Solar Rules: Best Practices for County Solar Siting Ordinances

Sponsored by the Center for Rural Affairs, the Iowa Environmental Council, and UNI’s Center for Energy and Environmental Education
Agenda

- Overview of Solar in Iowa and Economic Impacts
- County Solar Ordinances and Best Practices
- Community Solar
- Pollinator-Friendly Development
Current Iowa solar is mostly small-scale, total of 118 MW
Utