we first started this, ISU's priority was that they be able to share what we learned," says Peterson.

The information may be especially useful in the growing farm-to-table sector of ag production, where producers often operate on smaller tracts of land and sell locally, and food produced in agrivoltaics systems may more immediately go into local food systems impacting food availability.

"Local food systems are the next level of diversity in ag," says Peterson. "This opens up a new avenue for farming that is coupled with renewable energy. I'm hoping we can develop the research base

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to show if agrivoltaics is viable, profitable and sustainable for this part of the world.”

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“This is unbiased research,” adds Ajay Nair, an ISU professor of horticulture. “We will report what we find, and people can decide whether this is a system that is feasible or not.”

Kimber sees benefits beyond food and energy. “There are a lot of communities who are thinking about community solar arrays,” she says. “Imagine if the community also gets to have gardens associated with those arrays? You’re starting to build community around that. I think that’s worth working on.”

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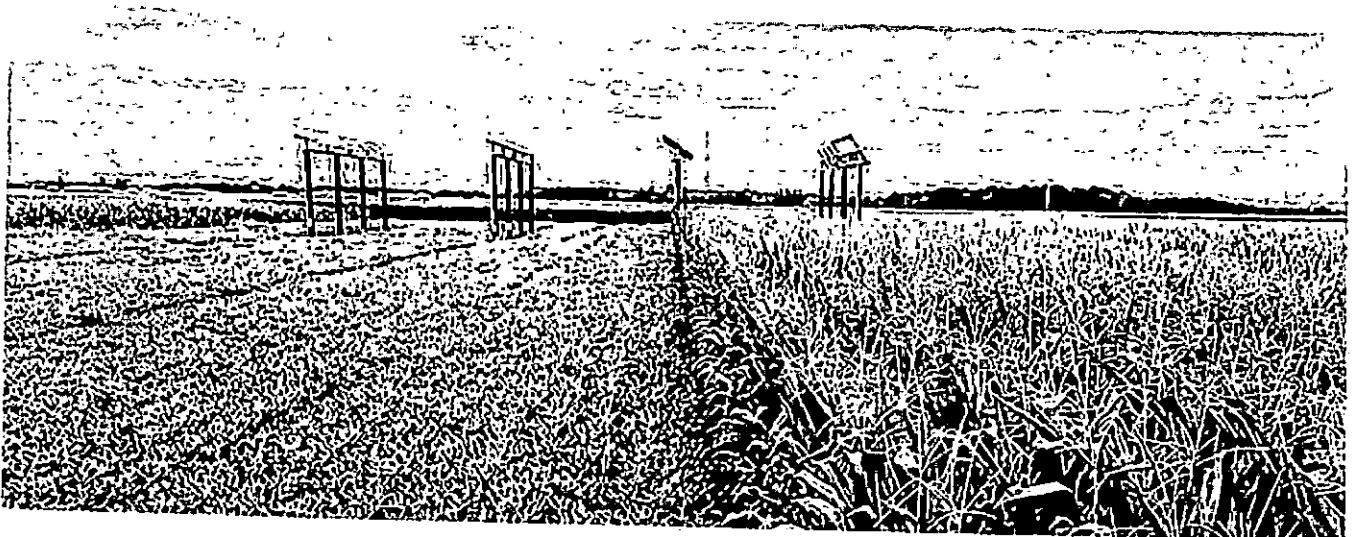
There seems to be a lot of hostility to utility scale solar in Iowa right now. A large solar project near Palo IA has become a lightning rod for the anti solar crowd. Meanwhile suburban sprawl metastasizes from around urban areas swallowing up vastly more farmland, yet there seems to be little outcry over that. I do agree that any solar project put on decent farmland should at a minimum integrate some form of agrivoltaics, even if it is to

May 24, 2023

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## Purdue agrivoltaic farming structures and software harvest solar power at lower cost and with minimal impact on crop yield



Purdue University researchers in the colleges of Agriculture and Engineering have created agrivoltaic structures that optimize the amount of electricity generated by solar farms. The modules are mounted lower than traditional solar structures and rotate to form a near-vertical structure when farm equipment needs to pass. (Purdue University photo/Mitch Tuinstra)

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## ***Innovative modules created at the College of Agriculture and College of Engineering are mounted low and rotate to allow farm equipment to pass***

WEST LAFAYETTE, Ind. – Purdue University researchers have improved upon traditional solar energy structures used in agrivoltaic farming, a sustainable system that generates electricity from the sun while row crops like corn, rice, soybeans and wheat concurrently grow on the same land.

The patent-pending Purdue structures and software optimize food production for farmers and maximize solar energy production. Research about the improved agrivoltaic panels was published in the **January 2023 issue of the peer-reviewed IEEE Journal of Photovoltaics** (<https://ieeexplore.ieee.org/document/9928413>). It also has been published in the Journal of Photovoltaic Technology and Nature Sustainability and presented at IEEE Photovoltaic Specialists conferences.

**Rakesh Agrawal** (<https://engineering.purdue.edu/ChE/people/ptProfile?id=3942>), the Winthrop E. Stone Distinguished Professor of Chemical Engineering from Purdue's **Davidson School of Chemical Engineering** (<https://engineering.purdue.edu/ChE>), said farmland in the United States already is used to generate energy from wind.

"But wind farms depend on the availability of wind energy and are limited to certain regions of the world," Agrawal said, "whereas sunlight is available at most locations where farming is done, and photovoltaics, or PV, can be deployed at a much larger scale. However, use of PV panels on agriculture farmland requires sharing solar photons between food and energy that must be carefully optimized."

Traditional agrivoltaic structures cast shadows, which decrease crop yield. **Mitch Tuinstra** (<https://ag.purdue.edu/department/agry/directory.html#/mtuinstr>) is a Purdue University professor of plant breeding and genetics, the Wickersham Chair of Excellence in Agricultural Research and scientific director of the **Institute for Plant Sciences** (<https://ag.purdue.edu/plantsciences/>) in the **College of Agriculture**

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(<https://ag.purdue.edu/>). He said traditional structures are incompatible with large-scale agriculture because they are mounted high to allow farm equipment to freely move around them.

"The increased height requires a deeper foundation for the structures, which dramatically increases the cost of the solar farms," Tuinstra said. "Our modules are mounted much lower, comparable to traditional solar farms, which makes our system more affordable and decreases the time needed for a return on investment."

The Purdue agrivoltaic structures use a dual, off-axis rotation system and sensors to optimize the amount of electricity generated and the amount of light that crops receive.

"The key idea is that when farm equipment needs to pass, the modules will rotate to form a near-vertical structure," Tuinstra said. "At other times, the modules will track the sun as usual."

#### **Muhammad Ashraf Alam**

([https://engineering.purdue.edu/ECE/People/Archives/ptProfile?resource\\_id=3171](https://engineering.purdue.edu/ECE/People/Archives/ptProfile?resource_id=3171)), the Jai N. Gupta Professor of Electrical and Computer Engineering in the **Elmore Family School of Electrical and Computer Engineering**

(<https://engineering.purdue.edu/ECE>), said the Purdue agrivoltaic structures can be implemented for full-scale farming and use current farm equipment.

"The system is designed with row crops in mind like corn, soybeans, wheat and rice," Alam said. "The dimensions of these structures have been fine-tuned to allow sunlight, rain and shadows to reach plants as needed. They also withstand harsh weather conditions including heavy rain and strong wind."

Agrawal, Alam and Tuinstra created the structures and software and disclosed them to the **Purdue Research Foundation Office of Technology Commercialization**

(<https://otc.prf.org/>), which applied for a patent on the intellectual property. Industry partners seeking to further develop the inventions should contact **Will Buchanan** (<https://otc.prf.org/staff/will-buchanan/>), [wdbuchanan@prf.org](mailto:wdbuchanan@prf.org)

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**(<https://inventions.prf.org/innovation/7392>) and 2021-AGRA-69267**

**(<https://inventions.prf.org/innovation/7877>).**

The next steps to bring these improved agrivoltaic structures to market include partnering with a solar energy developer.

“This is translational research. An industrial partnership or partnership with solar farm installation companies, preferably in Indiana, is the next step,” Tuinstra said.

### **About Purdue University**

Purdue University is a top public research institution developing practical solutions to today’s toughest challenges. Ranked in each of the last five years as one of the 10 Most Innovative universities in the United States by U.S. News & World Report, Purdue delivers world-changing research and out-of-this-world discovery. Committed to hands-on and online, real-world learning, Purdue offers a transformative education to all. Committed to affordability and accessibility, Purdue has frozen tuition and most fees at 2012-13 levels, enabling more students than ever to graduate debt-free. See how Purdue never stops in the persistent pursuit of the next giant leap at <https://stories.purdue.edu> (<https://stories.purdue.edu>).

### **About Purdue Research Foundation Office of Technology Commercialization**

The **Purdue Research Foundation Office of Technology Commercialization** (<https://otc.prf.org/>) operates one of the most comprehensive technology transfer programs among leading research universities in the U.S. Services provided by this office support the economic development initiatives of Purdue University and benefit the university’s academic activities through commercializing, licensing and protecting Purdue intellectual property. In fiscal year 2021, the office reported 159 deals finalized with 236 technologies signed, 394 disclosures received and 187 issued U.S. patents. The office is managed by the Purdue Research Foundation, which received the 2019 Innovation and Economic Prosperity Universities Award for Place from the Association of Public and Land-grant Universities. In 2020, IPWatchdog Institute ranked Purdue third nationally in

12/24, Zolna Commission Public Hearing 15  
 startup creation and in the top 20 for patents. The Purdue Research Foundation is a private, nonprofit foundation created to advance the mission of Purdue University. Contact [otcip@prf.org](mailto:otcip@prf.org) (<http://otcip@prf.org>) for more information.

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**Sources:** Rakesh Agrawal, [agrawalr@purdue.edu](mailto:agrawalr@purdue.edu) (<mailto:agrawalr@purdue.edu>)

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Mitch Tuinstra, [mtuinstr@purdue.edu](mailto:mtuinstr@purdue.edu) (<mailto:mtuinstr@purdue.edu>)

## Research Foundation News

- **Treating diseases by eliminating protein aggregation in the brain, pancreas** (<http://www.purdue.edu/newsroom/releases/2024/Q1/treating-diseases-by-eliminating-protein-aggregation-in-the-brain-pancreas.html>)
- **Quantum Research Sciences receives U.S. Air Force's first Quantum Computing Phase III contract** (<http://www.purdue.edu/newsroom/releases/2024/Q1/quantum-research-sciences-receives-u.s-air-forces-first-quantum-computing-phase-iii-contract.html>)
- **NutraMaize receives three-year, \$460,455 USDA NIFA research grant to address heat stress in laying hens** (<http://www.purdue.edu/newsroom/releases/2024/Q1/nutramaize-receives-three-year-460,455-usda-nifa-research-grant-to-address-heat-stress-in-laying-hens.html>)
- **USDA determines Insignum AgTech corn plants can be sold and grown without restriction** (<http://www.purdue.edu/newsroom/releases/2023/Q4/usda-determines-insignum-agtech-corn-plants-can-be-sold-and-grown-without-restriction.html>)



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- **Purdue University wins patent infringement lawsuit against STMicroelectronics**  
**(<http://www.purdue.edu/newsroom/releases/2023/Q4/purdue-university-wins-patent-infringement-lawsuit-against-stmicroelectronics.html>)**

LOCAL COVERAGE

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## 'Pollinator-friendly' solar farms can be a boon for bees. In Mass., they're not always easy

05:01

November 06, 2023 By Barbara Moran



The pollinator garden blooming with foxglove beardtongue at the Weld Research Building of the Arnold Arboretum. (Jesse Costa/WBUR)

On a sunny day last June, Brendan Keegan walked down a mulch path at the Arnold Arboretum, unlocked a chain-link fence and stepped into a jungle.

The jungle was a wildflower meadow in early summer bloom, with blossoms of foxglove beardtongue, common yarrow and wild bergamot — some nearly chin-high — swaying in the breeze. The plants grew so thick in places that it was hard to walk through.

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"If you just look at a couple square feet, you can really get a sense of the abundance that we have growing within this meadow," said Keegan, a horticulturist at the Arboretum and chief caretaker of the meadow. "We're hoping to attract as many pollinators as possible, and to make a good habitat for as wide a variety of species as possible."

It seemed to be working; bees, flies and other insects bobbed and weaved among the petals. It was a veritable pollinator paradise.

But what makes this meadow truly remarkable is its location: it's growing (mostly) underneath solar panels. The 1.2-acre solar farm at the Arnold Arboretum's Weld Hill research facility was one of the first "pollinator-friendly" solar farms built in Massachusetts.

The state now promotes the concept as a way to encourage both renewable energy and biodiversity — specifically, native pollinating insects, many of which are in decline. In 2020, Massachusetts began offering a small incentive to commercial solar farms that grew successful pollinator meadows amid the panels. It's a lesser-known, less-intensive form of so-called "agri-voltaics" — growing food or grazing animals on solar farms. The state developed the criteria for "pollinator-friendly" solar in partnership with the University of Massachusetts, Amherst's Clean Energy Extension.

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Wildflowers growing beneath the solar arrays in the pollinator meadow at the Wetzel Research Building of the Arnold Arboretum. (Jesse Costa/WBUR)

For the Arboretum, the idea blossomed when its leaders decided to build a new solar array over an existing lawn. They wanted something more ecologically valuable than the typical gravel or turf grass underneath — what Arboretum Director William “Ned” Friedman called “the antithesis of biodiversity.”

“We saw this as an opportunity to change a monoculture of grass into something that supports the ecosystem of an urban environment,” said Friedman, who is also a biology professor at Harvard.

But building a meadow under a solar farm is a lot of work, even for an army of botanists. Arboretum experts came up with a list of native shade-tolerant plants, then hand-collected wild seed from more than 40 species. They cultivated the most stubborn seedlings in greenhouses, then planted the flowers into dirt that had been prepared by months of weed suppression. After the plants went in, Keegan spent years hand-weeding invasive species — a job that will never actually end.

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Brendan Keegan, horticultural expert at the Arnold Arboretum, looks for signs of insect activity under rotting wood he placed beneath the solar arrays in the pollinator meadow. (Jesse Costa/WBUR)

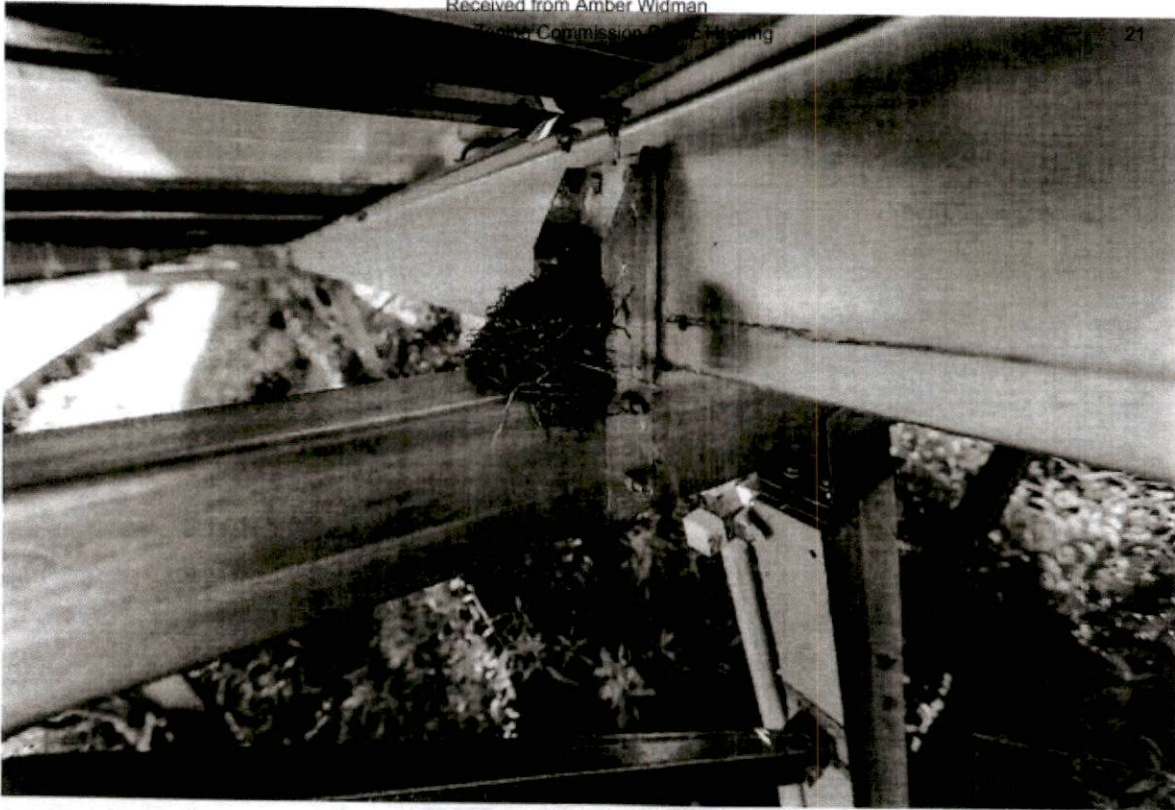
Three years in, the meadow is just getting established, and the Arboretum plans to do a full plant and wildlife census next year. But they've already documented many species of pollinating insects, along with rabbits, foxes, voles, red-backed salamanders, and 20 species of birds — including four nesting among the solar panels.

Friedman calls it “magnificent.”

“It is just a buzzing hum of insects going nuts,” he said. “I would love to see this along the interstates. All these places where we have these panels — how beautiful would it be if you had this instead of grass?”

Friedman isn't the only one thinking like this: more than a dozen states currently have some sort of pollinator-friendly solar program. In Massachusetts, 45 planned projects have been certified so far, and about 17 of those have been built.

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A finch nest beneath one of the solar arrays in the pollinator garden at the Weld Research Building of the Arnold Arboretum. (Jesse Costa/WBUR)

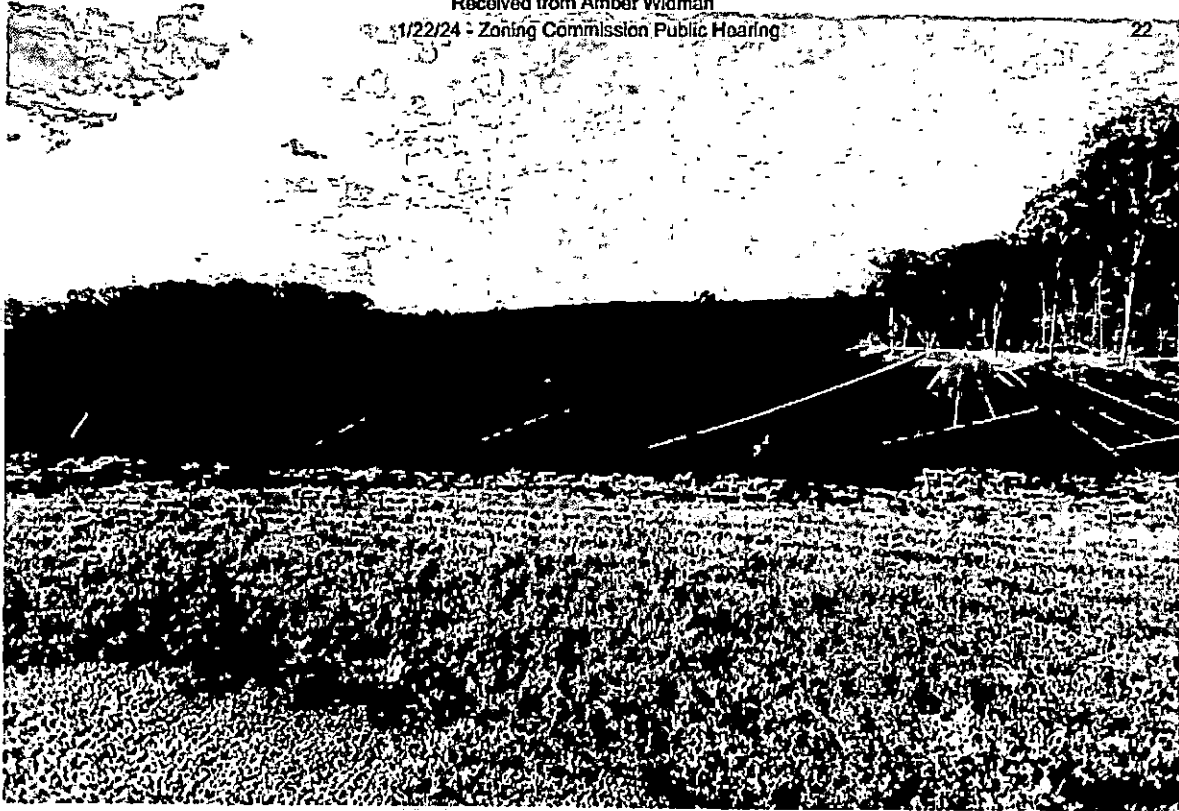
But the Arboretum's success can be tough to replicate for commercial solar farms that don't have an army of botanists on hand.

"Wildflowers — you would think, you just throw the seed down and they would grow," said Lawrence Cook, the senior project manager with PureSky Energy. "They're wildflowers! They grow everywhere! Unfortunately, they need a little bit of encouragement."

PureSky Energy operates 11 solar farms in Massachusetts and is building more; two of the sites have pollinator meadows. Cook gave a tour of a 30-acre farm in Douglas. Walking around, there's a sea of blue solar panels with some occasional flowers and a couple bees.

It looks more pollinator-friendly than, say, gravel, but not quite pollinator nirvana. That's partly because the meadow was recently mowed to suppress weeds, a standard practice while native plants are still getting started. Pollinator meadows can take three to five years to establish, and this one has a few years to go.

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Wallum Lake Solar Farm in Douglas consists of 22,400 solar panels on 30 acres. (Jesse Costa/WBUR)

Getting the pollinator-friendly stamp of approval in Massachusetts is not easy. The Douglas site's "silver" certification, for instance, requires that 50% of a solar farm's footprint be planted with native seeds, which must include at least three species of blooming wildflowers each season. To welcome wildlife, the farm should also include bee boxes, bird houses and gaps in the fence to let turtles and other critters through. Regular inspections keep developers honest.

"We have pretty strict requirements," said Zara Dowling, a research fellow at the UMass Clean Energy Extension. Dowling convened the team of experts who designed the criteria, and said that the Massachusetts rules are tougher than most other states'.

"You could put a lot of clover down, that's cheap," she said. "That's going to help some generalist bee species. But we're really focused on the native pollinators."



A bumble bee pulls itself into a foxglove beardtongue flower at the Weld Hill Research Building of the Arnold Arboretum. (Jesse Costa/WBUR)

For all this work, certified farms earn a fraction of a cent more per kilowatt-hour for their solar energy. The extra money is designed to help developers recoup the costs of creating the meadow — things like seed, topsoil and labor — within the lifetime of the solar farm.

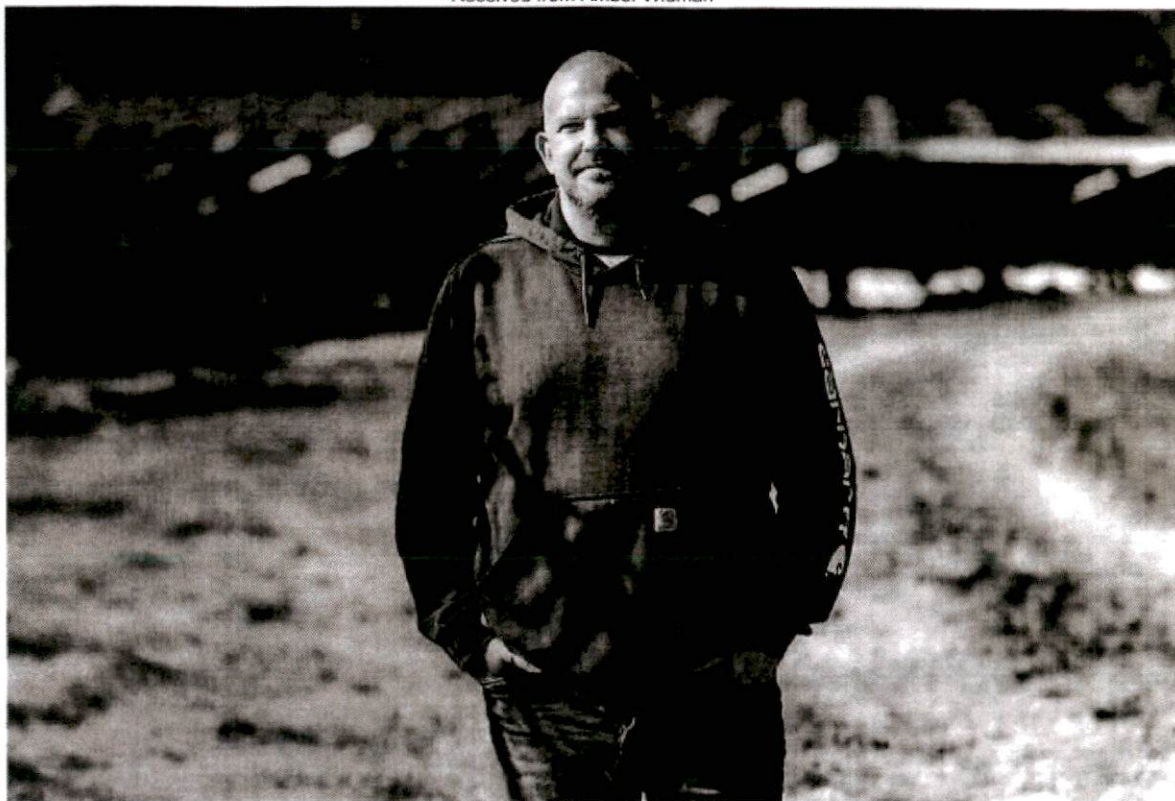
"It was done as a way to cover your costs, and for the most part it does that," Cook said. "But if there's any issues in the establishment, it doesn't cover any of the additional costs."

Cook said the meadow in Douglas has struggled with erosion; workers had to haul in new topsoil and seed to replant a couple washed-out sections. For some developers, the meadow becomes "a real millstone around the neck," Cook said.

In fact, some solar farms in the state have withdrawn from the program over financial concerns.



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Lawrence Cook of PureSky Energy at Wallum Lake Solar Farm in Douglas. (Jesse Costa/WBUR)

Some developers are also skittish, said Dowling, because the state is currently reviewing its solar incentives; there's concern that the pollinator program could diminish or disappear.

This seems unlikely, given that Massachusetts' 2022 climate law requires the state's solar incentive program to include a rebate for pollinator-friendly solar. A spokesperson for the Massachusetts Department of Energy Resources said that the agency is now working on a proposal to finalize the pollinator incentive, but did not provide details.

Cook said they're sticking with their pollinator farm in Douglas regardless, because "it's the right thing to do."

Building the farm in Douglas — like many in Massachusetts — required cutting down acres of forest. The project was contentious, and Cook said he hopes the meadow can address some of the habitat loss.

"If you're going to do solar and you have to cut down trees, then I think 'pollinator' is the least you can do, to kind of reset the balance with nature," he said. "It's a different habitat. But it is a needed and important habitat, nonetheless."

While some argue that cutting down forest for a solar farm is never a good idea, pollinator meadow or no, the state has set ambitious goals for solar energy, and where to put all those solar panels will continue to be controversial.

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 Massachusetts wants to move from about 10 gigawatts of solar capacity today to around 30 gigawatts by 2050, while preserving the most valuable land and forest. Some solar will go onto rooftops, but some will be built on land. 25

Proponents say pollinator meadows could offer a way to preserve — or even create — wildlife habitat by turning barren solar farms into living ecosystems, and could make green energy a little greener.

*This segment aired on November 6, 2023.*

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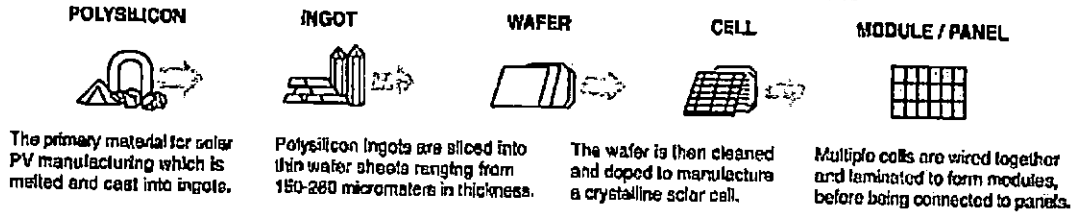
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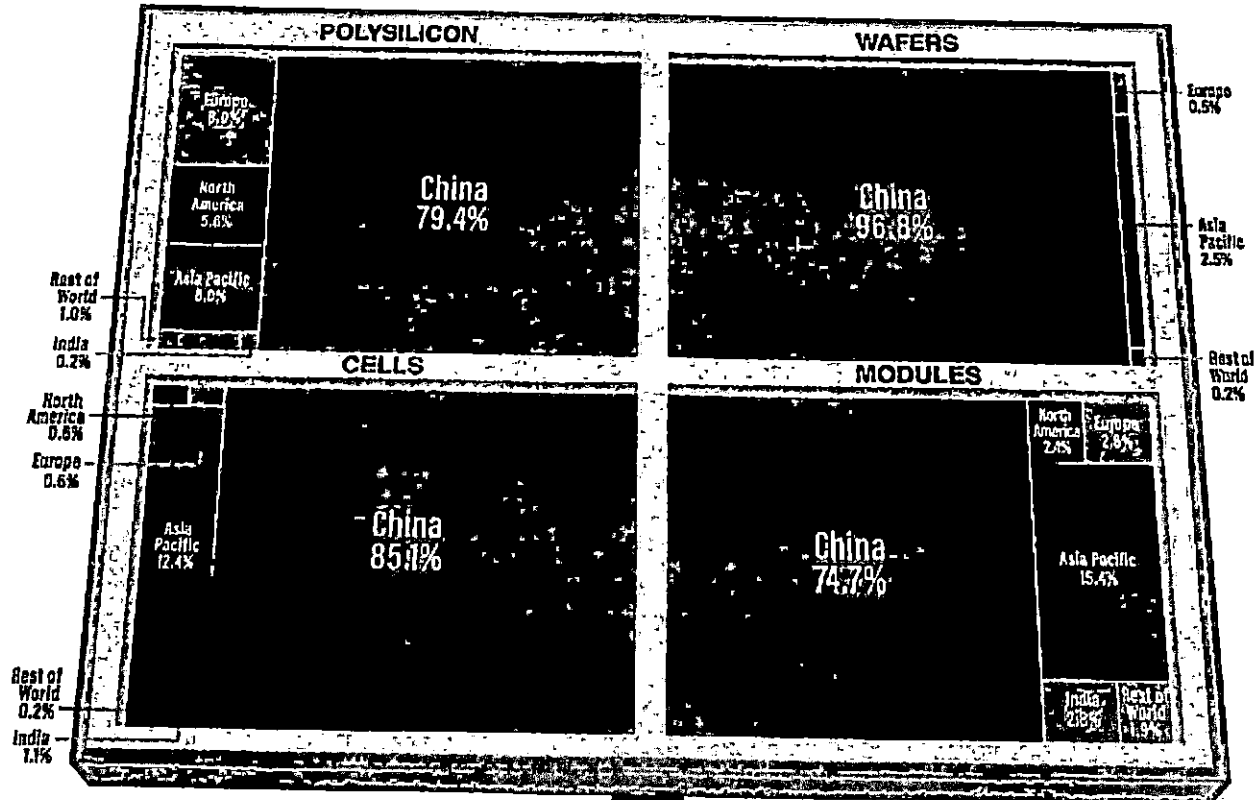
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# Who Controls the Solar Panel Supply Chain?

## The Manufacturing Process for Solar PV Panels



## Share of Manufacturing Capacity by Country/Region in 2021



China made up 55% of global solar panel manufacturing capacity in 2010, with its share rising to 84% in 2021.

The total value of global solar PV related trade increased by more than 70% YoY to reach over \$40B in 2021.

## China's Dominance in the Solar Panel Supply Chain

Many governments are investing in renewable energy sources like solar power, but who controls the manufacturing of solar photovoltaic (PV) panels?

As it turns out, China owns the vast majority of the world's solar panel supply chain, controlling at least 75% of every single key stage of solar photovoltaic panel manufacturing and processing.

This visualization shows the shares held by different countries and regions of the key stages of solar panel manufacturing, using data from the International Energy Agency (IEA).

### Solar Panel Manufacturing, by Country and Stage

From polysilicon production to soldering finished solar cells and modules onto panels, China has the largest share in every stage of solar panel manufacturing.

Even back in 2010, the country made the majority of the world's solar panels, but over the past 12 years, its average share of the solar panel supply chain has gone from 55% to 84%.

China also continues to lead in terms of investment, making up almost two-thirds of global large-scale solar investment. In the first half of 2022, the country invested \$41 billion, a 173% increase from the year before.

| Country/Region    | Solar Panel Demand | Average Share of Solar Panel Manufacturing Capacity |
|-------------------|--------------------|---|
| China             | 36.4%              | 84.0%   |
| Europe            | 16.8%              | 2.9%  |
| North America     | 17.6%              | 2.8%  |
| Asia-Pacific      | 13.2%              | 9.1%  |
| India             | 6.9%               | 1.3%  |
| Rest of the World | 9.1%               | 0.8%  |

Source: IEA

Note: Percentages may not add up to 100% due to rounding

After China, the next leading nation in solar panel manufacturing is India, which makes up almost 3% of solar module manufacturing and 1% of cell manufacturing. To help meet the country's goal of 280 gigawatts (GW) of installed solar power capacity by 2030 (currently 57.9 GW), in 2022 the Indian government allocated an additional \$2.6 billion to its production-linked incentive scheme that supports domestic solar PV panel manufacturing.

Alongside China and India, the Asia-Pacific region also makes up significant amounts of solar panel manufacturing, especially modules and cells at 15.4% and 12.4% respectively.

While Europe and North America make up more than one-third of the global demand for solar panels, both regions make up an average of just under 3% each across all stages of actually manufacturing solar panels.

### Too Little Too Late to Diversify?

China's dominance of solar photovoltaic panel manufacturing is not the only stranglehold the country has on renewable energy infrastructure and materials.

When it comes to wind, in 2021 China built more offshore wind turbines than all other countries combined over the past five years, and the country is also the leading producer and processor of the rare earth minerals essential for the magnets that power turbine generators.

In its full report on solar panel manufacturing, the IEA emphasized the importance of distributing global solar panel manufacturing capacity. Recent unexpected manufacturing halts in China have resulted in the price of polysilicon rising to 10-year highs, revealing the world's dependence on China for the supply of key materials.

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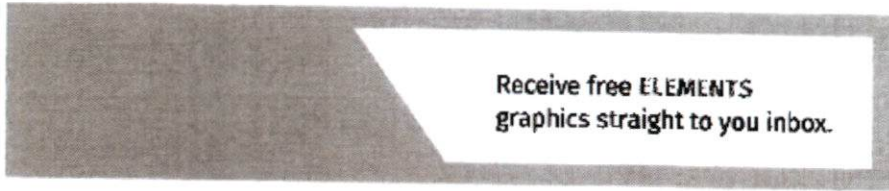
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As the world builds out its solar and wind energy capacity, will it manage to avoid repeating Europe's mistakes of energy import overdependence when it comes to the materials and manufacturing of renewable energy infrastructure?

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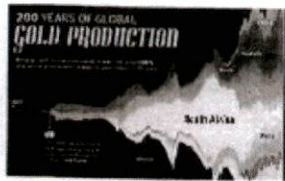
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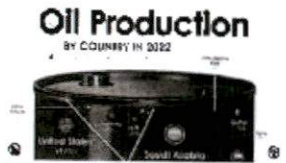
China Dominates the Supply of U.S. Critical Minerals List



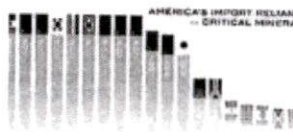
Chart: The \$400 Billion Lithium Battery Value Chain



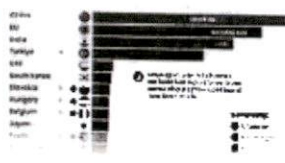
200 Years of Global Gold Production, by Country



Ranked: The World's Biggest Oil Producers



Charted: America's Import Reliance of Critical Minerals



Who's Still Buying Russian Fossil Fuels in 2023?

ENERGY SHIFT

China Dominates the Supply of U.S. Critical Minerals List

China was the world's leading producer of 30 out of 50 entries on the U.S. critical minerals list, according to the U.S. Geological Survey.



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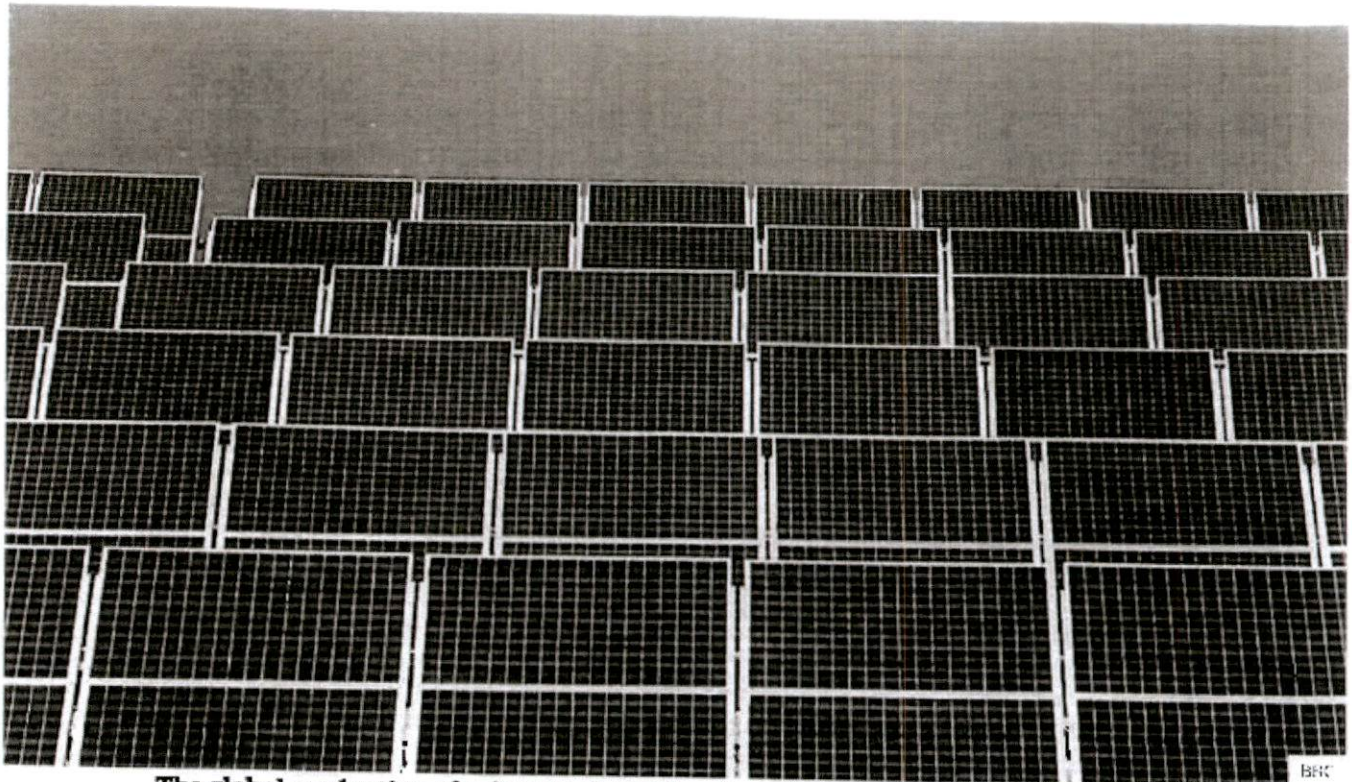
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# China uses Uyghur forced labour to make solar panels, says report

14th May 2021, 05:45 CDT

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BBC

**The global production of solar panels is using forced labour from China's Uyghur Muslims in Xinjiang province, an investigation has found.**

Xinjiang produces about 45% of the world's supply of the key component, polysilicon, **the research by the UK's Sheffield Hallam University says.**

**It says the material is obtained under a massive system of coercion, a claim denied by the Chinese authorities.**

The report urges top panel makers to source the component elsewhere.

Solar panels are in huge demand because of climate change.

Polysilicon is extracted from mined quartz, and the research says **the world's four biggest manufacturers use materials tainted by a massive system of coercion.**

"The [Chinese] government claims that these programmes are in accordance with PRC [the People's Republic of China] law and that workers are engaged voluntarily, in a concerted government-supported effort to alleviate poverty," the report says.

**"However, significant evidence - largely drawn from government and corporate sources - reveals that labour transfers are deployed in the Uyghur Region within an environment of unprecedented coercion, undergirded by the constant threat of re-education and internment."**

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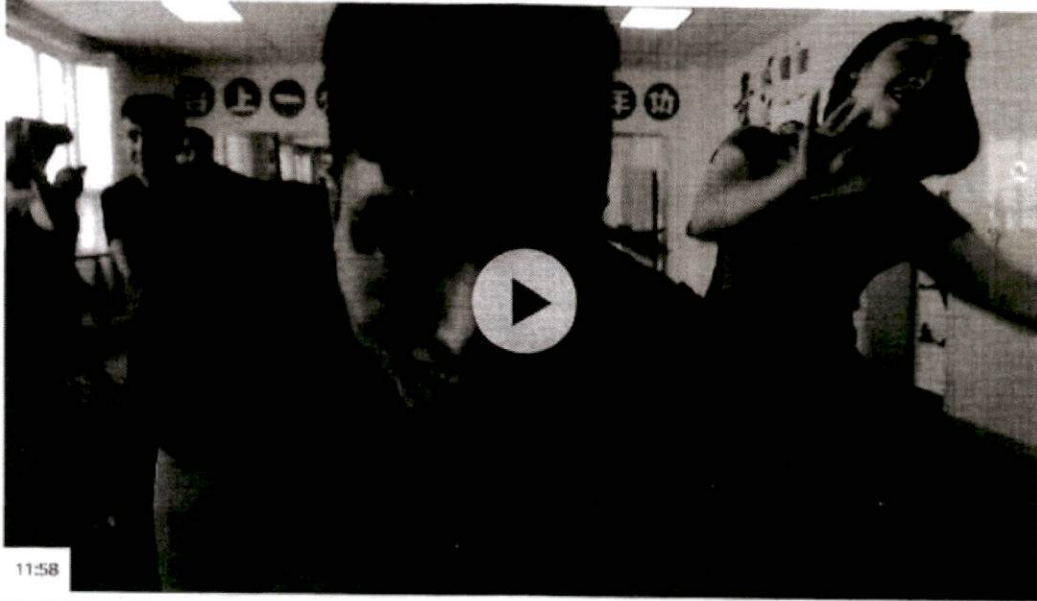
30

- Uyghur imams targeted in China's Xinjiang crackdown

- Who are the Uyghurs?

China is facing mounting criticism from around the world over its treatment of the mostly Muslim Uyghur population in the north-western Xinjiang autonomous region. Human rights groups believe China has detained more than a million Uyghurs over the past few years in what the state defines as "re-education camps".

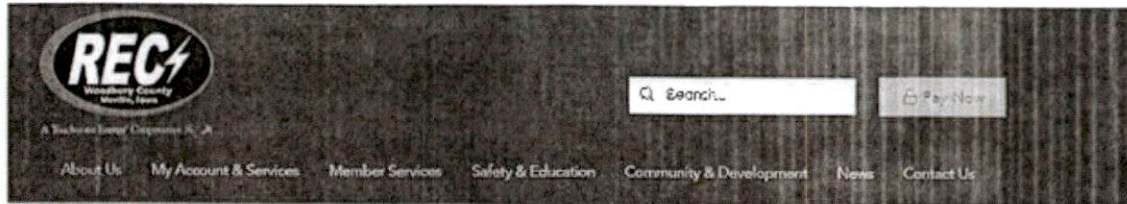
There is evidence of Uyghurs being used as forced labour and of women being forcibly sterilised.



The BBC visits the camps where China's Muslims have their "thoughts transformed"

The US is among several countries to have accused China of committing genocide and crimes against humanity through its repression of the Uyghurs.

China denies such allegations, saying it has been combatting separatism and Islamist militancy in the region.



## Our Mission

Woodbury County Rural Electric Cooperative (REC) strives to deliver safe, reliable, affordable, and environmentally responsible power to our member-consumers.

Woodbury County Rural Electric Cooperative is a consumer-owned electric cooperative with headquarters in Moulton, Iowa, and serves power to 3,500 farms, homes, and businesses with approximately 1,200 miles of line in Northwest Iowa.



Electricity that is supplied to the members of Woodbury County Rural Electric Cooperative is produced by two main fuel sources.

One source is falling water from the dams (Hydropower) on the Missouri River. These dams are operated by a branch of the government called Western Area Power Administration (WAPA). Hydropower is some of the cheapest power available to the members of Woodbury County REC.

The second source is coal from the mines in North Dakota and Wyoming. The coal is burned in power plants operated by Basin Electric Power Cooperative in Bismarck, North Dakota. Basin Electric has some of the most efficient power plants in the industry which provides 60% of power supplied to Woodbury County REC members.

Although most of the county is now served, Woodbury County REC is in an area of steady growth. This growth is from new business and housing development moving into the near Sioux City, Iowa, area. Because of these growth areas, Woodbury County REC must continually upgrade and expand its electric system to meet these needs.

Rural Electric Cooperatives strive to continue our work to meet the needs of our members and look to the future to identify areas to improve our services.





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# Woodbury County REC History

In 1935, less than 11% of all American farms had high line electric service available or any prospects of obtaining it at any time soon at a cost they could pay. In Woodbury County there were between two and three thousand farms without such service.

Recognizing this outstanding weakness in an otherwise great industrial nation, congress in 1936, through the Rural Electrification Act, attempted to find a solution to this problem. The act created a government agency called the Rural Electrification Administration (REA). REA made funds available on a loan basis, repayable over a period of years at interest, to private power companies, municipalities, cooperatives or other organizations who would use the funds to build power lines in rural areas that had no other source of central station electric service available.


It was assumed that these funds would be used largely by the then existing power companies to extend their rural service. However, few of them took advantage of the opportunity, probable because they doubted the potential for business in the area.

Finally a group of farmers in Indiana became disgusted with the lethargy and decided they were going to have the advantages of electricity on their farm even if they had to build the lines themselves, which they did. These farmer groups forming rural electric cooperatives and building their electric systems with the REA funds.

## Back in Woodbury County, Iowa



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Articles of Incorporation were drawn up and were approved by the Secretary of State on July 19, 1938. The cooperative was then a legal entity as a private corporation under the laws of the state of Iowa.

On the 23rd day of July, 1938, the incorporators met to elect a Board of Directors as representatives of the members and to guide the course of the cooperative. Those elected were C.L. Brown, Merle Reed, A.S. Wendel, Loyd Baker, Ross Spencer, N.W. Topf and George Mohrhauser. The first meeting of the board was held that day and the following officers were elected: Brown, President; Mohrhauser, Vice-President; Reed, Secretary and Wendel, Treasurer.

Plans were then formulated for the building of the first section of line. On March 9, 1939, the board employed Dale Schreiner as Project Superintendent and later named him General Manager.

The first contract for construction was let in the spring of 1939 to the Hoak Construction Company of Des Moines. The entire system was then served from one substation located about one mile east of Merville on highway 20. The office of the Cooperative was established at Merville, where it still remains, and the first of the line was energized on November 30, 1939. Wholesale power was purchased from the Iowa Public Service Company.

With the reality of power now available in the rural areas, the cooperative was besieged with applications to extend the service. Hardly had the first section been completed when a new contract was let for an additional one hundred miles. This expansion continued until 1942 when World War II practically stopped all further building. During this period, from 1942 to 1946, the manager was given leave of absence to serve with the U.S. Engineer District Office in Omaha. During that time, George Rice of Mapleton, the system attorney, took over as acting manager. In 1946, the regular manager returned and expansion continued as material became available.

In 1956, power became available on a wholesale basis from the Bureau of Reclamation; this power was brought to the substation near Hinton, Iowa. Woodbury REC together with ten other rural electric cooperatives in Northwest Iowa formed the Northwest Iowa Power Cooperative (NIPCO). NIPCO was incorporated and borrowed funds from REA to build some 750 miles of 69,000 volt transmission line from the Bureau substation to serve the eleven member cooperatives. This resulted in a material reduction in wholesale power costs.

Woodbury County Rural Electric Cooperative has approximately 1,123 miles of line serving 3,247 meters. The operation is strictly non-profit. Any revenues over and above the actual cost of delivering the power to their members is pro-rated back to these members on the basis of business done with the Cooperative. To date the Cooperative has paid out over \$3.2 million in capital credits to the membership. Today, Woodbury RECs total electric system is worth about \$20.7 million.

Although most of the county is now served, Woodbury County REC is in an area of steady growth. This growth is from new business and housing moving into the metro Sioux City, Iowa area. Because of the areas growth, Woodbury County REC must continually upgrade and expand its electric system to meet these needs. The work of rural electric cooperatives will never be completed.

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1495 Humbolt Ave.  
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Email: [helpdesk@woodburyrec.com](mailto:helpdesk@woodburyrec.com)

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*→ with signed Solar Easements*

| Landowner               | Acres  |
|-------------------------|--------|
| * Leo Jochum            | 719.72 |
| * Gregory Jochum        | 543.74 |
| Wagner Farm Enterprises | 192.5  |
| * Anthony Harpenau      | 189.33 |
| Wood Ward Douglas       | 119    |
| * William Jochum        | 115    |
| * Bradley Jochum        | 79     |
| Ronald Wood             | 79     |
| Matthew Topf            | 76.2   |
| Russell Peterson        | 39.5   |
| Gwendolyn Hodges        | 39.5   |
| * Stephen Jochum        | 37.9   |

*Acres with Solar Easements on A6 Preservation Land*

*\* See attached easements.*

Document Number: 2022-09651  
Recorded: 8/5/2022 at 3:12:48.0 PM  
County Recording Fee: \$32.00  
Iowa E-Filing Fee: \$3.60  
Combined Fee: \$35.60  
Revenue Tax:  
PATRICK F GILL AUDITOR & RECORDER  
Woodbury County, Iowa

Prepared by: and return to:

Adam M. Runkle  
Starkey & Runkle, LLC  
638 West Maple Street  
Hartsville, OH 44632

**3302 444. 9077 MEMORANDUM OF SOLAR OPTION AND LAND LEASE**

THIS MEMORANDUM OF SOLAR OPTION AND LAND LEASE ("Memorandum") executed as of the 29 day of July, 2022 by and between **BRADLEY R. JOCHUM AND ANGELA M. JOCHUM, HUSBAND AND WIFE**, AS JOINT TENANTS WITH FULL RIGHTS OF SURVIVORSHIP, AND NOT AS TENANTS IN COMMON ("Lessor" or "Grantor"), whose address is 2498 Carroll Ave, Salix, IA 51052, and RENEWABLE ENERGY EQUITY PARTNERS 1, LLC, a Delaware limited liability company ("Lessee" or "Grantee"), whose address is 638 West Maple St., Hartsville, OH 44632. Lessor and Lessee may hereafter be referred to as, together, the "Parties".

RECITALS

- A. Lessor and Lessee have entered into a certain a Solar Option and Land Lease ("Lease"), dated 7/29/2022 ("Effective Date"), whereby Lessor has agreed to lease to Lessee certain real property, together with access easement rights and an easement for the free and unobstructed collection and conversion of solar energy across said premises in Woodbury County, Iowa, and being more particularly described on the attached Exhibit A ("Premises").
- B. The Parties desire to enter into and record this Memorandum so that third parties will have notice of the interests of the Lessee in the Premises. Capitalized terms used in this, but not otherwise defined in this Memorandum shall have the meanings ascribed to them in the Lease.

NOW, THEREFORE, in consideration of the mutual covenants and obligations of the Parties contained in this Memorandum and in the Lease, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Lessor and Lessee have entered into the Lease to lease and demise the Premises for solar energy purposes and to grant access and solar easements, which include prohibiting any obstruction to the open and unobstructed access to the sun ("Solar Easement") throughout the entire

Premises to and for the benefit of the area existing horizontally three hundred and sixty degrees (360°) from any point where any "Solar Facility" is or may be located at any time from time to time (each such point referred to as a "Site") and for a distance from each Site to the boundaries of the Premises, together vertically through all space located above the surface of the Premises, that is, one hundred eighty degrees (180°) or such greater number or numbers of degrees as may be necessary to extend from each point on and along a line drawn along the surface from each point along the exterior boundary of the Premises through each Site to each point and on and along such line to the opposite exterior boundary of the Premises. Pursuant to the Lease, Lessee has the exclusive right to use the Premises for solar energy purposes, together with certain related solar, access and other easement rights and other rights related to the Premises, all as more fully described in the Lease.

2. The initial term of the Lease ("Option Period") commences on the Effective Date and continues for a period of five years. If, prior to the expiration of the Option Period, Lessee has provided written notice to Lessor that it elects to extend the Lease term, the Lease shall be automatically extended for the Extended Term. The Extended Term shall commence on the Extended Term Date included in the Option Notice and continue until a date that is 30 years after the Extended Term Date unless sooner terminated in accordance with the terms of the Lease. Lessee has the right and option to extend the Extended Term for four additional periods of five years (each a "Renewal Term").

3. Subject in all respects to the terms and conditions of the Lease, Lessor has agreed that, from and after the Effective Date of the Lease, any right, title or interest created by Lessor in favor of or granted to any third party shall be subject to (i) the Lease and all of Lessee's rights, title and interests created thereby, (ii) any lien of any lender of Lessee's then in existence on the leasehold estate created by the Lease, and (iii) Lessee's right to create a lien in favor of any lender of Lessee's.

4. Lessee and any successor or assign of Lessee has the right under the Lease, without need for Lessor's consent, to do any of the following, conditionally or unconditionally, with respect to all or any portion of Lessee's right, title or interest in the Lease: hypothecate, mortgage, grant or pledge, or assign, sublease, transfer, or convey, provided that (i) any such assignment, transfer or conveyance shall not be for a period beyond the Term of the Lease; (ii) the assignee or transferee shall be subject to all of the obligations, covenants and conditions applicable to the Lessee; and (iii) Lessee shall be fully relieved from liability as to the rights, title and interest and obligations so assigned.

5. The Premises shall be held, conveyed, assigned, hypothecated, encumbered, leased, used and occupied subject to the covenants, terms and provisions set forth in this Memorandum and in the Lease, which covenants, terms and provisions shall run with the Premises, and shall be binding upon and inure to the benefit of the Parties, and the Parties' respective heirs, executors, administrators, successors and assigns.

6. The terms and conditions of the Lease are incorporated by reference into this Memorandum as if set forth fully herein at length. In the event of any conflict between the terms and provisions of the Lease and this Memorandum, the Lease shall control.

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2022-09851 MESSAGE 03/22/23 11:28 AM Page 4 of 6

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IN WITNESS WHEREOF, the Parties have executed this Memorandum as of the date set forth above.

LESSOR

  
BRADLEY R. JOCHUM

  
ANGELA M. JOCHUM

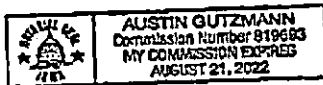
STATE OF IOWA                    )  
  )     SS:  
COUNTY OF WOODBURY        )

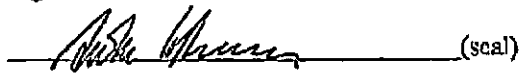
Before me, a Notary Public in and for the personally appeared BRADLEY R. JOCHUM AND ANGELA M. JOCHUM, HUSBAND AND WIFE who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of Iowa that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

GIVEN UNDER MY HAND AND SEAL OF OFFICE on this 25<sup>th</sup> day of July, 2022.




Signature  
 (seal)  
Austin Gutzmann

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2022-09651 LESSEE 08/27/2022 03:22:48 PMP Page 5 of 6

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**LESSEE**

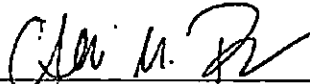
**RENEWABLE ENERGY EQUITY PARTNERS 1,**  
a Delaware limited liability company

By:   
Name: Erik Klein  
Title: President

STATE OF OHIO            )  
                                  )        SS:  
COUNTY OF STARK        )

BEFORE ME, the undersigned authority, a Notary Public in and for said state, on this day personally appeared before me ERIK KLEIN, President, known or proved on acceptable evidence to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE on this 29 day of July, 2022.

  
Name: \_\_\_\_\_  
County of Residence \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_



ADAM M. RUNKLE  
Attorney at Law  
NOTARY PUBLIC, STATE OF OHIO  
My Commission Has No Expiration Date  
Section 147.03 O.R.C.



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2022-09651 MESSAGE/2022/01/22/PPN Page 6 of 6

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**EXHIBIT A**

**Legal Description of Property**

All of the following tracts or parcels of land, situated in Woodbury County, State of Iowa, consisting of 79 acres, more particularly described as follows:

The West Half of the Northwest Quarter (W $\frac{1}{2}$ -NW $\frac{1}{4}$ ) of Section Twelve (12), Township Eighty-seven (87) North, Range Forty-seven (47), West of the Fifth Principal Meridian, in the County of Woodbury and State of Iowa.

Deed Reference: Volume 731, Page 3031 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874712100003 (40.00 acres) and 874712100001 (39.00 acres)

Document Number: 2022-09652  
Recorded: 8/5/2022 at 3:12:48.0 PM  
County Recording Fee: \$52.00  
Iowa E-Filing Fee: \$3.97  
Combined Fee: \$55.97  
Revenue Tax:  
PATRICK F GILL AUDITOR & RECORDER  
Woodbury County, Iowa

Prepared by: *and refer to:*

Adam M. Runkle  
Starkey & Runkle, LLC  
638 West Maple Street  
Hartville, OH 44632

**330,499, 9077** MEMORANDUM OF SOLAR OPTION AND LAND LEASE

THIS MEMORANDUM OF SOLAR OPTION AND LAND LEASE ("Memorandum") executed as of the 29 day of July, 2022 by and between **GREGORY J. JOCHUM AND KRISTA D. JOCHUM, HUSBAND AND WIFE, AS JOINT TENANTS WITH FULL RIGHTS OF SURVIVORSHIP, AND NOT AS TENANTS IN COMMON, A.K.A. GREGORY J. JOCHUM AND KRISTA D. JOCHUM, HUSBAND AND WIFE, AS JOINT TENANTS WITH RIGHT OF SURVIVORSHIP** ("Lessor" or "Grantor"), whose address is 1629 270<sup>th</sup> St., Salix, IA 51052, and **RENEWABLE ENERGY EQUITY PARTNERS 1, L.L.C.**, a Delaware limited liability company ("Lessee" or "Grantee"), whose address is 638 West Maple St., Hartville, OH 44632. Lessor and Lessee may hereafter be referred to as, together, the "Parties".

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- B. The Parties desire to enter into and record this Memorandum so that third parties will have notice of the interests of the Lessee in the Premises. Capitalized terms used in this, but not otherwise defined in this Memorandum shall have the meanings ascribed to them in the Lease.

NOW, THEREFORE, in consideration of the mutual covenants and obligations of the Parties contained in this Memorandum and in the Lease, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

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obstruction to the open and unobstructed access to the sun ("Solar Easement") throughout the entire Premises to and for the benefit of the area existing horizontally three hundred and sixty degrees (360°) from any point where any "Solar Facility" is or may be located at any time from time to time (each such point referred to as a "Site") and for a distance from each Site to the boundaries of the Premises, together vertically through all space located above the surface of the Premises, that is, one hundred eighty degrees (180°) or such greater number or numbers of degrees as may be necessary to extend from each point on and along a line drawn along the surface from each point along the exterior boundary of the Premises through each Site to each point and on and along such line to the opposite exterior boundary of the Premises. Pursuant to the Lease, Lessee has the exclusive right to use the Premises for solar energy purposes, together with certain related solar, access and other easement rights and other rights related to the Premises, all as more fully described in the Lease.

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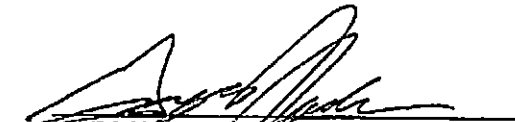
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IN WITNESS WHEREOF, the Parties have executed this Memorandum as of the date set forth above.

LESSOR

  
GREGORY J. JOCHUM

  
KRISTA D. JOCHUM

STATE OF IOWA                    )  
  )  
COUNTY OF WOODBURY        )        SS:

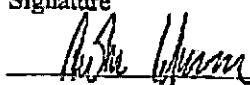
Before me, a Notary Public in and for the personally appeared GREGORY J. JOCIUM AND KRISTA D. JOCHUM, HUSBAND AND WIFE, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of Iowa that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

GIVEN UNDER MY HAND AND SEAL OF OFFICE on this 25<sup>th</sup> day of July, 2022.



Signature  
  
Austin Gutzmann (seal)

Received from Christopher Widman  
1/22/24 - Zoning Commission Public Hearing  
2022-09652 MESSAGE 08/29/2022 13:23:09 Page 6 of 10

17

**LESSEE**

**RENEWABLE ENERGY EQUITY PARTNERS 1,**  
a Delaware limited liability company

By: [Signature]  
Name: Erik Klein  
Title: President

STATE OF OHIO            )  
                                  )        SS:  
COUNTY OF STARK        )

BEFORE ME, the undersigned authority, a Notary Public in and for said state, on this day personally appeared before me ERIK KLEIN, President, known or proved on acceptable evidence to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE on this 29 day of July, 2022.

[Signature]  
Name: \_\_\_\_\_  
County of Residence \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_



**ADAM M. RUNKLE**  
Attorney at Law  
NOTARY PUBLIC, STATE OF OHIO  
My Commission Has No Expiration Date  
Section 147.03 O.R.C.

**EXHIBIT A**

**DESCRIPTION OF PREMISES**

All of the following tracts or parcels of land, situated in Woodbury County, State of Iowa, consisting of 441.33 acres, more particularly described as follows:

**Parcel 1:**

The Northwest Quarter of the Southeast Quarter (NW 1/4 SE 1/4) of Section Thirty-four (34), Township Eighty-seven (87) North, Range Forty-seven (47) West of the 5th P.M., Woodbury County, Iowa, Except the West One Thousand Two Hundred Ninety-one and Seven Tenths (1291.7) Feet of the North Two Hundred Forty-one and Seven Tenths (241.7) Feet thereof.

Deed Reference: Volume 621, Page 841 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874734401006 (32.79 acres)

**Parcel 2:**

The West Half (W $\frac{1}{2}$ ) of the Southwest Quarter (SW $\frac{1}{4}$ ) of Section Twenty-six (26), Township Eighty-seven (87) North, Range Forty-seven (47), West of the Fifth Principal Meridian, in the County of Woodbury and State of Iowa.

LESS AND EXCEPT the Southwest Quarter (SW  $\frac{1}{4}$ ) of the Southwest Quarter (SW  $\frac{1}{4}$ ) of Section Twenty-Six (26), Township Eighty-seven (87) North, Range Forty-seven (47), West of the Fifth Principal Meridian, in the County of Woodbury and State of Iowa.

Deed Reference: Volume 657, Page 312 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874726300001 (40.00 acres)

**Parcel 3:**

All that part of the Northeast Quarter (NE1/4) of the Southeast Quarter (SE1/4) of Section Thirty-four (34) described as follows: Beginning at the Southeast corner of said NE1/4 of the SE1/4, of said Section 34; thence West 1311.2 feet; thence North 278 feet; thence East 1311.2 feet to the East line of said NE1/4 of the SE1/4; thence South 278 feet to the place of beginning,

Excepting therefrom that part of said premises described as follows: Beginning at the Southeast corner of the said NE1/4 of the SE1/4, of said Section 34; thence North 278 feet; thence West 33 feet; thence South 88 feet; thence West 150 feet; thence South 6 feet; thence West 73 feet; thence South 74 feet; thence East 223 feet; thence South 110 feet; thence East 33 feet to the place of beginning, all in Township 87, North, Range 47, West of the 5th P.M., in the County of Woodbury and State of Iowa;

And also excepting therefrom that part of said premises described as follows: All that part of Lot One (1) of the Auditor's Plat in the Northeast Quarter of the Southeast Quarter (NE1/4-SE1/4) of Section Thirty Four (34), Township Eighty Seven (87) North, Range Forty Seven (47) West of the Fifth (5th) Principal Meridian, Woodbury County, Iowa, described as commencing at the Southeast (SE) corner of the NE1/4-SE1/4; thence North 00°00'00" East along the East line of the NE1/4-SE1/4 a distance of 189.60 feet; thence North 89°02'03" West a distance of 33.00 feet to the Point of Beginning, thence continuing North 89°02'03" West a distance of 150.02 feet; thence South 00°00'00" West a distance of 6.00 feet; thence North 89°02'03" West a distance of 73.01 feet, thence North 00°00'00" East a distance of 94.34 feet; thence South 88°57'27" East a distance of 223.04 feet; thence South 00°00'00" West a distance of 88.04 feet to the Point of Beginning. Tract contains 0.46 acres.

Note: The East line of the Northeast Quarter of the Southeast Quarter (NE1/4-SE1/4) of Section 34-87-47 is assumed to bear North 00°00'00" East.

Deed Reference: Volume 686, Page 9387 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874734426014 (7.3 acres)

**Parcel 4:**

The Southeast Quarter (SE¼) of the Northwest Quarter (NW¼) and the Northeast Quarter (NE¼) of the Southwest Quarter (SW¼) of Section Twenty-Three (23), Township Eighty-Seven (87), North, Range Forty-Seven (47), West of the Fifth Principal Meridian, in the County of Woodbury and State of Iowa.

Deed Reference: Volume 692, Page 1409 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874723100004 (39.00 acres), 874723300002 (39.00 acres)

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**Parcel 5:**

The Northeast Quarter of the Southwest Quarter (NE $\frac{1}{4}$  SW $\frac{1}{4}$ ), and the Northwest Quarter (NW $\frac{1}{4}$ ) of Section Twenty-six (26), Township Eighty-seven (87) North, Range Forty-seven (47), West of the 5th Principal Meridian, in the County of Woodbury and State of Iowa, except that part described as:

All that part of the Southeast Quarter (SE $\frac{1}{4}$ ) of the Northwest Quarter (NW $\frac{1}{4}$ ) of Section Twenty-six (26), Township Eighty-seven (87) North, Range Forty-seven (47) West of the Fifth (5th) Principal Meridian, Woodbury County, Iowa, commencing at the North Quarter (N $\frac{1}{4}$ ) corner of said Section Twenty-six (26), Township Eighty-seven (87) North, Range Forty-seven (47), thence South along the North-South Half Section Line of said Section, One Thousand Three Hundred Fifteen and Seventy Hundredths feet (1,315.70') to the North One-sixteenth (N  $\frac{1}{16}$ ) corner on said Half Section Line, being the Point of Beginning, thence continuing South along said North-South Half Section Line, Six Hundred Sixty-three feet (663.00'), thence North Eighty-eight Degrees, Twenty-two minutes, Five seconds (N 88° 22' 05") West parallel with the North line of the Southeast Quarter (SE $\frac{1}{4}$ ) of the Northwest Quarter (NW $\frac{1}{4}$ ) of said Section Twenty-six (26), Township Eighty-seven (87) North, Range Forty-seven (47), Three Hundred Sixty-two feet (362.00'), thence North parallel with said North-South Half Section Line, Six Hundred Sixty-three feet (663.00') to the North line of said Southeast Quarter (SE $\frac{1}{4}$ ) of the Northwest Quarter (NW $\frac{1}{4}$ ), thence South Eighty-eight Degrees, Twenty-two minutes, Five seconds (S 88° 22' 05") East along said North line, Three Hundred Sixty-two feet (362.00') to the Point of Beginning.

Deed Reference: Volume 697, Page 6682 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874726100001 (39.00 acres), 874726100002 (38.00 acres), 874726100003 (40.00 acres), 874726100004 (33.99 acres), 874726300003 (19.5 acres), 874726300004 (19.5 acres)

**Parcel 6:**

The East Half of the East Half of the Northeast Quarter (E $\frac{1}{2}$ -E $\frac{1}{2}$ -NE $\frac{1}{4}$ ) of Section Eleven (11), Township Eighty-seven (87) North, Range Forty-seven (47), West of the Fifth Principal Meridian, in the County of Woodbury and State of Iowa.

Deed Reference: Volume 731, Page 3035 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874711200006 (19.5 acres), 874711200008 (20.00 acres)



**Parcel 7:**

Lot Ten (10), except the Northeast Eight (8) acres thereof, in the Auditor's Plat of Sections Thirty-four (34) and Thirty-five (35), Township Eighty-seven (87) North, Range Forty-seven (47), Town of Salix, West of the 5th P.M., Woodbury County, Iowa, also known as Part of Lot Ten (10), Auditor's Plat of Salix, Section Thirty-four (34) and Section Thirty-five (35), Township Eighty-seven (87) North, Range Forty-seven (47), West of the 5th P.M., Woodbury County, Iowa, also known and described as:

All that part of the South half (S 1/2) of the Southwest Quarter (SW 1/4) of Section Thirty-five (35), Township Eight-Seven (87), North Range Forty-Seven (47), West of the 5th P.M., in the County of Woodbury, State of Iowa, lying West of a line parallel with and 50 feet distant westerly at right angles from the center line of the Sioux City & Pacific Rail Road as said rail road is constructed and operated over and across the South Half (S 1/2) of the Southwest Quarter (SW 1/4) of said Section 35, and south of the South line of that tract of land conveyed by Missouri Valley Land Company to John Hennessy, Bishop, by warranty deed filed May 8, 1889, recorded in Deed Record 29, Page 392, and also south of the South line of Walnut Street in the Town of Salix, as said street is laid down and described in the Plat of the Second Addition to said Town recorded in Plat Book 9, Page 1.

EXCEPTING therefrom the un-vacated part of Harrington's Addition to the Town of Salix, Iowa, recorded in Plat Book 10, Page 29 (Certificates of Vacation filed October 3, 1892 in Book 57, Page 117 and filed April 15, 1893 in Book 57, Page 319) and

ALSO EXCEPTING therefrom that tract conveyed by Michael Harrington and Jane J. Harrington, husband and wife to Consolidated Independent School District of Salix, by warranty deed filed May 6, 1920, recorded in Deed Record 75, Page 415, described as follows:

Commencing at a point 60 feet south of the North line of the Southwest Quarter (SW 1/4) of the Southwest Quarter (SW 1/4) of Section 35, Township 87, North Range 47, West of the 5th P.M., and 968.3 feet east of the Northwest corner of said SW 1/4 of the SW 1/4 of said Section 35, said point being on the South line of Walnut Street, where the West line of Talbot Street projects south and intersects the said South line, in the Town of Salix, Iowa; thence south on the said West line of Talbot Street projected, 372 feet, thence east on a line parallel with the said South line of said Walnut Street 1045 feet to the West line of the highway which parallels the Chicago and Northwestern Railway and known as the King of Trails; thence Northwesterly along said West line of said highway 430 feet to the said South line of said Walnut Street; thence west along said South line of said Street 830 feet to the place of beginning.

Deed Reference: instrument No. 2021-17984 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874735351010 (52.00 acres)

**Parcel 8:**

That part of the NE¼ of the SE¼ of Section 34, Township 87 North, Range 47 West of the 5th P.M., in Woodbury County, Iowa described as follows: Commencing at the Southeast corner of said NE¼ of the SE¼, thence North 00°00'00" East for a distance of 278.0 feet; thence North 90°00'00" West for a distance of 33.0 feet; thence continuing North 90°00'00" West for a distance of 570.0 feet to the point of beginning; thence North 00°00'00" East for a distance of 118.5 feet; thence North 90°00'00" West for a distance of 641.20 feet; thence South 00°00'00" West for a distance of 118.5 feet; thence South 90°00'00" East for a distance of 641.20 feet to the point of beginning.

Dccd Reference: Volume 683, Page 11317 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874734426006 (1.75 acres)

Document Number: 2022-09653  
Recorded: 8/5/2022 at 3:12:48.0 PM  
County Recording Fee: \$32.00  
Iowa E-Filing Fee: \$3.60  
Combined Fee: \$35.60  
Revenue Tax:  
PATRICK F GILL AUDITOR & RECORDER  
Woodbury County, Iowa

Prepared by: ~~and return to:~~  
Adarr: M. Runkle  
Starkey & Runkle, LLC  
638 West Maple Street  
Hartville, OH 44632

~~330-494-9077~~ MEMORANDUM OF SOLAR OPTION AND LAND LEASE

THIS MEMORANDUM OF SOLAR OPTION AND LAND LEASE ("Memorandum") executed as of the 29 day of July, 2022 by and between **KRISTA DIANE JOCHUM AND GREGORY J. JOCHUM, WIFE AND HUSBAND**, AS JOINT TENANTS WITH FULL RIGHTS OF SURVIVORSHIP, AND NOT AS TENANTS IN COMMON ("Lessor" or "Grantor"), whose address is 1629 270<sup>th</sup> St. Ave, Salix, IA 51052, and RENEWABLE ENERGY EQUITY PARTNERS 1, LLC, a Delaware limited liability company ("Lessee" or "Grantee"), whose address is 638 West Maple St., Hartville, OH 44632. Lessor and Lessee may hereafter be referred to as, together, the "Parties".

RECITALS

- A. Lessor and Lessee have entered into a certain a Solar Option and Land Lease ("Lease"), dated 7/29/2022 ("Effective Date"), whereby Lessor has agreed to lease to Lessee certain real property, together with access easement rights and an easement for the free and unobstructed collection and conversion of solar energy across said premises in Crawford County, Iowa, and being more particularly described on the attached Exhibit A ("Premises").
- B. The Parties desire to enter into and record this Memorandum so that third parties will have notice of the interests of the Lessee in the Premises. Capitalized terms used in this, but not otherwise defined in this Memorandum shall have the meanings ascribed to them in the Lease.

NOW, THEREFORE, in consideration of the mutual covenants and obligations of the Parties contained in this Memorandum and in the Lease, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

- 1. Lessor and Lessee have entered into the Lease to lease and demise the Premises for solar energy purposes and to grant access and solar easements, which include prohibiting any obstruction to the open and unobstructed access to the sun ("Solar Easement") throughout the entire

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Premises to and for the benefit of the area existing horizontally three hundred and sixty degrees (360°) from any point where any "Solar Facility" is or may be located at any time from time to time (each such point referred to as a "Site") and for a distance from each Site to the boundaries of the Premises, together vertically through all space located above the surface of the Premises, that is, one hundred eighty degrees (180°) or such greater number or numbers of degrees as may be necessary to extend from each point on and along a line drawn along the surface from each point along the exterior boundary of the Premises through each Site to each point and on and along such line to the opposite exterior boundary of the Premises. Pursuant to the Lease, Lessee has the exclusive right to use the Premises for solar energy purposes, together with certain related solar, access and other easement rights and other rights related to the Premises, all as more fully described in the Lease.

2. The initial term of the Lease ("Option Period") commences on the Effective Date and continues for a period of five years. If, prior to the expiration of the Option Period, Lessee has provided written notice to Lessor that it elects to extend the Lease term, the Lease shall be automatically extended for the Extended Term. The Extended Term shall commence on the Extended Term Date included in the Option Notice and continue until a date that is 30 years after the Extended Term Date unless sooner terminated in accordance with the terms of the Lease. Lessee has the right and option to extend the Extended Term for four additional periods of five years (each a "Renewal Term").

3. Subject in all respects to the terms and conditions of the Lease, Lessor has agreed that, from and after the Effective Date of the Lease, any right, title or interest created by Lessor in favor of or granted to any third party shall be subject to (i) the Lease and all of Lessee's rights, title and interests created thereby, (ii) any lien of any lender of Lessee's then in existence on the leasehold estate created by the Lease, and (iii) Lessee's right to create a lien in favor of any lender of Lessee's.

4. Lessee and any successor or assign of Lessee has the right under the Lease, without need for Lessor's consent, to do any of the following, conditionally or unconditionally, with respect to all or any portion of Lessee's right, title or interest in the Lease: hypothecate, mortgage, grant or pledge, or assign, sublease, transfer, or convey, provided that (i) any such assignment, transfer or conveyance shall not be for a period beyond the Term of the Lease; (ii) the assignee or transferee shall be subject to all of the obligations, covenants and conditions applicable to the Lessee; and (iii) Lessee shall be fully relieved from liability as to the rights, title and interest and obligations so assigned.

5. The Premises shall be held, conveyed, assigned, hypothecated, encumbered, leased, used and occupied subject to the covenants, terms and provisions set forth in this Memorandum and in the Lease, which covenants, terms and provisions shall run with the Premises, and shall be binding upon and inure to the benefit of the Parties, and the Parties' respective heirs, executors, administrators, successors and assigns.

6. The terms and conditions of the Lease are incorporated by reference into this Memorandum as if set forth fully herein at length. In the event of any conflict between the terms and provisions of the Lease and this Memorandum, the Lease shall control.

Received from Christopher Widman  
1/22/24 - Zoning Commission Public Hearing  
2022-09653 BASE 08/05/2022 03:24 PM Page 6 of 6

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7. This Memorandum may be executed in counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same document.

[SIGNATURE PAGE FOLLOWS]



Received from Christopher Widman  
1/22/24 - Zoning Commission Public Hearing  
2022-09653 MESSAGE 20220322 14:48 PM Page 5 of 6

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LESSEE

RENEWABLE ENERGY EQUITY PARTNERS 1,  
a Delaware limited liability company

By: [Signature]  
Name: Erik Klein  
Title: President

STATE OF OHIO            )  
                                  )        SS:  
COUNTY OF STARK        )

BEFORE ME, the undersigned authority, a Notary Public in and for said state, on this day personally appeared before me ERIK KLEIN, President, known or proved on acceptable evidence to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE on this 24 day of July, 2022.

[Signature]  
Name: \_\_\_\_\_  
County of Residence: \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_



ADAM M. RUNKLE  
Attorney at Law  
NOTARY PUBLIC, STATE OF OHIO  
My Commission Has No Expiration Date  
Section 147.03 O.R.C.

**EXHIBIT A**

**Legal Description of Property**

All of the following tracts or parcels of land, situated in Woodbury County, State of Iowa, consisting of 156.16 acres, more particularly described as follows:

The Northeast Quarter (NE1/4) of Section Thirty-one (31), Township Eighty-seven (87) North, Range Forty-six (46), West of the 5th P.M., in the County of Woodbury and State of Iowa, EXCEPT for the following 2.11 acres described below:

That portion of the Northwest Quarter (NW1/4) of the Northeast Quarter (NE1/4) of Section Thirty-one (31), Township Eighty-seven (87) North, Range Forty-six (46) West of the Fifth Principal Meridian, Woodbury County, Iowa, described as follows: Beginning at the North quarter (N 1/4) corner of said Section Thirty-one (31); thence North Ninety Degrees Zero Minutes Zero Seconds (N 90°00'00") East along the north line of the Northeast Quarter (NE1/4) of said Section Thirty-one (31) for a distance of Three Hundred Fifty-six and Eighty-three Hundredths feet (356.83'); thence South Four Degrees Thirty-nine Minutes Thirty-seven Seconds (S 04°39'37") East for a distance of Two Hundred Fifty-nine and Twenty-four Hundredths feet (259.24'); thence North Eighty-seven Degrees Forty-four Minutes Sixteen Seconds (N 87°44'16") West for a distance of Three Hundred Seventy-seven and Fifty-one Hundredths feet (377.51') to the west line of said Northeast Quarter (NE1/4); thence North Zero Degrees Nine Minutes Thirty-one Seconds (N 00°09'31") West along said west line for a distance of Two Hundred Forty-three and Forty-eight Hundredths feet (243.48') to the Point of Beginning, containing 2.11 acres, including 0.27 acres of public right-of-way.

Note: The North line of said Section 31 is assumed to bear North 90°00'00" East.

Deed Reference: Volume 753, Page 1849 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874631200002 (39.00 acres), 874631200003 (40.00 acres), 874631200004 (40.00 acres), and 874631200006 (37.16 acres),



Document Number: 2022-09654  
Recorded: 8/5/2022 at 3:12:48.0 PM  
County Recording Fee: \$37.00  
Iowa E-Filing Fee: \$3.69  
Combined Fee: \$40.69  
Revenue Tax:  
PATRICK F GILL AUDITOR & RECORDER  
Woodbury County, Iowa

Prepared by: and return to:  
Adam M. Runkle  
Starkey & Runkle, LLC  
638 West Maple Street  
Hartsville, OH 44632  
330.994.9077

#### MEMORANDUM OF SOLAR OPTION AND LAND LEASE

THIS MEMORANDUM OF SOLAR OPTION AND LAND LEASE ("Memorandum") executed as of the 29 day of July, 2022 by and between LEO R. JOCHUM AND BEVERLY A. JOCHUM, HUSBAND AND WIFE, AS TENANTS IN COMMON ("Lessor" or "Grantor"), whose address is 1691 250<sup>th</sup> St., Salix, IA 51052, and RENEWABLE ENERGY EQUITY PARTNERS 1, LLC, a Delaware limited liability company ("Lessee" or "Grantee"), whose address is 638 West Maple St., Hartsville, OH 44632. Lessor and Lessee may hereafter be referred to as, together, the "Parties".

#### RECITALS

- A. Lessor and Lessee have entered into a certain a Solar Option and Land Lease ("Lease"), dated 7/29/2022 ("Effective Date"), whereby Lessor has agreed to lease to Lessee certain real property, together with access easement rights and an easement for the free and unobstructed collection and conversion of solar energy across said premises in Crawford County, Iowa, and being more particularly described on the attached Exhibit A ("Premises").
- B. The Parties desire to enter into and record this Memorandum so that third parties will have notice of the interests of the Lessee in the Premises. Capitalized terms used in this, but not otherwise defined in this Memorandum shall have the meanings ascribed to them in the Lease.

NOW, THEREFORE, in consideration of the mutual covenants and obligations of the Parties contained in this Memorandum and in the Lease, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Lessor and Lessee have entered into the Lease to lease and demise the Premises for solar energy purposes and to grant access and solar easements, which include prohibiting any

2022-09654 MESSE 00653222032134 FIN Page 2 of 7

obstruction to the open and unobstructed access to the sun ("Solar Easement") throughout the entire Premises to and for the benefit of the area existing horizontally three hundred and sixty degrees (360°) from any point where any "Solar Facility" is or may be located at any time from time to time (each such point referred to as a "Site") and for a distance from each Site to the boundaries of the Premises, together vertically through all space located above the surface of the Premises, that is, one hundred eighty degrees (180°) or such greater number or numbers of degrees as may be necessary to extend from each point on and along a line drawn along the surface from each point along the exterior boundary of the Premises through each Site to each point and on and along such line to the opposite exterior boundary of the Premises. Pursuant to the Lease, Lessee has the exclusive right to use the Premises for solar energy purposes, together with certain related solar, access and other easement rights and other rights related to the Premises, all as more fully described in the Lease.

2. The initial term of the Lease ("Option Period") commences on the Effective Date and continues for a period of five years. If, prior to the expiration of the Option Period, Lessee has provided written notice to Lessor that it elects to extend the Lease term, the Lease shall be automatically extended for the Extended Term. The Extended Term shall commence on the Extended Term Date included in the Option Notice and continue until a date that is 30 years after the Extended Term Date unless sooner terminated in accordance with the terms of the Lease. Lessee has the right and option to extend the Extended Term for four additional periods of five years (each a "Renewal Term").

3. Subject in all respects to the terms and conditions of the Lease, Lessor has agreed that, from and after the Effective Date of the Lease, any right, title or interest created by Lessor in favor of or granted to any third party shall be subject to (i) the Lease and all of Lessee's rights, title and interests created thereby, (ii) any lien of any lender of Lessee's then in existence on the leasehold estate created by the Lease, and (iii) Lessee's right to create a lien in favor of any lender of Lessee's.

4. Lessee and any successor or assign of Lessee has the right under the Lease, without need for Lessor's consent, to do any of the following, conditionally or unconditionally, with respect to all or any portion of Lessee's right, title or interest in the Lease: hypothecate, mortgage, grant or pledge, or assign, sublease, transfer, or convey, provided that (i) any such assignment, transfer or conveyance shall not be for a period beyond the Term of the Lease; (ii) the assignee or transferee shall be subject to all of the obligations, covenants and conditions applicable to the Lessee; and (iii) Lessee shall be fully relieved from liability as to the rights, title and interest and obligations so assigned.

5. The Premises shall be held, conveyed, assigned, hypothecated, encumbered, leased, used and occupied subject to the covenants, terms and provisions set forth in this Memorandum and in the Lease, which covenants, terms and provisions shall run with the Premises, and shall be binding upon and inure to the benefit of the Parties, and the Parties' respective heirs, executors, administrators, successors and assigns.

Received from Christopher Widman  
1/22/24 - Zoning Commission Public Hearing  
2022-09654 LEASED 8/30/22 DO 3228 P/NP Page 8 of 7

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6. The terms and conditions of the Lease are incorporated by reference into this Memorandum as if set forth fully herein at length. In the event of any conflict between the terms and provisions of the Lease and this Memorandum, the Lease shall control.

7. This Memorandum may be executed in counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same document.

[SIGNATURE PAGE FOLLOWS]

Received from Christopher Widman  
1/22/24 - Zoning Commission Public Hearing  
2022-09654 MESSAGE 08/22/22 03:23 PM Page 4 of 7

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IN WITNESS WHEREOF, the Parties have executed this Memorandum as of the date set forth above.

LESSOR

*Leo R. Jochum*  
LEO R. JOCHUM

*Beverly A. Jochum*  
BEVERLY A. JOCHUM

STATE OF IOWA                    )  
  )    SS:  
COUNTY OF WOODBURY        )

Before me, a Notary Public in and for the personally appeared LEO R. JOCHUM AND BEVERLY A. JOCHUM, HUSBAND AND WIFE, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of Iowa that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

GIVEN UNDER MY HAND AND SEAL OF OFFICE on this 25<sup>th</sup> day of July, 2022.




Signature  
*Austin Gutzmann* (seal)  
Austin Gutzmann

Received from Christopher Widman  
1/22/24 - Zoning Commission Public Hearing  
2022-09654 MESSAGE 8/26/2022 11:23 AM Page 6 of 7

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**LESSEE**

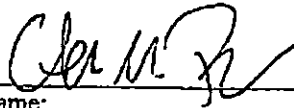
**RENEWABLE ENERGY EQUITY PARTNERS I,**  
a Delaware limited liability company

By:   
Name: Erik Klein  
Title: President

STATE OF OHIO            )  
                                  )  
COUNTY OF STARK        )        SS:

BEFORE ME, the undersigned authority, a Notary Public in and for said state, on this day personally appeared before me ERIK KLEIN, President, known or proved on acceptable evidence to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE on this 29 day of July, 2022.

  
Name: \_\_\_\_\_  
County of Residence \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_



**ADAM M. RUNKLE**  
Attorney at Law  
NOTARY PUBLIC, STATE OF OHIO  
My Commission Expires No Expiration Date  
Section 147.03 O.R.C.

## EXHIBIT A

### Legal Description of Property

All of the following tracts or parcels of land, situated in Woodbury County, State of Iowa, consisting of 719.72 acres, more particularly described as follows:

**Parcel 1:**

**The Southeast Quarter (S.E.  $\frac{1}{4}$ ) of Section 14, Township Eighty-Seven (87) North, Range Forty Seven west of the Fifth Principal Meridian**

LESS AND EXCEPT the following as recorded in Volume 92, Page 1471 of the Office of the Recorder of Woodbury County, Iowa:

**The South West Quarter (SW $\frac{1}{4}$ ) of the South West Quarter (SW $\frac{1}{4}$ ) of the South East Quarter (SE $\frac{1}{4}$ ) Section Fourteen (14), Township Eighty-seven (87), North Range 47, West of the 5th P.M.**

**consisting of 10 acres more or less**

Deed Reference: Volume 84, Page 901 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874714400001 (39.00 acres), 874714400002 (40.00 acres), 874714400004 (29.00 acres) and 874714400005 (39.00 acres)

**Parcel 2:**

**The Southeast Quarter (SE  $\frac{1}{4}$ ) of Section Two (2), Township Eighty-seven (87) North, Range Forty-seven (47), West of the 5th P.M., Woodbury County, State of Iowa**

Deed Reference: Volume 117, Page 1830 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874702400001 (19.5 acres), 874702400002 (19.5 acres), 874702400003 (38.00 acres), 874702400005 (20 acres), 874702400006 (39 acres) and 874702400042 (19.53 acres)

**Parcel 3:**

Received from Christopher Widman  
1/22/24 - Zoning Commission Public Hearing

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The South Half (S $\frac{1}{2}$ ) of the Southeast Quarter (SE $\frac{1}{4}$ ) of Section Thirty-four (34), Township Eighty-seven (87) North, Range Forty-seven (47), West of the Fifth Principal Meridian, in the County of Woodbury and State of Iowa, except 5.34 acres, more or less, conveyed to the State of Iowa in the Warranty Deed recorded in Book 859, Page 602.

Deed Reference: Volume 601, Page 1230 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874734452001 (34.39 acres) and 874734476001 (39.00 acres)

**Parcel 4:**

The Northeast Quarter (NE $\frac{1}{4}$ ) and the North Forty (40) acres of the West Half (W $\frac{1}{2}$ ) of the Southeast Quarter (SE $\frac{1}{4}$ ) of Section Twenty-Three (23), Township Eighty-Seven (87), Range Forty-Seven (47), West of the Fifth Principal Meridian, in the County of Woodbury and State of Iowa, except the following described tract: Commencing at the North  $\frac{1}{4}$  corner of said Section 23; thence South 0°00'00" West along the West line of the Northeast  $\frac{1}{4}$  of said Section 23 for 2099.66 feet to the point of beginning; thence South 0°00'00" West along said West line for 476.25 feet; thence South 88°59'56" East for 411.00 feet; thence North 0°00'00" East for 476.25 feet; thence 88°59'56" West for 411.00 feet to the point of beginning. Said described parcel contains 4.493 acres, more or less.

Subject to and together with all easements, covenants and restrictions of record, if any.

Deed Reference: Volume 694, Page 6250 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874723200002 (38.26 acres), 874723200001 (37.27 acres), 874723200004 (40.00 acres), 874723200005 (34.87 acres), and 874723400001 (39.00 acres)

**Parcel 5:**

The West Half of the Northeast Quarter (W  $\frac{1}{2}$  - NE  $\frac{1}{4}$ ) and the West Half of the East Half of the Northeast Quarter (W $\frac{1}{2}$ -E $\frac{1}{2}$ -NE $\frac{1}{4}$ ) of Section Eleven (11), and the East Half of the East Half of the Northwest Quarter (E $\frac{1}{2}$ -E $\frac{1}{2}$ -NW $\frac{1}{4}$ ) of Section Twelve (12), (except the right-of-way of the Chicago, Milwaukee, St. Paul & Pacific Railroad across the East Half (E $\frac{1}{2}$ ) of the Northwest Quarter (NW $\frac{1}{4}$ ) of said Section Twelve (12)), all in Township Eighty-seven (87) North, Range Forty-seven (47), West of the Fifth Principal Meridian, in the County of Woodbury and State of Iowa, subject to easements and restrictions of record.

Deed Reference: Volume 731, Page 3027 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874711200001 (38.00 acres), 874711200003 (39.00 acres), 874711200005 (19.5 acres), 874711200007 (20.00 acres), 874712100007 (17.90 acres), and 874712100009 (20.00)

Document Number: 2022-09655  
Recorded: 8/5/2022 at 3:12:48.0 PM  
County Recording Fee: \$32.00  
Iowa E-Filing Fee: \$3.60  
Combined Fee: \$35.60  
Revenue Tax:  
PATRICK F GILL AUDITOR & RECORDER  
Woodbury County, Iowa

Prepared by: *and return to:*  
Adam M. Runkle  
Starkey & Runkle, LLC  
638 West Maple Street  
Hartsville, OH 44632  
*330.494.9877*

MEMORANDUM OF SOLAR OPTION AND LAND LEASE

THIS MEMORANDUM OF SOLAR OPTION AND LAND LEASE ("Memorandum") executed as of the *29* day of *July*, 2022 by and between **STEPHEN J. JOCHUM, A SINGLE PERSON ("Lessor" or "Grantor")**, whose address is 2498 Carroll Ave, Salix, IA 51052, and **RENEWABLE ENERGY EQUITY PARTNERS 1, LLC**, a Delaware limited liability company ("Lessee" or "Grantee")*1*, whose address is 638 West Maple St., Hartsville, OH 44632. Lessor and Lessee may hereafter be referred to as, together, the "Parties".

RECITALS

- A. Lessor and Lessee have entered into a certain a Solar Option and Land Lease ("Lease"), dated *7/29/2022* ("Effective Date"), whereby Lessor has agreed to lease to Lessee certain real property, together with access easement rights and an easement for the free and unobstructed collection and conversion of solar energy across said premises in Woodbury County, Iowa, and being more particularly described on the attached Exhibit A ("Premises").
- B. The Parties desire to enter into and record this Memorandum so that third parties will have notice of the interests of the Lessee in the Premises. Capitalized terms used in this, but not otherwise defined in this Memorandum shall have the meanings ascribed to them in the Lease.

NOW, THEREFORE, in consideration of the mutual covenants and obligations of the Parties contained in this Memorandum and in the Lease, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

- 1. Lessor and Lessee have entered into the Lease to lease and demise the Premises for solar energy purposes and to grant access and solar easements, which include prohibiting any obstruction to the open and unobstructed access to the sun ("Solar Easement") throughout the entire Premises to and for the benefit of the area existing horizontally three hundred and sixty degrees



(360°) from any point where any "Solar Facility" is or may be located at any time from time to time (each such point referred to as a "Site") and for a distance from each Site to the boundaries of the Premises, together vertically through all space located above the surface of the Premises, that is, one hundred eighty degrees (180°) or such greater number or numbers of degrees as may be necessary to extend from each point on and along a line drawn along the surface from each point along the exterior boundary of the Premises through each Site to each point and on and along such line to the opposite exterior boundary of the Premises. Pursuant to the Lease, Lessee has the exclusive right to use the Premises for solar energy purposes, together with certain related solar, access and other easement rights and other rights related to the Premises, all as more fully described in the Lease.

2. The initial term of the Lease ("Option Period") commences on the Effective Date and continues for a period of five years. If, prior to the expiration of the Option Period, Lessee has provided written notice to Lessor that it elects to extend the Lease term, the Lease shall be automatically extended for the Extended Term. The Extended Term shall commence on the Extended Term Date included in the Option Notice and continue until a date that is 30 years after the Extended Term Date unless sooner terminated in accordance with the terms of the Lease. Lessee has the right and option to extend the Extended Term for four additional periods of five years (each a "Renewal Term").

3. Subject in all respects to the terms and conditions of the Lease, Lessor has agreed that, from and after the Effective Date of the Lease, any right, title or interest created by Lessor in favor of or granted to any third party shall be subject to (i) the Lease and all of Lessee's rights, title and interests created thereby, (ii) any lien of any lender of Lessee's then in existence on the leasehold estate created by the Lease, and (iii) Lessee's right to create a lien in favor of any lender of Lessee's.

4. Lessee and any successor or assign of Lessee has the right under the Lease, without need for Lessor's consent, to do any of the following, conditionally or unconditionally, with respect to all or any portion of Lessee's right, title or interest in the Lease: hypothecate, mortgage, grant or pledge, or assign, sublease, transfer, or convey, provided that (i) any such assignment, transfer or conveyance shall not be for a period beyond the Term of the Lease; (ii) the assignee or transferee shall be subject to all of the obligations, covenants and conditions applicable to the Lessee; and (iii) Lessee shall be fully relieved from liability as to the rights, title and interest and obligations so assigned.

5. The Premises shall be held, conveyed, assigned, hypothecated, encumbered, leased, used and occupied subject to the covenants, terms and provisions set forth in this Memorandum and in the Lease, which covenants, terms and provisions shall run with the Premises, and shall be binding upon and inure to the benefit of the Parties, and the Parties' respective heirs, executors, administrators, successors and assigns.

6. The terms and conditions of the Lease are incorporated by reference into this Memorandum as if set forth fully herein at length. In the event of any conflict between the terms and provisions of the Lease and this Memorandum, the Lease shall control.

Received from Christopher Widman  
1/22/24 - Zoning Commission Public Hearing  
2022-09655 MESSAGE 2/22/2023 2:38 PM Page 6 of 6

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7. This Memorandum may be executed in counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same document.

[SIGNATURE PAGE FOLLOWS]



**LESSEE**


RENEWABLE ENERGY EQUITY PARTNERS 1,  
a Delaware limited liability company


By:   
Name: Erik Klein  
Title: President

STATE OF OHIO            )  
                                  )  
COUNTY OF STARK        )        SS:

BEFORE ME, the undersigned authority, a Notary Public in and for said state, on this day personally appeared before me ERIK KLEIN, President, known or proved on acceptable evidence to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE on this 29 day of July, 2022.

  
Name: \_\_\_\_\_  
County of Residence \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

 **ADAM M. RUNKLE**  
Attorney at Law  
NOTARY PUBLIC, STATE OF OHIO  
My Commission Has No Expiration Date  
Section 147.03 O.R.C.

**EXHIBIT A**

**Legal Description of Property**

All of the following tracts or parcels of land, situated in Woodbury County, State of Iowa, consisting of 37.9 acres, more particularly described as follows:

The West Half of the East Half of the Northwest Quarter ( $W\frac{1}{2}-E\frac{1}{2}-NW\frac{1}{4}$ ) of Section Twelve (12), Township Eighty-seven (87), North, Range Forty-seven (47), West of the Fifth Principal Meridian, in the County of Woodbury and State of Iowa.

Deed Reference: Volume 731, Page 3039 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874712100006 (17.9 acres) and 874712100008 (20.00 acres)

Document Number: 2022-09656  
Recorded: 8/5/2022 at 3:12:48.0 PM  
County Recording Fee: \$32.00  
Iowa E-Filing Fee: \$3.60  
Combined Fee: \$35.60  
Revenue Tax:  
PATRICK F GILL AUDITOR & RECORDER  
Woodbury County, Iowa

Prepared by: *and item to:*  
Adam M. Runkle  
Starkey & Runkle, LLC  
638 West Maple Street  
Hartsville, OH 44632

**330.494.9077** MEMORANDUM OF SOLAR OPTION AND LAND LEASE

THIS MEMORANDUM OF SOLAR OPTION AND LAND LEASE ("Memorandum") executed as of the 29 day of July, 2022 by and between **WILLIAM P. JOCHUM** ("Lessor" or "Grantor"), whose address is 4620 Polk St., Sioux City, IA 51108, and RENEWABLE ENERGY EQUITY PARTNERS 1, LLC, a Delaware limited liability company ("Lessee" or "Grantee"), whose address is 638 West Maple St., Hartsville, OH 44632. Lessor and Lessee may hereafter be referred to as, together, the "Parties".

RECITALS

- A. Lessor and Lessee have entered into a certain a Solar Option and Land Lease ("Lease"), dated 7/29/2022 ("Effective Date"), whereby Lessor has agreed to lease to Lessee certain real property, together with access easement rights and an easement for the free and unobstructed collection and conversion of solar energy across said premises in Woodbury County, Iowa, and being more particularly described on the attached Exhibit A ("Premises").
- B. The Parties desire to enter into and record this Memorandum so that third parties will have notice of the interests of the Lessee in the Premises. Capitalized terms used in this, but not otherwise defined in this Memorandum shall have the meanings ascribed to them in the Lease.

NOW, THEREFORE, in consideration of the mutual covenants and obligations of the Parties contained in this Memorandum and in the Lease, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Lessor and Lessee have entered into the Lease to lease and demise the Premises for solar energy purposes and to grant access and solar easements, which include prohibiting any obstruction to the open and unobstructed access to the sun ("Solar Easement") throughout the entire Premises to and for the benefit of the area existing horizontally three hundred and sixty degrees (360°) from any point where any "Solar Facility" is or may be located at any time from time to

time (each such point referred to as a "Site") and for a distance from each Site to the boundaries of the Premises, together vertically through all space located above the surface of the Premises, that is, one hundred eighty degrees (180°) or such greater number or numbers of degrees as may be necessary to extend from each point on and along a line drawn along the surface from each point along the exterior boundary of the Premises through each Site to each point and on and along such line to the opposite exterior boundary of the Premises. Pursuant to the Lease, Lessee has the exclusive right to use the Premises for solar energy purposes, together with certain related solar, access and other easement rights and other rights related to the Premises, all as more fully described in the Lease.

2. The initial term of the Lease ("Option Period") commences on the Effective Date and continues for a period of five years. If, prior to the expiration of the Option Period, Lessee has provided written notice to Lessor that it elects to extend the Lease term, the Lease shall be automatically extended for the Extended Term. The Extended Term shall commence on the Extended Term Date included in the Option Notice and continue until a date that is 30 years after the Extended Term Date unless sooner terminated in accordance with the terms of the Lease. Lessee has the right and option to extend the Extended Term for four additional periods of five years (each a "Renewal Term").

3. Subject in all respects to the terms and conditions of the Lease, Lessor has agreed that, from and after the Effective Date of the Lease, any right, title or interest created by Lessor in favor of or granted to any third party shall be subject to (i) the Lease and all of Lessee's rights, title and interests created thereby, (ii) any lien of any lender of Lessee's then in existence on the leasehold estate created by the Lease, and (iii) Lessee's right to create a lien in favor of any lender of Lessee's.

4. Lessee and any successor or assign of Lessee has the right under the Lease, without need for Lessor's consent, to do any of the following, conditionally or unconditionally, with respect to all or any portion of Lessee's right, title or interest in the Lease: hypothecate, mortgage, grant or pledge, or assign, sublease, transfer, or convey, provided that (i) any such assignment, transfer or conveyance shall not be for a period beyond the Term of the Lease; (ii) the assignee or transferee shall be subject to all of the obligations, covenants and conditions applicable to the Lessee; and (iii) Lessee shall be fully relieved from liability as to the rights, title and interest and obligations so assigned.

5. The Premises shall be held, conveyed, assigned, hypothecated, encumbered, leased, used and occupied subject to the covenants, terms and provisions set forth in this Memorandum and in the Lease, which covenants, terms and provisions shall run with the Premises, and shall be binding upon and inure to the benefit of the Parties, and the Parties' respective heirs, executors, administrators, successors and assigns.

6. The terms and conditions of the Lease are incorporated by reference into this Memorandum as if set forth fully herein at length. In the event of any conflict between the terms and provisions of the Lease and this Memorandum, the Lease shall control.

Received from Christopher Wildman  
1/22/24 - Zoning Commission Public Hearing  
2022-09656 MESSAGE 20220323 4 PM Page 6 of 6

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7. This Memorandum may be executed in counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same document.

[SIGNATURE PAGE FOLLOWS]





LESSEE

RENEWABLE ENERGY EQUITY PARTNERS 1,  
a Delaware limited liability company

By: [Signature]  
Name: Erik Klein  
Title: President

STATE OF OHIO            )  
                                  )        SS:  
COUNTY OF STARK        )

BEFORE ME, the undersigned authority, a Notary Public in and for said state, on this day personally appeared before me ERIK KLEIN, President, known or proved on acceptable evidence to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE on this 29 day of July, 2022.

[Signature]  
Name: \_\_\_\_\_  
County of Residence \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_



ADAM M. RUNKLE  
Attorney at Law  
NOTARY PUBLIC, STATE OF OHIO  
My Commission Has No Expiration Date  
Section 147.03 O.R.C.

Received from Christopher Widman  
 1/22/24 - Zoning Commission Public Hearing  
 2022-09656 MASE0830922231238 PPN Page 6 of 6

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## EXHIBIT A

### Legal Description of Property

All of the following tracts or parcels of land, situated in Woodbury County, State of Iowa, consisting of 115 acres, more particularly described as follows:

The West Half (W ½) of the Southeast Quarter (SE ¼), (except the North forty (40) acres thereof), of Section Twenty-three (23) and the West Half (W ½) of the Northeast Quarter (NE ¼) of Section Twenty-six (26), Township Eighty-seven (87), North, Range Forty-seven (47), West of the Fifth Principal Meridian, in the County of Woodbury and State of Iowa.

Deed Reference: Volume 1213, Page 11 AND Volume 725, Page 6184 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874723400003 (38.00 acres) and 874726200001 (38.00 acres), 874726200003 (39.00 acres)

Document Number: 2022-09649  
Recorded: 8/5/2022 at 3:12:48.0 PM  
County Recording Fee: \$32.00  
Iowa E-Filing Fee: \$3.60  
Combined Fee: \$35.60  
Revenue Tax:  
PATRICK F GILL AUDITOR & RECORDER  
Woodbury County, Iowa

Prepared by: and return to:  
Adam M. Runkle  
Starkey & Runkle, LLC  
638 West Maple Street  
Hartville, OH 44632  
330.494.9077

#### MEMORANDUM OF SOLAR OPTION AND LAND LEASE

THIS MEMORANDUM OF SOLAR OPTION AND LAND LEASE ("Memorandum") executed as of the 29 day of July, 2022 by and between ANTHONY J. HARPENAU AND DEBORAH L. HARPENAU, HUSBAND AND WIFE, AS JOINT TENANTS WITH FULL RIGHTS OF SURVIVORSHIP, AND NOT AS TENANTS IN COMMON ("Lessor" or "Grantor"), whose address is 2498 Carroll Ave, Selix, IA 51052, and RENEWABLE ENERGY EQUITY PARTNERS 1, LLC, a Delaware limited liability company ("Lessee" or "Grantee"), whose address is 638 West Maple St., Hartville, OH 44632. Lessor and Lessee may hereafter be referred to as, together, the "Parties".

#### RECITALS

- A. Lessor and Lessee have entered into a certain a Solar Option and Land Lease ("Lease"), dated 7/29/2022 ("Effective Date"), whereby Lessor has agreed to lease to Lessee certain real property, together with access easement rights and an easement for the free and unobstructed collection and conversion of solar energy across said premises in Woodbury County, Iowa, and being more particularly described on the attached Exhibit A ("Premises").
- B. The Parties desire to enter into and record this Memorandum so that third parties will have notice of the interests of the Lessee in the Premises. Capitalized terms used in this, but not otherwise defined in this Memorandum shall have the meanings ascribed to them in the Lease.

NOW, THEREFORE, in consideration of the mutual covenants and obligations of the Parties contained in this Memorandum and in the Lease, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Lessor and Lessee have entered into the Lease to lease and demise the Premises for solar energy purposes and to grant access and solar easements, which include prohibiting any

obstruction to the open and unobstructed access to the sun ("Solar Easement") throughout the entire Premises to and for the benefit of the area existing horizontally three hundred and sixty degrees (360°) from any point where any "Solar Facility" is or may be located at any time from time to time (each such point referred to as a "Site") and for a distance from each Site to the boundaries of the Premises, together vertically through all space located above the surface of the Premises, that is, one hundred eighty degrees (180°) or such greater number or numbers of degrees as may be necessary to extend from each point on and along a line drawn along the surface from each point along the exterior boundary of the Premises through each Site to each point and on and along such line to the opposite exterior boundary of the Premises. Pursuant to the Lease, Lessee has the exclusive right to use the Premises for solar energy purposes, together with certain related solar, access and other easement rights and other rights related to the Premises, all as more fully described in the Lease.

2. The initial term of the Lease ("Option Period") commences on the Effective Date and continues for a period of five years. If, prior to the expiration of the Option Period, Lessee has provided written notice to Lessor that it elects to extend the Lease term, the Lease shall be automatically extended for the Extended Term. The Extended Term shall commence on the Extended Term Date included in the Option Notice and continue until a date that is 30 years after the Extended Term Date unless sooner terminated in accordance with the terms of the Lease. Lessee has the right and option to extend the Extended Term for four additional periods of five years (each a "Renewal Term").

3. Subject in all respects to the terms and conditions of the Lease, Lessor has agreed that, from and after the Effective Date of the Lease, any right, title or interest created by Lessor in favor of or granted to any third party shall be subject to (i) the Lease and all of Lessee's rights, title and interests created thereby, (ii) any lien of any lender of Lessee's then in existence on the leasehold estate created by the Lease, and (iii) Lessee's right to create a lien in favor of any lender of Lessee's.

4. Lessee and any successor or assign of Lessee has the right under the Lease, without need for Lessor's consent, to do any of the following, conditionally or unconditionally, with respect to all or any portion of Lessee's right, title or interest in the Lease: hypothecate, mortgage, grant or pledge, or assign, sublease, transfer, or convey, provided that (i) any such assignment, transfer or conveyance shall not be for a period beyond the Term of the Lease; (ii) the assignee or transferee shall be subject to all of the obligations, covenants and conditions applicable to the Lessee; and (iii) Lessee shall be fully relieved from liability as to the rights, title and interest and obligations so assigned.

5. The Premises shall be held, conveyed, assigned, hypothecated, encumbered, leased, used and occupied subject to the covenants, terms and provisions set forth in this Memorandum and in the Lease, which covenants, terms and provisions shall run with the Premises, and shall be binding upon and inure to the benefit of the Parties, and the Parties' respective heirs, executors, administrators, successors and assigns.

Received from Christopher Widman  
1/22/24 - Zoning Commission Public Hearing  
2022-09649 BASE 08/05/2022 13:23:07 Page 3 of 6

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6. The terms and conditions of the Lease are incorporated by reference into this Memorandum as if set forth fully herein at length. In the event of any conflict between the terms and provisions of the Lease and this Memorandum, the Lease shall control.

7. This Memorandum may be executed in counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same document.

[SIGNATURE PAGE FOLLOWS]

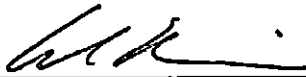


Received from Christopher Widman  
1/22/24 - Zoning Commission Public Hearing  
2022-08649 MISE 08/09/22 2:32:48 PM Page 5 of 6

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**LESSEE**

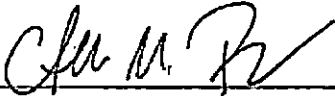
**RENEWABLE ENERGY EQUITY PARTNERS 1,**  
a Delaware limited liability company

By:   
Name: Erik Klein  
Title: President

STATE OF OHIO            )  
                                  )  
COUNTY OF STARK        )        SS:

BEFORE ME, the undersigned authority, a Notary Public in and for said state, on this day personally appeared before me ERIK KLEIN, President, known or proved on acceptable evidence to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE on this 29 day of July, 2022.

  
Name: \_\_\_\_\_  
County of Residence \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_



**ADAM M. RUNKLE**  
Attorney at Law  
NOTARY PUBLIC, STATE OF OHIO  
My Commission Expires No Expiration Date  
Section 147.03 O.R.C.



2022-09649 M&S E0335722203122877P Page 6 of 6

## EXHIBIT A

### Legal Description of Property

All of the following tracts or parcels of land, situated in Woodbury County, State of Iowa, consisting of 189.66 acres, more particularly described as follows:

The Southeast Quarter (SE 1/4) and the East Half (E 1/2) of the East Half (E 1/2) of the Southwest Quarter (SW 1/4) of Section Thirty-six (36), Township Eighty-seven (87) North, Range Forty-seven (47) West of the Fifth Principal Meridian, in the County of Woodbury and State of Iowa, except that part described as follows: All that part of the Southeast Quarter (SE 1/4) of the Southwest Quarter (SW 1/4) of Section Thirty Six (36), Township Eighty Seven (87) North, Range Forty Seven (47) West of the Fifth Principal Meridian, Woodbury County, Iowa, described as commencing at the South Quarter (S 1/4) corner of said Section Thirty Six (36), Township Eighty Seven (87) North, Range Forty Seven (47), thence due West along the South line of the Southwest Quarter (SW 1/4) of Section Thirty Six (36), Township Eighty Seven (87) North, Range Forty Seven (47), Two Hundred Eighty-seven and Twenty Hundredths feet (287.20') to the Point of Beginning, thence continuing due West along said South line Three Hundred Sixty One and Fifty Hundredths feet (361.50'), thence North One Degree Fifty-two Minutes Zero Seconds (N 01°52'00") West Three Hundred Sixty One and Fifty Hundredths feet (361.50'), thence due East parallel with the South line of the Southwest Quarter (SW 1/4) of Section Thirty Six (36), Township Eighty Seven (87), Range Forty Seven (47), Three Hundred Sixty One and Fifty Hundredths feet (361.50'), thence South One Degree Fifty-two Minutes Zero Seconds (S 01°52'00") East Three Hundred Sixty One and Fifty Hundredths feet (361.50') to the Point of Beginning. Tract contains 3.00 acres including Public Road, and 2.38 acres, excluding Public Road.

Note: The South line of the Southwest Quarter (SW 1/4) of Section 36-87-47 is assumed to bear due West.

Deed Reference: Volume 722, Page 9076 of the Office of the Recorder of Woodbury County, Iowa.

PPN: 874736400002 (39.00 acres), 874736400003 (37.58 acres), 874736400004 (36.62 acres), 874736300005 (36.46 acres), and 874736400001 (40.00 acres)



# Solar installations hasten loss of Virginia farmland

by Barbara Hollingsworth posted under Agriculture, Energy, Environment, News

Virginia lost about 2,000 acres of productive farmland per week in 2021, according to data released in February by the U.S. Department of Agriculture. There are many reasons why farmers sell off their land, including development pressures, lack of interest by younger members of farming families, and the difficulties of turning a profit in the face of ever-changing market and weather conditions.

But there is now a new threat to Virginia's agricultural base, which has a \$70 billion economic impact on the commonwealth annually, according to the Virginia Farm Bureau.

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In 2015, there were no utility-sized solar "farms" in Virginia. Now there are 44, with more on the drawing boards.

That's because in 2020, the Virginia General Assembly passed, and then Gov. Ralph Northam signed, the Virginia Clean Economy Act, which requires the two largest electric utilities in the state, Dominion Energy and Appalachian Power, to become "carbon free" by 2045 and 2050 respectively. The law sparked a flurry of multi-million-dollar investments in solar installations throughout the commonwealth.

But has this rapid rush to install solar panels on thousands of acres of Virginia countryside been wise, given the fact that Virginia's population is growing, solar facilities require a huge amount of rural land that could be used for agriculture, and due to a variety of factors including drought, military incursions overseas and supply chain failures, even President Joe Biden has said that the United States is now facing a potential food shortage?

Only three states had more solar energy installations than Virginia in 2021, according to Bill Shobe, energy economist at the University of Virginia. But it's still a fraction of the total electricity used by Virginians.

According to the U.S. Energy Information Administration, as of January 2022, natural gas accounted for nearly half (48 percent) of all utility-scale electricity generation in Virginia, followed by nuclear (33 percent), coal (10 percent) and renewables (8 percent) – of which solar accounted for only 4 percent. So the real-life effects of a massive switch to solar energy has yet to be felt by most Virginians living in urban and suburban areas.

But rural Virginians are already seeing the effects of allowing industrial-size solar "farms" to replace real farms.

Not surprisingly, the vast majority of these new solar installations are being built in rural communities, particularly in Southside and Central Virginia where land is more plentiful than money and local public officials often struggle to pay the bills.

According to the Virginia Solar Initiative, a statewide survey released in April by U.Va.'s Weldon Cooper Center and the Virginia Department of Energy, 51 local governmental authorities have been approached for



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 permission to erect large-scale solar installations in their jurisdictions, and 44 have already approved such applications.

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The latest was the Charlotte County Board of Supervisors' approval in July of a conditional use permit to allow a gigantic 877-megawatt solar installation to be erected on 21,000 acres, which will be one of the largest such facilities east of the Mississippi River. Dominion Energy, which plans on purchasing the solar farm from Reston-based Randolph Solar after it's built, sweetened the deal by promising the county that it would accelerate its \$1 million payment for a previously approved solar project.

A 1,330-acre solar "farm" got the green light in King William County, as did a smaller 268-acre solar facility approved by the Henry County Board of Zoning Appeals.

Rural officials are being courted by solar developers, many from out of state, who offer financial incentives if they vote for special use permits to allow these industrial facilities to be built on land zoned for agriculture. In fact, one of the Virginia Solar Initiative survey participants wrote that local leaders "are keenly aware that solar energy production is highly land-consumptive and that solar energy providers want the lower cost farmland with no development improvements" – in other words, land that is already producing food or could quickly be converted to crop production.

"Once the facility is built, it's paying into the tax base without making any substantial demands on local services," Shobe told Virginia Public Radio. "For localities rich in land resources, this can be a very substantial contribution."

But when local officials focus on the short-term financial benefits without thinking about the future ramifications of allowing these industrial power plants on land that is supposed to be reserved for agriculture, they may be trading one form of environmental degradation for another.

For example, Dr. Rattan Lal, Distinguished Professor of Soil Science at Ohio State University, points out that soil sequesters more than three times the amount of carbon locked in all the plants and animals on Earth. Yet construction and maintenance of industrial-size solar facilities prevents the natural process of soil replenishment from occurring.

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And as the Essex County Conservation Alliance points out, "farmland lost is farmland lost forever."

So ironically, the legislature's requirement that the largest utilities in Virginia become "carbon free" in less than 25 years means that there will be a lot more carbon-sequestering farmland lost in the commonwealth.

How much? Solar farms require as much as six to eight acres to produce just one megawatt of electricity. Up to 104,000 acres of forest/farmland would have to be sheathed in solar panels made of glass and highly toxic metals like lead and cadmium telluride to produce about 13,000 megawatts of electricity. And that's only when the sun shines.

Soil degradation is not the only problem. Denuded landscape is more prone to erosion, meaning that nutrients are more likely to be washed into the watershed and wind up in Chesapeake Bay, which the commonwealth is already spending millions of dollars to prevent. In March, the Virginia Department of Environmental Quality announced that starting in 2025, solar panels would be considered "unconnected impervious areas" when performing post-development water quality calculations" of stormwater runoff, which will likely increase the cost of these installations.

Earlier this year, Gov. Glenn Youngkin signed House Bill 206, which says that if the DEQ finds a potential "significant adverse impact on wildlife, historic resources, prime agricultural soils, or forest lands," the solar facility in question would be required to submit a mitigation plan for public comment. The bill states that disturbing more than 10 acres of prime agricultural land, 50 acres of contiguous forest, and registered forest land automatically requires a mitigation plan.

These mitigation efforts will raise the price of solar-generated power for Virginia consumers even though the cost of the solar panels themselves, most of which are now made in China, have come down in recent years.

Michael Shellenberger, author of "Apocalypse Never," told the Thomas Jefferson Institute's Virginia Energy Consumer Conference last October that solar panels are cheaper now due to multi-billion-dollar subsidies by the Chinese government, which uses dirty coal and forced labor to produce them. He also noted that "there is no plan" to deal with the huge amount of hazardous waste from obsolete solar panels once they have reached the end of their 15-to-25-year life span.

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That means that some solar farms erected in Virginia in 2021 will start becoming hazardous waste sites in 2036, even before the Virginia Clean Economy Act's "carbon free" mandates kick in.

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"Once you deal with the cost of the waste, electricity from solar ends up being four times higher than they had anticipated," Shellenberger, TIME Magazine's 2008 "Hero of the Environment", pointed out. "I changed my mind about renewables when I understood that they require significantly more land," he added. "Princeton University just confirmed about 300 times more land on average to generate the same amount of electricity from a wind farm or a solar farm as from a natural gas or nuclear plant."

Thanks to the General Assembly, Virginia is on track to lose a massive amount of food-growing and carbon-sequestering farmland for an inefficient and intermittent technology that could quadruple electricity prices and create thousands of acres of toxic waste.

Local officials who are thinking about approving special use permits to allow more industrial-sized solar facilities to be built on agricultural land in their jurisdictions owe it to their constituents to tally up all of the potential future costs -- especially the loss of irreplaceable farmland -- as well as the benefits before signing off on this supposedly "free" form of energy production.



*Barbara Hollingsworth is a Visiting Fellow with the Thomas Jefferson Institute and a former editorial page editor with the Fredericksburg Free Lance-Star. She may be reached at [BarbHoll3@gmail.com](mailto:BarbHoll3@gmail.com).*

« **Five Reasons To Reject Offshore Wind Project** (The video shows Number Five) **No MVP in this Trading Deal?** »

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The New York Times <https://www.nytimes.com/2022/09/21/opinion/environment/solar-panels-virginia-climate-change.html>

OPINION  
GUEST ESSAY

## Are There Better Places to Put Large Solar Farms Than These Forests?

By Gabriel Popkin

Mr. Popkin is an independent journalist who writes about science and the environment. He has written extensively about threats to trees and forests.

Sept. 21, 2022

CHARLOTTE COURT HOUSE, Va. — In Charlotte County, population 11,448, forests and farms slope gently toward pretty little streams. The Roanoke River, whose floodplain includes one of the most ecologically valuable and intact forests in the Mid-Atlantic, forms the county's southwestern border.

On a recent driving tour, a local conservationist, P.K. Pettus, told me she's already grieving the eventual loss of much of this beautiful landscape. The Randolph Solar Project, a 4,500-acre project that will take out some 3,500 acres of forest during construction, was approved in July to join at least five other solar farms built or planned here thanks to several huge transmission lines that crisscross the county. When built, it will become one of the largest solar installations east of the Rocky Mountains. Although she is all for clean energy, Ms. Pettus opposed the project's immense size, fearing it would destroy forests, disrupt soil and pollute streams and rivers in the place she calls home.

"I was so excited and hoped to see solar canopies over parking lots, solar panels on rooftops, solar panels on big box stores" after Virginia passed a 2020 law requiring the elimination of fossil fuels from its power sector by 2050, Ms. Pettus says. "I never dreamed it would involve so much deforestation and grading in a place I deeply care about."

The conflict Ms. Pettus described is becoming increasingly common in rural Virginia, where a recent boom in solar farm construction has given many people pause. Conservationists and farmland advocates argue that the solar gold rush is displacing valuable forests and farms when panels could instead be going on already developed or degraded land, including abandoned industrial sites and landfills. Some even warn that a decades-long push to protect the Chesapeake Bay could be undermined by panel-driven forest loss.

Since approving Randolph and another large installation, Charlotte County has put a hold on any new solar projects until at least 2024. Measures like these, which have been imposed in at least 31 states, may become a major hindrance to carrying out the Inflation Reduction Act, recently signed into law by President Biden. For the great promise of renewable energy to be realized, states like Virginia must create an environment where solar, nature and people can peaceably coexist.

"It's very unsettling from our side to see the hardening on the sides of the issue," says Judy Dunscomb, a senior conservation scientist with the Nature Conservancy, which supports both renewable energy and forest conservation. "Folks are trying to push through these really big projects on the one hand, and localities are becoming increasingly anxious about the potential impacts of those projects."



The Amazon Solar Farm, developed by Dominion Energy, in Climax, Va., a 1,500-acre, 120-megawatt project. Melissa Lytle for The New York Times

The ambitious targets in Virginia's 2020 Clean Economy Act make it an early mover in the Eastern United States, but nearly every state could face some version of this conflict. In every conceivable scenario that avoids catastrophic climate change, solar energy must play a central role in shifting our economy off fossil fuels. For example, a recent report from Net-Zero America, a research group at Princeton University, found that for the U.S. economy to be fully decarbonized by 2050, U.S. solar production may need to grow more than 20-fold, potentially occupying an aggregate area the size of West Virginia.

Utility-scale solar is now as cheap as or cheaper than any other form of power, but it is space-intensive. The American Farmland Trust projects that to meet renewable energy targets, many Eastern states, which have relatively high population densities, may need to devote between 1.5 percent and 6 percent of their undeveloped land to solar panels.

Still, there's plenty of space for those panels, even in a future in which most or all of our electricity comes from clean sources and in which widespread deployment of electric cars and heat pumps ratchets up demand for electricity. Several independent estimates suggest the country could power itself with roughly the acreage currently dedicated to land most everyone would agree is already degraded. And up to 39 percent could be met by putting panels on roofs. "We have tremendous opportunity on rooftops, on parking lots, on other areas like that," says Garrett Nilsen, the deputy director for the U.S. Department of Energy's Solar Energy Technologies Office.



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Yet rooftops and parking lots are not where most panels are going in Virginia, or elsewhere in the United States. A 2021 study found that most solar panels in Virginia end up in forests and on farmland. And nationwide, about half of new solar power plants are built in deserts; more than four-fifths of the rest go on farmland, forestland or grasslands, according to a separate analysis.

That makes sense; such land is often cheap and easy to build on. Public and corporate policies are also driving big solar development to such spaces. The 2020 Virginia Clean Economy Act has converged with the needs of one of the state's fastest-growing industries: data centers. Many of these facilities are operated by tech giants, such as Amazon, Google and Microsoft, that have committed to renewable energy. The centers will soon gobble up two gigawatts of power, a recent report estimated — almost one-sixth of the state's total power consumption.

Neither the state nor the tech giants determine where new solar projects go. Siting is instead left up to developers, who often seek out large, flat parcels near transmission lines, and to local governments and planning and zoning boards, which are often unprepared to assess solar's environmental impacts. And Virginia offers relatively few incentives to encourage development on rooftops, parking lots or other developed or degraded areas.

The solar installations that are coming online will help reduce carbon emissions from fossil fuels. But the forests and farms they often replace help the climate too. Virginia's forests absorb about one-fifth of the state's emitted carbon dioxide, and it will need every bit of those trees' carbon-sucking power to offset emissions from hard-to-decarbonize sectors such as transportation and heavy industry, Ms. Dunscomb says.

Forests also support wildlife, prevent erosion and keep pollutants from running off into waterways. Deforested land loses some of its ability to absorb storm water, leading to increased flood risk and dirtier water downstream. At the same time that Virginia is attempting to add some 30,000 acres of forest annually to meet its obligations under the Chesapeake Bay Agreement, which requires that states in the bay's watershed reduce the pollution they send into the bay, it may be losing close to that amount to new solar arrays, estimates Chris Miller of the Piedmont Environmental Council in Warrenton.

Farmland's environmental impact is more mixed — farmland can be a carbon sink or source, an absorber or source of water pollution and a stronghold or destroyer of biodiversity, depending on how it's managed. But it has another obvious and important use: growing food. Solar panels typically take farmland out of production, and it's not yet clear whether these conversions are temporary or permanent.

These issues came to a head during the multiyear debate over the Randolph Solar Project, which will deliver a whopping 800 megawatts to the grid, nearly as much as a typical nuclear plant.

Ms. Pettus fears that Randolph, along with several other large projects that have already been approved in the county, will send soil and storm water streaming into Roanoke Creek, which includes several pristine wetlands and ultimately drains into the Roanoke River. Runoff from deforested slopes could harm water quality and aquatic life, Ms. Pettus says.

Francis Hodson, the chief executive of SolUnesco, the developer of the Randolph Solar Project, has promised to preserve 6,000 acres of trees on the 13,000-acre site, create wildlife corridors and ensure that the project doesn't harm water quality — something he acknowledges certain earlier projects did not do. "I think everybody who wants solar to continue in Virginia has gotten very serious about this issue," he says.

Aaron Ruby, a media relations manager for Dominion Energy, which plans to buy the project and complete its construction, promises that the company will maintain protective buffers around wetlands and waterways, capture storm water and minimize grading and topsoil loss. Still, 3,500 acres of forest will be removed to make room for the panels. Much of that would likely have been cut anyway at some point, but the solar project will prevent new trees from regrowing and absorbing carbon.

After numerous hearings the county's board of supervisors gave the project a conditional use permit in July, enticed by hundreds of millions of dollars in projected revenue that the officials hope will allow them to lower property taxes.

Received from Peter Widman

The solar boom has created new alliances. Environmental groups such as the Piedmont council and the Chesapeake Bay Foundation, while supporting clean energy generally, have found themselves joining farm bureaus to call for measures to reduce large-scale solar's impacts on nature and farmland. Last spring, the Virginia legislature passed a bill acknowledging that utility-scale solar can have a "significant adverse impact" on forests and farmland and creating an advisory panel to develop measures to reduce this impact.

Meanwhile, libertarians and free-market conservatives have allied with the solar industry to back property owners' rights to use their land as they wish.

There are also softer values at play. Solar panels can have a futuristic beauty, but for many people they're a blight. Much of the opposition to large solar projects has centered less on nature than on aesthetics, historical preservation, property values and rural character. Some of it has also been fueled by misinformation.

Motivated residents can scuttle projects, as happened last year when the Calpeper County board of supervisors nixed a proposed solar installation in central Virginia in response to citizen opposition. Other counties have revised zoning rules to restrict the size of new projects or even ban them altogether. And again, it's not just happening in Virginia: Researchers from M.I.T. found that between 2008 and 2021, 53 utility-scale renewable energy projects were delayed or blocked in the United States, leading to a loss of almost 4,600 megawatts of generating capacity — enough to power nearly a million homes.



A Dominion Energy solar field on former farmland in Pittsylvania County, Virginia. Melissa Lytton for The New York Times

If today's relatively modest solar rollout is already facing such strong headwinds, imagine what will happen when states and companies move toward going 100 percent renewable. The Inflation Reduction Act's tax credits and other incentives could quintuple the amount of solar power generating capacity installed annually by 2025, according to Princeton's Zero Lab, but only if developers and installers win approval for projects.

Received from Peter Widman

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There are plenty of places where solar energy could be developed without triggering conflicts with natural resources or concerns about rural landscapes. Rooftops and parking lots combined could, in theory, meet nearly 80 percent of the nation's electricity needs, according to the Department of Energy. But absent incentives, such sites are generally more expensive to develop than forest or farmland.

Dominion, in partnership with The Nature Conservancy, will also be developing a solar farm in southwestern Virginia on a flattened mountaintop that was blasted away for coal. Projects like this one hit a sweet spot: big enough to realize economies of scale, sited on already degraded land and poised to boost the economy of a region that sorely needs it.

More such former industrial sites are available — on landfills, for example — but they are often far from transmission lines. And the surfaces of such sites can be unstable, making construction complicated and expensive. "We can't really brownfield our way out of this," Ms. Dunscomb acknowledges.

But an analysis she recently conducted also delivered good news: With careful planning, Virginia can meet its solar needs while protecting the most valuable forests, wetlands and other ecosystems. Marginal farmland with poor soil, typically used for hay or pasture rather than crops, could be a better option than forest or prime farmland, for example. While some places are too steep or too far from high-voltage transmission lines to be potential solar sites, a more equitable, transparent and environmentally sensitive distribution of solar energy is possible.

States that are still ramping up their solar efforts should learn from what's happening in Virginia. Because just about the worst thing that could happen to the climate is for one of its best allies to be seen as such a bad neighbor that nobody wants it around.

Gabriel Popkin is an independent journalist who writes about science and the environment. He has written extensively about threats to trees and forests.

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A version of this article appears in print on , Section SR, Page 10 of the New York edition with the headline: Are There Better Places to Put Large Solar Farms?

## Minutes - Woodbury County Zoning Commission – March 25, 2024

The Zoning Commission (ZC) meeting convened on the 25th of March, at 5:00 PM in the Board of Supervisors' meeting room in the Basement of the Woodbury County Courthouse, 620 Douglas Street, Sioux City, IA. The meeting was also made available via teleconference.

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### Meeting Audio:

For specific content of this meeting, refer to the recorded video on the Woodbury County Zoning Commission "Committee Page" on the Woodbury County website:

- County Website Link:
    - o [https://www.woodburycountyia.gov/committees/zoning\\_commission/](https://www.woodburycountyia.gov/committees/zoning_commission/)
  - YouTube Direct Link:
    - o <https://www.youtube.com/watch?v=rpIVdwtKgfM>
- 

ZC Members Present:

Chris Zant, Barb Parker, Jeff Hanson, Corey Meister, Tom Bride

County Staff Present:

Dan Priestley, Dawn Norton

Public Present:

Dan Bittinger, Daniel Hair, Peter Widman, Rand Fisher, Corinne Erickson, Christopher Widman, Rebekah Moerer

Telephone:

Tom Treharne

### Call to Order:

Chair Chris Zellmer Zant formally called the meeting to order at 5:00 p.m. All members present.

### Public Comment on Matters Not on the Agenda:

None

### Approval Of Minutes: 2/26/24

Motion by Meister to approve the minutes from February 26, 2024. Second by Parker. Bride abstained. Approved 4-0.

### Public Hearing (Action Item) For Proposed Woodbury County Comprehensive Plan 2040:

Priestley read summary of the draft comprehensive plan into the record. The purpose of the comprehensive plan is to establish a recommendation to the Board of Supervisors pursuant to Iowa Code Chapter 335.5. The plan is intended to serve as an advisory document that outlines the county's vision. The purpose of the comprehensive plan is to provide a current inventory of community services and resources and a thoughtful statement of the community's vision and goals for the future. The plan includes analysis of the following planning topics: Housing, Economic Development, Transportation, Public Infrastructure and Utilities, community Facilities and Services, Land Use and Natural Resources, and Disaster Response, Recovery and Resiliency. In December of 2020, the Board of Supervisors entered into an agreement with SIMPCO for development of the plan. The project was funded partially by Cares Act money.

Corinne Erickson spoke on behalf of SIMPCO's work on the project by providing an overview including a historical account of the process. SIMPCO solicited public and stakeholder comments through open house events and surveys, with continuous opportunity for public comment. There have been approximately 450 responses to the survey. In 2021, a steering committee was developed, including several county officials, and overall met five times to establish rules and objectives for the plan.

Daniel Hair stated he was disappointed with the Land Use and Natural Resources section of the plan. He has communicated with residents through the Woodbury County Fair and Facebook regarding landowner rights. He believes the statement regarding Land Use and Natural Resources – Plan for Creation and Use of Alternative and Renewable Energy Sources in Woodbury County, especially the bullet point that includes - Continuously update policies that regulate renewable energy infrastructure to ensure that it does not present safety hazard and to minimize disruption to surround land uses – is too vague. Daniel presented a document for Commissioner review. Motion by Bride to receive. Second by Hanson. Carried: 5-0. Hair stated that throughout the public meetings residents voiced their desire for utility solar to only be acceptable in industrial areas, not agricultural areas. He suggested the following changes – Utility scale alternative and renewable energy sources should be placed in industrial zoned areas in order to minimize adverse impacts to agricultural and residential living. 1. Preserve

agricultural land for agriculture purposes. 2. Recognize alternative and renewable projects should remain in industrial zoned lands. 3. Respect the beauty of Loess Hills and natural landscapes and the great value of our rural resident's quality of life. 4. Utility Scale alternative and renewable projects should be viewed as industrial activities. 5. Preserve our agriculture land for future generations and protect our conservation areas for hunting, hiking, camping, fishing, and recreation use. He suggested wording supporting landowners individual choice to implement personal or private use of renewable energy infrastructure.

Bride asked Hair to clarify statement. Hair wants to emphasize industrial activity and private use be more defined and separated.

Corrine Ericksen from SIMOC verified the request to be separation between industrial scale and smaller, private scale use. The language could be fine tuned to reference the difference and leave room for future development.

Meister referenced the difference between the general summary of the plan versus the details as presented in the full plan and ordinances for further specifics.

Peter Widman stated there needs to be protection for the future from green energy.

Hanson motioned to close public hearing. Second by Meister. Carried: 5-0.

Hanson made a motion to amend the comprehensive plan as presented to include a statement under the renewable energy infrastructure that states support landowners individual choices to implement renewable energy infrastructure for personal and private use and to recommend the comprehensive plan to the Board of Supervisors. Second by Bride. Carried 5-0.

**Public Hearing (Action Item) For Proposed Zoning Ordinance Text Amendments To The Floodplain Management Ordinance Section 5.03 Of The Woodbury County Zoning Ordinance:**

Priestley read the summary into record. A proposal to amend the text of the Woodbury County Zoning Ordinance to repeal and replace portions of Section 5.03: Floodplain Management Ordinance. The proposal is to repeal and replace the following sections. **Amendment #1** - On page 59, to repeal and replace **Section 5.03.1 AA** with the following: AA. New Factory-Built Home Park Or Subdivision - A factory-built home park or subdivision for which the construction of facilities for servicing the lots on which the factory-built homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of the first floodplain management regulations adopted by the community.; **Amendment #2** - On page 62, to repeal and replace **Section 5.03.3 B** with the following: B. Establishment of Official Floodplain Zoning Map. The Flood Insurance Rate Map (FIRM) for Woodbury County and Incorporated Areas, dated 7-17-2024, which was prepared as part of the Flood Insurance Study for Woodbury County, is (are) hereby adopted by reference and declared to be the Official Floodplain Zoning Map. The Woodbury County Flood Insurance Study is hereby adopted by reference and is made a part of this ordinance for the purpose of administering floodplain management regulations.; **Amendment #3** - On page 72, to repeal and replace **Section 5.03.10 B(4)** with the following: (4) In cases where the variance involves a lower level of flood protection for structures than what is ordinarily required by this Ordinance, the applicant shall be notified in writing over the signature of the Administrator that: (i) the issuance of a variance will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage and (ii) such construction increases risks to life and property.; **Amendment #4** - On page 73, to repeal and replace **Section 5.03.10 C(2)** with the following: (2) Decisions. The Board shall arrive at a decision on an Appeal or Variance within a reasonable time. In passing upon an Appeal, the Board may, so long as such action is in conformity with the provisions of this ordinance, reverse or affirm, wholly or in part, or modify the order, requirement, decision, or determination appealed from, and it shall make its decision, in writing, setting forth the findings of fact and the reasons for its decision. In granting a Variance, the Board shall consider such factors as contained in this section and all other relevant sections of this ordinance and may prescribe such conditions as contained in 5.03-10 C(2)(b). Priestly explained that the amendments are to prepare for the new floodplain maps that will take effect on July 17, 2024, as directed by FEMA and IDNR. No public comment was received. Motion to close public hearing: Bride. Second by Parker. Carried: 5-0. A motion by Hanson to recommend approval to the Board of Supervisors of the amendments to Section 5.03 of the Woodbury County Zoning Ordinance. Second by Parker. Carried: 5-0.

**Public Hearing (Action Item) For Proposed Utility-Scale Solar Energy Systems Zoning Ordinance Amendment(s):**

Priestley summarized the zoning ordinance text amendment including amendments to the table of contents; to add a new section entitled Section 5.08: Utility-Scale Solar Energy Systems (US-SES) Conditional Use; and to include the renumbering of page numbers. The draft ordinance was brought back to the Zoning Commission as a result of the direction from the Commission at the January 22<sup>nd</sup> meeting after review by the County Attorney's office and staff. The US-SES ordinance amendment is meant to regulate the permitting and use of such systems in the General Industrial (GI) Zoning District. The Zoning Commission would be responsible for the review of US-SES conditional use permit (CUP) requests. The Board of Adjustment would be responsible for the consideration of approval of the US-SES CUP requests, and the Board of Supervisors would oversee the building permit process. After the review, the notable changes were to the decommissioning plan and the definition section.

Priestley stated that the office received comments from the public. Priestley asked for the consideration of a motion to receive an email received after packet was complete from Robert Wilson, Range Land Energy Management. Motion to receive: Meister. Second: Parker. Carried: 5-0. *Received Materials Available in the Appendix.*

Priestley asked for the consideration of a motion to receive a letter received after the packet was complete from Mayor Robert Scott, City of Sioux City. Motion to receive by Meister. Second by Parker. Carried: 5-0. *Received Materials Available in the Appendix.*

Rand Fisher, Center for Infrastructure and Economic Development, spoke on the benefits of renewable energy and the current restriction of allowing industrial solar only in General Industrial Zoning Districts. Fisher indicated that valuable existing infrastructure in that area would not be needed for industrial solar. Industrial solar in agricultural areas, if limited to certain areas, would be a more feasible approach. Fisher provided informational handouts to be received by the Commissioners. Motion to receive by Bride. Second by Hanson. Carried: 5-0. *Received Materials Available in the Appendix.*

Chris Madsen, City of Sioux City offered concerns with placement of utility solar within the corporate boundaries of the City and allowing utility solar in the Southbridge Industrial Park, which would not utilize the installed infrastructure that could be used for future development.

Daniel Hair stated industrial solar should only be allowed in industrial areas. Other areas of the state do not compare to Woodbury County.

Peter Widman stated we should not allow the mayor of the City of Sioux City to dictate what we do with land inside the County.

Tom Treiner, Nexstar Energy, spoke by telephone stating there should be another look at utility solar in agricultural areas with a conditional use permit process. Projects are voluntary to landowners, screening and buffering would address some issues. He thinks there are many landowners that support utility solar in agricultural areas, as seen by comments to the comprehensive plan, but some are hesitant to speak in support because it's a contentious issue.

Christopher Widman states no other location than industrial should be considered, pointed out only businesses, not residents, have spoken out in support tonight.

Parker motioned to close public hearing. Second by Bride. Carried: 5-0.

Priestley emphasized this ordinance is similar to what has been in place since 2008 but adds additional features and specifications. He cited MidAmerican's solar project that went through the conditional use permit process in the General Industrial (GI) Zoning District. Priestley pointed out that the Zoning Commission is responsible for reviewing the application and the Board of Adjustment is responsible for the consideration of the CUP application for approval. Additionally, the Board of Supervisors would be responsible for the consideration of the building permits.

Bride asked Priestley if there was any activity that would trigger extraterritorial review from the City of Sioux City. Priestley indicated that the city would be notified as a landowner under the typical process if they fall within the notification territory. However, the county will notify the city as a stakeholder and ask for comment regardless in the future. The certified abstractor listing notification area is one (1) mile under this proposal. The only extraterritorial review authority the city has is through the subdivision process.

Bride asked if there was anything in ordinance pertaining to setbacks that would prevent a solar project in an industrial area being placed near to conservation area. Priestley indicated that he is not aware of any provision in the zoning ordinance that would place a restriction or buffer between conservation areas and projects such as solar. The conservation board would be a stakeholder that would be asked to make comments on future projects.

Bride indicated that the zoning district setbacks along with the conditional use permit process could handle separation issues.

Hanson stated he would be against utility solar in industrial areas because there are only a small number of areas, and infrastructure has been placed and wouldn't be utilized with solar. Hansen stated under regulated standards he would support an overlay district which would allow placement in other zoning districts and landowners would have the opportunity of use property rights to place Utility Solar in agricultural areas.

Zellmer Zant stated there hasn't been a setback requirement on conditional use permits in industrial areas since 2008. She is concerned about setback that restricts useable General Industrial areas; public comment should be heard.

Meister agrees it the GI areas are restricted with setbacks.

Parker asked if the setbacks should be taken out of the requirements.

Bride agrees setbacks could prevent areas from developing and conditional use application allows each area to be looked at. Don't want to limit industrial areas.

Priestley stated setback zoning dimensional standards are in place for structures relative to property lines. The conditional use process would allow for stakeholder and public comment regarding placement. This draft is a process for Zoning Commission, Board of Adjustment and Board of Supervisors.

Zellmer Zant commented this language has been seen throughout other meetings, other counties and our County Attorney's Office.

Bride offered to include language that setbacks currently in zoning districts apply and not expanding other, such as conservation area setbacks, and others.

Motion by Bride to recommend the ordinance to the Board of Supervisors excluding the setbacks that are within it and just reverting to the General Industrial setbacks and to strike the definitions for the public conservation area and to remove Section J and definition R, and all definitions pertaining to the chart (occupied residences, cemeteries, public right-of-way, public drainage district right-of-way, and airports). Second by Parker. Carried 4-1.

**No public comment on matters not on the agenda:**

**Staff Update:**

Priestley mentioned upcoming CoZO conference to be hosted by Woodbury County in May.

**No Commissioner Comment of Inquiry:**

**Daniel Priestley**

---

**From:** Daniel Priestley  
**Sent:** Monday, March 25, 2024 11:27 AM  
**To:** Robert Wilson  
**Subject:** RE: Email from the Woodbury County Website

Mr. Wilson,

Your message has been received. I will ask the Zoning Commission to consider receiving your email and attachment into the record at tonight's Zoning Commission meeting.

Respectfully,

-----  
Daniel J. Priestley, MPA  
Woodbury County Zoning Coordinator  
620 Douglas Street #609  
Sioux City, IA 51101

Phone: 712-279-6609  
Fax: 712-279-6530  
Website: WoodburyCountyIowa.gov

**RECEIVED FROM ROBERT WILSON, 3-25-24**

**From:** Robert Wilson <r.wilson@rangeland-energy.com>  
**Sent:** Saturday, March 23, 2024 9:51 AM  
**To:** Daniel Priestley <dpriestley@woodburycountyIowa.gov>  
**Subject:** RE: Email from the Woodbury County Website

**CAUTION:** This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. **If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.**

Hey Dan, is there any way to request that the attached is included to Monday's packet for the record?

Unfortunately, due to flight schedules from where we're located, nothing quite works for us to make the meeting in person on Monday, but we'll be calling in. We have some major concerns that we'd like to discuss with the Commission, and I'm not sure the best venue to do that.

Robert Wilson – Managing Member  
E: [r.wilson@rangeland-energy.com](mailto:r.wilson@rangeland-energy.com)  
C: 435-901-9236





**From:** Daniel Priestley <dpriestley@woodburycountyiowa.gov>  
**Sent:** Thursday, February 1, 2024 3:27 PM  
**To:** Robert Wilson <r.wilson@rangeland-energy.com>  
**Subject:** RE: Email from the Woodbury County Website

Mr. Wilson,

Your message has been received. I am available to answer questions you might have about the Woodbury County Zoning Commission's recent recommendation. As referenced in your message, the comprehensive plan adoption process will likely commence this spring at dates to be announced. The comp plan requires a Zoning Commission recommendation and the approval of the Board of Supervisors. Information regarding the activities of the Commission can be obtained on the Woodbury County website at: [https://www.woodburycountyiowa.gov/committees/zoning\\_commission/](https://www.woodburycountyiowa.gov/committees/zoning_commission/). I am available to speak with you tomorrow if you have questions. The phone number is 712-279-6609.

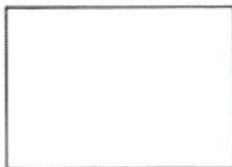
Respectfully,

-----  
**Daniel J. Priestley, MPA - Zoning Coordinator**  
**Woodbury County Community & Economic Development**  
620 Douglas Street, 6<sup>th</sup> Floor  
Sioux City, IA 51101  
Office: (712) 279-6609  
Fax: (712) 279-6530  
Email: [dpriestley@woodburycountyiowa.gov](mailto:dpriestley@woodburycountyiowa.gov)  
Web: [www.WoodburyCountyCED.com](http://www.WoodburyCountyCED.com)

\*\*\*\*\*IMPORTANT NOTICE\*\*\*\*\*  
This e-mail and any attachments thereto, is intended only for use by the addressee(s) named therein and may contain legally privileged and/or confidential information. If you are not the intended recipient of this e-mail, you are hereby notified that any dissemination, distribution or copying of this e-mail and any attachments thereto, is strictly prohibited. If you have received this e-mail in error, please notify me immediately at: (712) 279-6609 and permanently delete the original and any copy of any e-mail and any printout thereof.

**From:** Woodbury County Website <[no-reply@woodburycountyiowa.gov](mailto:no-reply@woodburycountyiowa.gov)>  
**Sent:** Wednesday, January 31, 2024 2:37 PM  
**To:** Daniel Priestley <dpriestley@woodburycountyiowa.gov>  
**Subject:** Email from the Woodbury County Website

**CAUTION:** This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. **If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.**



Email from the Woodbury County Website

**Name:** Robert Wilson

**Email:** [r.wilson@rangeland-energy.com](mailto:r.wilson@rangeland-energy.com)

**Comments:**

Hey Dan,<br />  
<br />

I'd like to introduce myself and our company. We're the developer that is working with Leo Jochum and his family as well as other individuals that chose to participate in our solar project. I attended last weeks meeting and think it'd be good for us to discuss our project, the process, and what facilities like ours typically look like during operations. I'd also like to answer any questions you or the commission has for us, to better inform you as discussions around the 2040 comprehensive plan progress.

•

RECEIVED FROM ROBERT WILSON, 3-25-24



RECEIVED FROM ROBERT WILSON, 3-25-24



Energy Management LLC

**U.S. Treasury Department's Coal Closure Energy Community Designation**



- Woodbury County Census Tracts designated as Energy Communities:
  - 19193003302 – State Tract 33.02
  - 19193003200 – State Tract 32
  - 19193003100 – State Tract 31
  - 19193003500 – State Tract 35
- Retired Thermal Units – George Neal

Energy Communities were designated in 2023 to encourage economic growth, tax revenue and job creation in areas impacted by retired thermal generators, coal mining operations, and high fossil fuel employment.

With extensive experience in large-scale development, Hangeland expertly sources greenfield opportunities across the country. **We believe that by establishing a CUP process to allow for utility-scale solar development in AP districts, Woodbury County can utilize existing federal incentives and local energy infrastructure to create long-term tax revenue and source private capital from the renewable energy industry. A CUP Process with common-sense and informed guidelines approved on a case-by-case basis can allow for future development of renewable energy projects while mitigating any adverse affects to landowners that choose not to participate.**

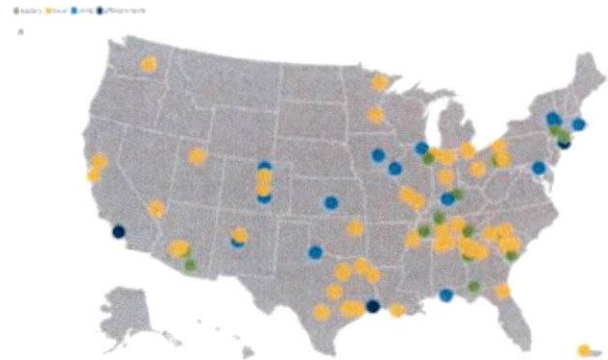
RECEIVED FROM ROBERT WILSON, 3-25-24

RECEIVED FROM ROBERT WILSON, 3-25-24

## 2023 Inflation Reduction Act Domestic Content Tax Credit

### New Manufacturing Facility Announcements

Source: U.S. Energy Information Administration, "New Manufacturing Facility Announcements in the U.S., 2023"



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Under the Inflation Reduction Act, projects receive an additional 10% investment tax credit when the following attributes are met:

- Prevailing Wage & Apprenticeship Requirements - **high paying jobs, career growth and creation for rural communities with apprenticeship programs**
- Steel and Iron Requirements: products that are primarily steel and iron must be **100% produced in the United States**
- Manufactured Product Requirements: all components that are "manufactured products" are produced in the United States. This includes components **such as solar panels, transformers, trackers, etc.**

**By utilizing components that are produced in the United States, utility-scale solar farms are more economically competitive after achieving the Domestic Content Investment Tax Credit.** Further, utilizing steel, modules, and transformers produced in the United States mitigates supply chain risk while creating jobs and domestic innovation.

Source: U.S. Energy Information Administration, "New Manufacturing Facility Announcements in the U.S., 2023"

## 2023 Inflation Reduction Act

Domestic Content Tax Credit

**First Solar to Build \$1.1 Billion US Manufacturing Facility** First Solar Inc. is investing up to \$1.1 billion to construct its fifth manufacturing facility in the USA, further expanding America's capacity to produce its own photovoltaic (PV) solar modules.

**Qcells will manufacture every part of a silicon solar panel in the United States** Qcells has announced it plans to invest more than \$2.5 billion to establish a complete solar supply chain in the United States. In addition to its existing two solar module assembly facilities in Dalton, Georgia, the company will build a new factory in the state that will manufacture 3.3 GW of silicon ingots, wafers, cells and more finished panels.

**PVH to open 6 GW U.S. solar tracker manufacturing site**

PV Hardware expects the plant to be operational in 2023. This is the first in a wave of solar supply chain onshoring in the wake of the Inflation Reduction Act.

Not only are projects more competitive after utilizing domestic content and meeting prevailing wage and apprenticeship requirements, but utilizing steel and components that are manufactured in the United States has become an industry "best practice" because of the value added with job creation and domestic supply chain reliability.

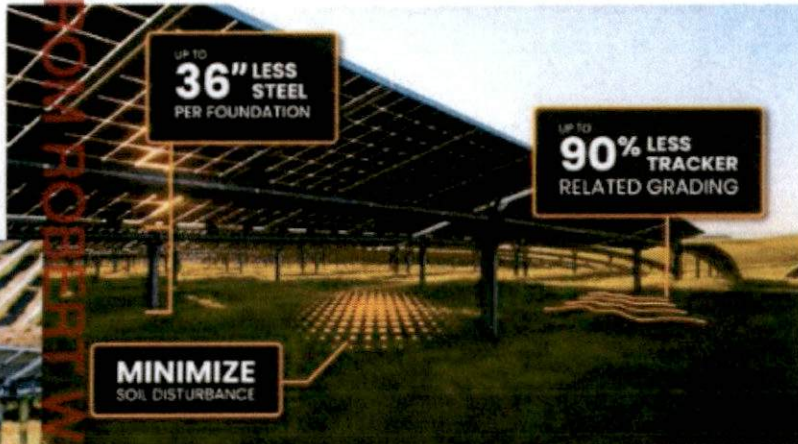


RECEIVED FROM ROBERT WILSON, 3-25-24

**System height and attributes:**



Modern solar energy systems are between 8'-12' max height depending on the angle of modules. **No concrete** is poured to secure our I-beams upon which modules and trackers are mounted. Minimal gravel roads would be used for typical maintenance and vegetation control.



Source: Noxtracker: <https://noxtracker.com/horizon-xtr/>

RECEIVED FROM ROBERT WILSON, 3-25-24

JOHN BROWN & SONS, 3-25-24

**Other common facilities in AP districts:**

Modern solar energy systems are similar in height to center-pivot irrigation systems common in AP districts...



... and shorter than most modern crop sprayers.

RECEIVED FROM ROBERT WILSON 3-25-24

APR 11 2024 10:10 AM



## What is "industrial"?



Woodbury County Ordinance:

### 7. LI Limited Industrial Zoning District

- A. Purpose and Intent. The purpose of the Limited Industrial Zoning District is to provide for the orderly development of heavy commercial, warehousing and limited industrial uses. Appropriate sites for the LI Zoning District should have excellent infrastructure especially transportation access via highways.

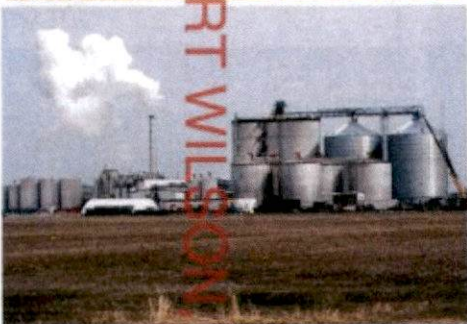
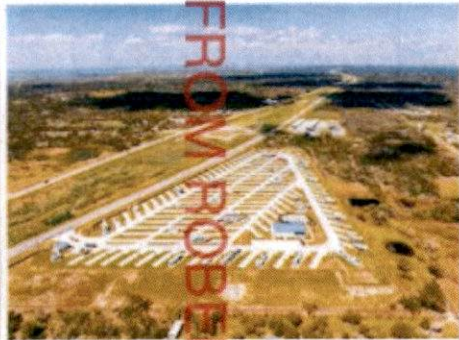
### 8. GI General Industrial Zoning District

- A. Purpose and Intent. The purpose of the GI, General Industrial Zoning District is to provide for the orderly development of heavy commercial and industrial uses. Appropriate sites for the GI Zoning District should have excellent infrastructure including transportation access via highways, railroad, airports, or barge, sanitary sewerage, water service, and power supply.



**What is "industrial"?**

Other "Conditional" uses permitted in Woodbury County AP Districts: Racetracks, RV Parks, Laboratories, Crackers, Landfills...



RECEIVED FROM ROBERT WILSON 3-25-24

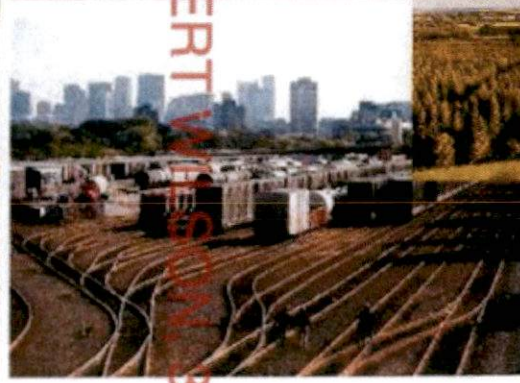
MARKET RESEARCH ANALYSIS

### What is "industrial"?

Other "Conditional" uses permitted in Woodbury County AP Districts: Airports, sanitation facilities, railyards, wind turbines...



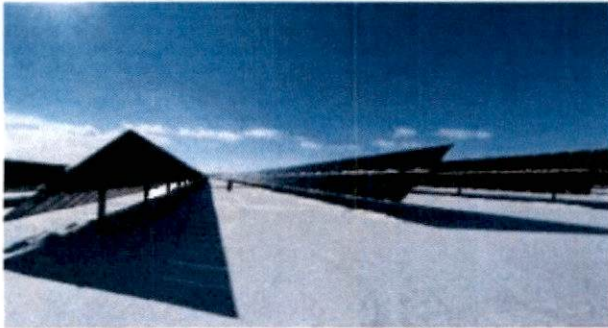
WATER AND WASTE MANAGEMENT



RECEIVED FROM PROPERTY SERVICES 3-25-24

**Utility-scale Solar Parks:**

- No expansion of municipal water, sewer or electrical services required
- No installation of new paved roads required
- No emissions, waste, or noise during operations



Due to the low impact that our projects have on air quality, noise, and viewshed in areas suitable for PV development, we feel that they are better qualified for a conditional use permit in AP districts than many of the other conditional uses currently allowed in AP districts.

RECEIVED FROM ROBERT WILSON, 3-25-24

No Emissions  
No Noise  
No Traffic

During Operations



## LAND USE & NATURAL RESOURCES

### Goals

#### Support sustainable agricultural practices.

- Ensure compliance with Iowa state code provisions for agriculturally zoned property.
- Promote the use of agricultural best management practices to reduce soil and fertilizer runoff, protect water quality, and manage animal waste.
- Encourage participation in federal incentive programs that pay farmers and ranchers for the implementation of conservation best practices.
- Consider the use of sliding scale zoning to prevent the fragmentation of large tracts of farmland.
- Advocate for the preservation of agriculture in urban fringe areas not identified in the future land use map for urban growth.
- Connect small and mid-sized farm businesses with succession planning resources and technical assistance.
- Create a roundtable of farmers and local agricultural businesses to voice concerns and needed resources to maintain sustainable business operations.
- Advocate for the adoption of local food purchasing policies that support public and institutional procurement from small and mid-sized local farmers.

#### Preserve environmentally sensitive lands.

- Consider the manner in which environmentally sensitive lands are developed, including wetlands, floodplains, prime agriculture, wildlife habitat, and open space for recreation.
- Encourage communication and cooperation between environmental advocates and landowners related to development of sensitive land.
- Strengthen erosion control policies and grade and excavation limitations for development in the Loess Hills.
- Encourage landowner participation in federal conservation easement programs that provide financial incentives for safeguarding natural resources on their property.
- Continue working to the county's network of parks, trails, and campgrounds.
- Coordinate across jurisdictions to address litter and the dumping of waste.

#### Limit urban sprawl and maintain the rural character of Woodbury County.

- Prioritize the rehabilitation of existing housing stock and infill development over the building on previously undeveloped land.
- Consider the lifetime costs of new infrastructure development.
- Limit interstate developments, to interchanges or to within city jurisdictions, to preserve agricultural land and maintain scenic views of the Loess Hills.
- Discourage leap frog development outside of incorporated cities and limit density in unincorporated areas.
- Guide future development of non-agricultural uses to a compact pattern by efficient and economical expansion of public infrastructure.

#### Empower landowners to be a partner in combating ecologically and economically harmful invasive and noxious species.

- Educate the public about effective identification, control, and disposal of invasive species.
- Distribute information about proper disposal of woody debris and brush from private property, and how to handle woody debris that has been impacted by invasive species such as the Emerald Ash Borer.

#### Reduce contaminants in surface water runoff.



- Provide resources for farmers to adopt best management practices.
- Provide resources for farmers to adopt BMPs such as no-till methods and cover crops, to reduce nutrient loads entering waterways as non-point source pollution. Refer to the Iowa Nutrient Reduction Strategy and programs of the USDA's National Resources Conservation Service for farmers in need of assistance.
- Continue sensible salting policies.
- Educate residents and business owners of proper lawn fertilizer and chemical use.
- Limit the density of properties requiring individual septic systems, maintain stringent standards for system inspections, and provide resources for homeowners to assist in maintaining these systems.

#### Safeguard groundwater by identifying and limiting sources of pollution.

- Encourage landowners to take advantage of the Iowa DNR's wellhead protection program that provides cost-sharing and assistance for sealing unused wells, and planting nitrate-remediating plants near active wellheads.

#### Identify potential sources of air quality hazards in Woodbury County.

- Maintain a network of low-cost air quality monitors throughout the rural county.

#### Maintain safe distances between industrial land use activities and residential, commercial, and institutional land uses.

- Ensure that no residential communities are impacted or harmed by off-site industrial activities, such as trucking routes or rail yard air hazards.

#### Plan for the creation and use of alternative and renewable energy sources in Woodbury County.

- Support landowners' individual choices to implement renewable energy infrastructure.
- Continuously update policies that regulate renewable energy infrastructure to ensure that it does not present safety hazards and to minimize disruptions to surrounding land uses.
- Seek federal and state funding for the expansion of electric vehicle charging infrastructure.

RECEIVED FROM DEPT. OF REVENUE 3-25-24

RECEIVED FROM BOEYER WILSON 3-25-24

### Economic Benefit of Comparable Projects

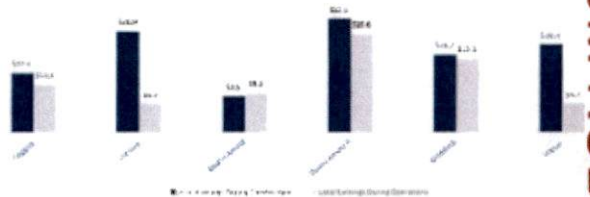
| Project                 | County       | Technology & MWac   | Docket #      |
|-------------------------|--------------|---------------------|---------------|
| Big Dave Solar          | Howard/Adair | PV 300 MWac         | SCU-2018-0001 |
| Cigana                  | Linn         | PV 100 MWac         | SCU-2021-0001 |
| Croton                  | Linn         | PV+Storage 75 MWac  | SCU-2022-0005 |
| Duane Arnold Solar      | Linn         | PV 50 MWac          | SCU-2021-0002 |
| Duane Arnold Solar II   | Linn         | PV 150 MWac         | SCU-2021-0005 |
| Goldfinch               | Washington   | PV 200 MWac         | SCU-2023-0002 |
| Grand Junction          | Snosce       | PV+Storage 150 MWac | SCU-2023-0001 |
| Hartling                | Cedar        | PV 50 MWac          | SCU-2021-0006 |
| Hawkeye                 | Cedar        | PV 200 MWac         | SCU-2021-0005 |
| Hobby Creek Solar       | Wesley       | PV 100 MWac         | SCU-2020-0001 |
| Veggie Solar            | Louisa       | PV 100 MWac         | SCU-2019-0001 |
| Weaver                  | Lee          | PV 150 MWac         | SCU-2023-0003 |
| Worsham Solar Farm East | Worth        | PV 140 MWac         | SCU-2019-0004 |
| Worsham Solar Farm West | Worth        | PV 300 MWac         | SCU-2019-0002 |



Restricting the CUP process to solely General Industrial zoning districts limits the ability of county officials to assess the potential positive impacts of utility-scale solar development that wouldn't otherwise be proposed under a broader CUP application. **By allowing for a CUP process for utility-scale solar development in AP districts, Woodbury County can assess long-term tax revenue and job creation on a case-by-case basis. A CUP Process** would also allow county officials to designate setback requirements and viewshed buffers, negotiate road-use agreements, and establish requirements for projects that alleviate the concerns of non-participating landowners. All while allowing participating landowners to see long-term lease revenue that doesn't fluctuate with commodity prices or adverse weather events - a stated component of the Land Use Goals in SIMPCO's 2040 Comprehensive Plan.

### Economic Benefit of Comparable Projects

Local Earnings Impact (\$mm)



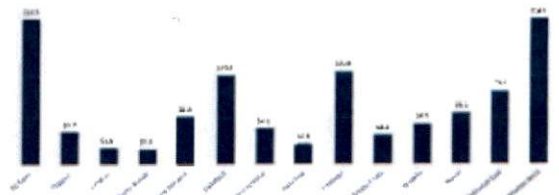
- 6 projects provided studies showing net local earnings impact and they showed an average of \$1.6.5mm in local earnings during construction and an average \$11.1mm over the projects' lifetime operations
- Generally speaking, larger projects show greater local earnings impact

The ability for projects to propose job-creation, tax revenue projections, and community benefits packages to Woodbury County is preconditioned by a CUP process being permitting on lands in addition to GI districts. If projects can't demonstrate a net-benefit to the county in the CUP process, they can always be denied.

Parcels utilized in utility-scale PV projects contribute nearly 10x real and personal property tax revenue after the facility is in operation when compared to assessed taxes on agriculture parcels.

General Industrial parcels could contribute greater tax revenue to the county when developed by mixed-use or industrial developers by way of sales tax, fuel tax, etc. In addition, GI parcels are generally priced much greater, making PV development cost-prohibitive.

Property Tax Revenue (\$mm)



- The 14 projects projected an average of \$6.7mm in property tax revenue total generated over their lifetime (10-40 years) to all the local facilities included
- This averages to a total of approximately \$200k a year in property tax revenue
- There is significant variance in the amount of property tax estimates, most of which is likely due to different project sizes and project profitability as well as local property tax rates

ECONOMIC BENEFIT OF COMPARABLE PROJECTS

RECEIVED FROM ROBERT WILSON, 3-25-24

Appendix





Dear Dan Priestley,

I am writing on behalf of the City of Sioux City. The City of Sioux City opposes the proposed utility-scale solar energy system Zoning Ordinance Amendment dated March 21, 2024.

The City of Sioux City's concern is the lack of a required setback from City corporate boundaries. The City of Sioux City would support the creation of a protected area of two (2) miles from a City's corporate boundary. These protected areas would be similar to the recently approved requirements for wind turbines located in Woodbury County. The City of Sioux City also supports solar energy systems as an accessory use to industrial development.

The City of Sioux City has reviewed the draft Woodbury County Comprehensive Plan 2024, and agree with a number of the findings in the plan. Goal T5.7 states:

*Support efficient development of commercial and industrial operations in the Southbridge Interchange region.*

RECEIVED FROM SIOUX CITY, 3-25-24

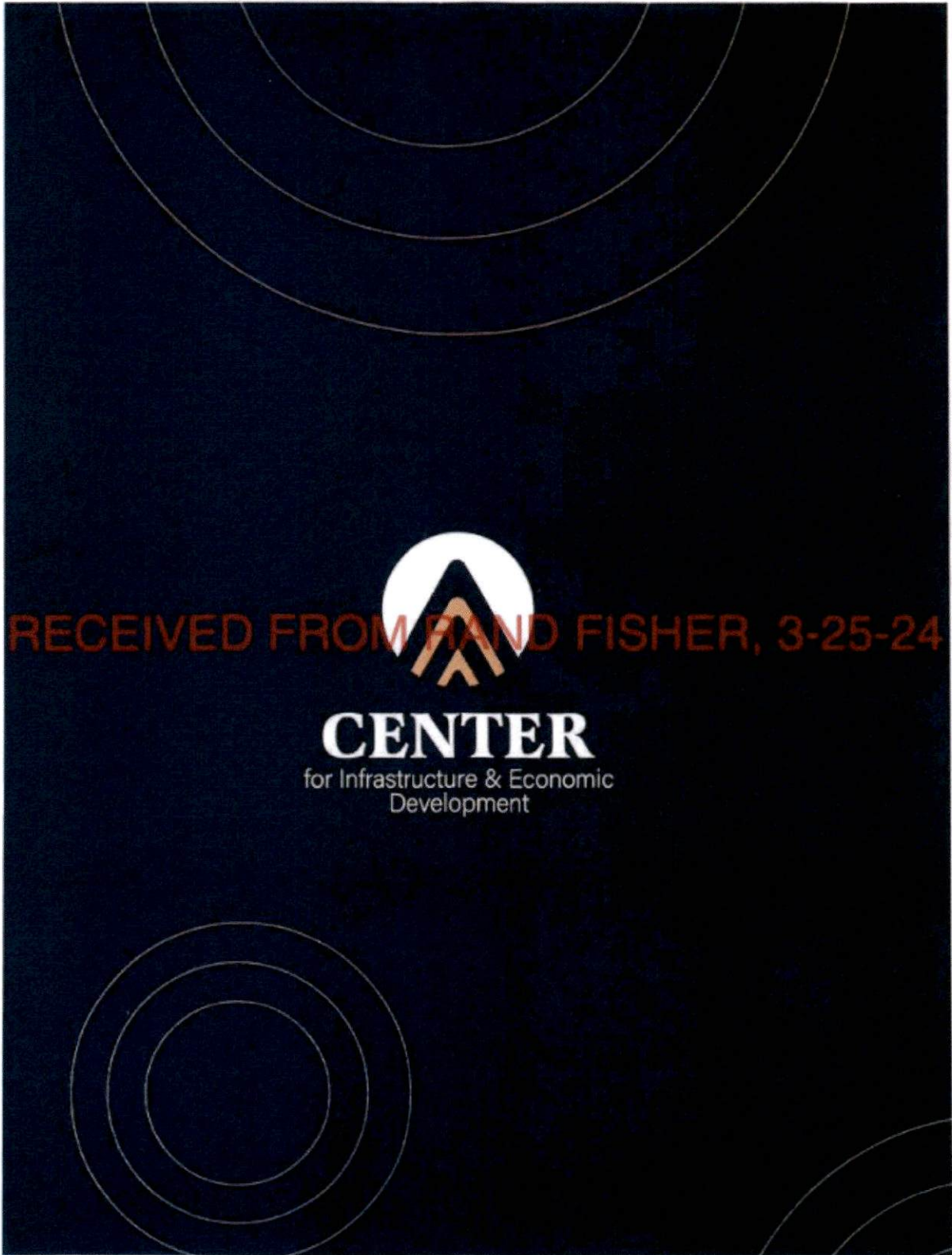
The City of Sioux City and Woodbury County have been working extensively to promote the Southbridge Industrial Park. The City and County have partnered to construct a new interchange that would increase access and marketability of the Southbridge area. The City is concerned that large Utility-Scale Solar Energy Systems would hamper these efforts and create an obstacle to further industrial development in the area.

The City of Sioux City supports the efforts of Woodbury County to provide renewable energy sources. However, the proposal would have a substantial negative impact on the potential growth of the City of Sioux City's industrial areas. Therefore, I urge you to consider a revised version of the proposal that includes the protected area from a City's corporate boundary. If City Staff can be of any assistance as you work on the proposal, please feel free to contact us.

Sincerely,

A handwritten signature in blue ink that reads "R. Scott".

Robert E. Scott  
Mayor



RECEIVED FROM RAND FISHER, 3-25-24

**Renewable Energy Policy  
Resource for Local Leaders**

[www.centerforlocalpolicy.org](http://www.centerforlocalpolicy.org)

**Remarks and Input from jonjon Infrastructure and Economic Development (*The Center*) at the Woodbury County Planning and Zoning Solar Ordinance Hearing March 25, 2024**

Good evening! Rand Fisher, 15237 Woodcrest Drive, Clive, Iowa. I'm speaking this evening in my role as Director of The Center for Infrastructure and Economic Development. I will leave behind additional information and contact data that will more fully introduce the mission of our organization and its focus on local preparation, planning, and policies for facilitating renewable energy. When done thoughtfully, we believe renewable energy provides financial and quality of life improvements; creates good jobs; provides farmers and landowners income diversification and security; attracts new businesses and industries; and returns millions of dollars to local government and the regional economy.

At *The Center*, we have been following your work and deliberations. Like you, we know *good policy* is essential to *good projects*. Balancing individual choices, land owner rights, and necessary community protections isn't easy. Your commitment to citizen input, as well as policy research and discovery has been truly commendable.

## RECEIVED FROM RAND FISHER, 3-25-24

That said, this evening we're here to clearly express our concern over the current status of your ordinance restricting conditional use application and authority for utility scale solar, singularly to industrial zoned property. Industrial property typically provides for sewer, water, natural gas, multi-modal transportation, and other, often expensive infrastructure demanding services. In stark contrast, utility scale renewable energy sites do not require the investment, readiness, and marketing that accompany industrial sites and parks. We would urge you, and the Board of Supervisors to further confer with all the parties and organizations involved in county and regional economic development before restricting utility solar to this one zoning category.

By prudently allowing conditional use permits in the agricultural zoned area of the county you can avoid many issues while knowing the land will still be preserved to agriculture. Such would not be the case if land gets permanently moved to industrial. Other process inefficiencies and problems seem likely in only allowing industrial property for solar investment.

For these policy reasons, we strongly urge you to take a second look at how a limited use of agricultural property for utility scale solar energy could maintain and strengthen your agricultural heritage, quality of life, and individual freedom.

Respectfully submitted,

Rand Fisher


Center for Infrastructure and Economic Development

[rfisher@centerforpolicy.org](mailto:rfisher@centerforpolicy.org)

515 577 5900

[www.centerforlocalpolicy.org](http://www.centerforlocalpolicy.org)

RECEIVED FROM RAND FISHER, 3-25-24



## Our Mission

The Center for Infrastructure and Economic Development works with local leaders seeking to transition their communities to adaptive and realize benefits from emerging infrastructure and energy technologies. Our goal is to help counties and municipalities stay confident in their core community identities while enabling sustainable, long-term economic growth that benefits local residents and businesses.

## Our Approach

At The Center, we believe the best policies are those that balance citizen concerns, energy needs and economic benefits. These policies will help local communities grow and prosper in an era of energy diversification and help lower energy costs during economic uncertainty.

## Issues



### Supporting Communities

We believe the development of renewable energy projects provides financial and quality of life improvements for communities that surround them. Many major manufacturers consider access to renewable energy as a key factor in locating new facilities, providing beneficial local economic ripple effects.



### Wind Energy

We value the safe installation and operation of wind energy developments. We work with local governments and communities to develop the best policies to meet that goal while achieving emission reduction targets and delivering reliable and cost-effective energy.



### Solar Energy

We understand community concerns of large-scale solar projects and we strive to implement policies that address them while supporting renewable solar energy to meet customer demand.

RECEIVED FROM RAND FISHER 3-25-24

## How Renewables Can Benefit Your Community?



### New Property Tax Revenue

Money that can be used to improve local services or infrastructure.

### New Jobs

Well-paid jobs in a rapidly growing industry.

### New Business

Businesses are increasingly looking to locate in places with access to renewable energy.

### Reduce Carbon Emissions

Meet local emission reduction targets with clean renewable energy.



## Our Services



### Ordinance Database

Our ordinance database provides you with quality examples from around the country of ordinances adopted by other local governments that both protect their communities and spur economic growth. Learn from your peers and see what's best for your county, city, or town.



### Case Studies

Governors learn and share how to move results and real people.

The Center provides case studies and real world examples of how renewable energy projects, guided by sound policy, produce benefits for constituents and the greater community. Local officials are responsible for:



### Access to Experts & Research

The Center aims to be the one stop shop for all of your policy needs. We provide your staff with access to world class experts in policy, energy, environment, and economic development. Get in the know with research from industry leading institutions about the ordinance for you.



**Governor Terry Branstad**  
National Co-Chairman and  
Iowa State Chairman

**Governor Mike Johanns**  
National Co-Chairman and  
Nebraska State Chairman

RECEIVED FROM RAND FISHER, 3-25-24

Governors Terry Branstad and Mike Johanns serve as National Co-Chairman and State Chair of the Renewable States.

**Former Iowa Governor Terry Branstad** is the nation's longest serving Governor and served as America's Ambassador to China. Governor Branstad has a strong history of working with leaders at the local, state and federal levels to advocate the benefits of renewable energy development. While Governor he signed the first renewable energy portfolio standard.

**Former Nebraska Governor Mike Johanns** has 30 years of service at every level of government, including serving as Secretary of the U.S. Department of Agriculture. Through decades of work with farmers and ranchers, Governor Johanns learned firsthand that harvesting wind and solar energy works in tandem with current agricultural methods while providing new sources of income for landowners.

## Get in Touch

Visit our website at:  
[www.centerforlocalpolicy.org](http://www.centerforlocalpolicy.org)

Call us by phone:  
202-708-4963

Or send us an email:  
[info.ecn@centerforlocalpolicy.org](mailto:info.ecn@centerforlocalpolicy.org)



## Reducing Taxes while Funding Additional County Services – How O’Brien County Iowa Thrives with Wind Energy

Other Iowa Counties had to raise taxes. Wind Energy  
Meant O’Brien County Could Lower Them.

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### With Lower Taxes, Revenue from Wind Fills County Coffers



### Revenue from Wind Farms Fund Essential County Services and Infrastructure



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### The Wind Farms Strengthened the County Budget during COVID

”  
Between the added valuation and increased taxes, we were able to actually reduce tax rates when many counties in Iowa were having to raise taxes immensely to cover increased costs.

**Nancy McDowell**  
O'Brien County Board Member



### O'Brien Has The 3rd Lowest Median Property Tax Payment Of Surrounding Counties

### The Center Services -- Providing Fact-Based Expertise:



#### Ordinance Database

The Ordinance Database provides comprehensive, up-to-date, county of ordinance information for 29th, 30th, 31st and 32nd Illinois districts. For counties and cities and villages, each.



#### Case Studies

The Center provides case studies featuring real world examples of successful energy projects and provides model ordinance text.



#### Access to Experts & Research

We provide our staff with access to world class government policy and government administration research and research from industry leading institutions.



**Governor Terry Branstad**  
National Co-Chairman and  
2010 State Chairman



**Governor Mike Johanns**  
National Co-Chairman and  
2010 State Co-Chairman

#### Get in Touch

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Center of Infrastructure and Economic Development

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**CENTER**  
for local policy & leadership development

**The Renewable Energy Resource for Local Leaders**

**Issues We Support**

**☘ Communities**  
We believe the development of renewable energy projects advances the health and quality of life and provides an opportunity for communities to prosper from them.

**☀ Solar Energy**  
We strive to provide local leaders with information to address any concerns regarding large-scale solar projects.

**☪ Wind Energy**  
We value the safe installation and operation of wind energy to achieve environmental goals and deliver reliable and cost-effective energy.

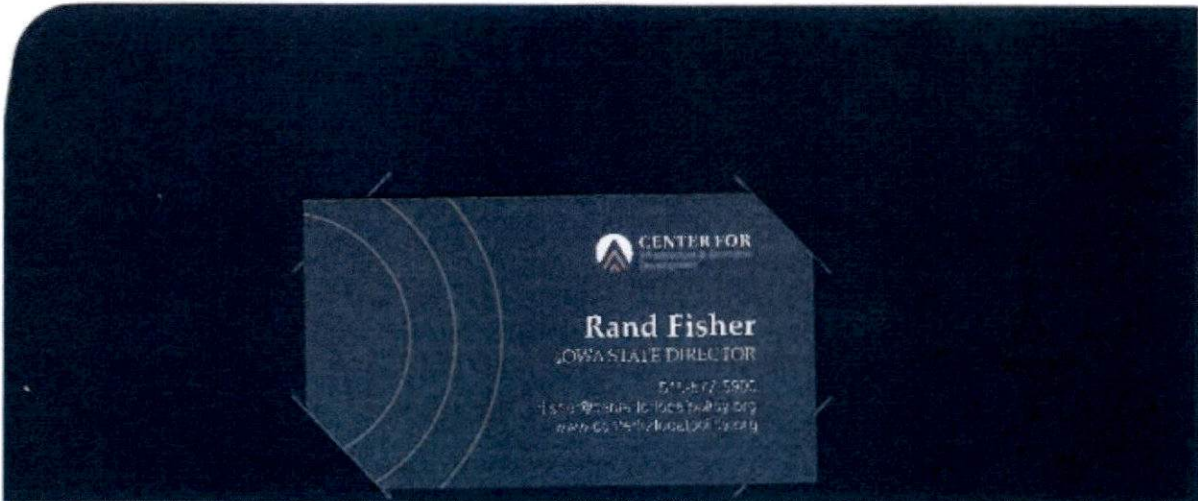
**How Renewables Can Benefit Your Community**

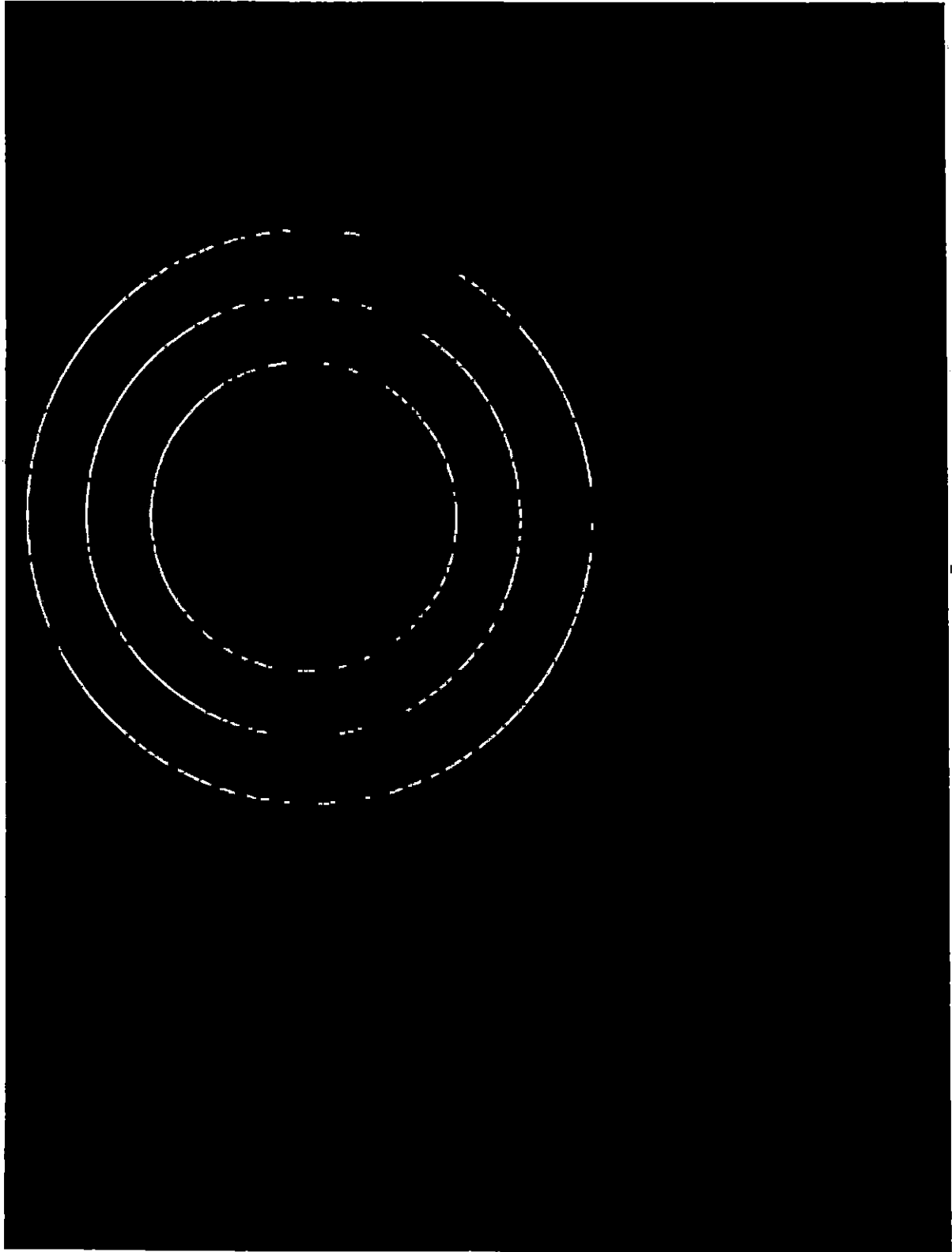
|   |   |
|---|---|
| <p><b>New Property Tax Revenue</b></p> <p>Money that can be used to improve local services or infrastructure.</p> | <p><b>Reduce Carbon Emissions</b></p> <p>Reduce carbon emissions from local residential, commercial, and industrial energy.</p> |
| <p><b>New Jobs</b></p> <p>Well-paid jobs in a rapidly growing industry.</p>                                       | <p><b>New Business</b></p> <p>Attract businesses looking to locate in places with access to renewable energy.</p>               |

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You can help protect Woodbury County from future alternative energy abuses such as industrial wind turbines being zoned in agricultural lands, which in our case, would allow them to be placed near our homes.

Woodbury County is in the drafting phase of our new Comprehensive Plan, which gives the *Board of Supervisors, Planning and Zoning*, and the *Board of Adjustment*, direction when considering new ordinances and projects. A company called SIMPCO is in charge of taking public comments during this drafting phase. It is **very important** that they hear from you!

Please call Erin Berzina (the planning director) and dictate to her the following changes we want to see in the Land Use & Natural Resources portion of the new Development Plan.

RECEIVED FROM DANIEL HAIR, 3-25-24



**Ask Erin to remove:** *Plan for the creation and use of alternative and renewable energy sources in Woodbury County. Support landowners' individual choices to implement renewable energy infrastructure.*

**Ask Erin to implement the following:** *Utility scale alternative and renewable energy sources should be zoned and placed in Industrial Districts in order to minimize adverse impacts to agricultural and residential living.*

- 1. Preserve agricultural land for agricultural purposes.*
- 2. Recognize that alternative and renewable energy projects should remain on industrial zoned land.*
- 3. Respect the intrinsic beauty of our Loess Hills, natural landscapes, and the great value of rural resident's quality of life.*
- 4. Utility scale alternative and renewable energy projects should be viewed as industrial activities.*
- 5. Preserve our agricultural land for future generations and protect our conservation areas for hunting, hiking, camping, and recreational use.*

RECEIVED FROM DANIEL HAIR, 3-25-24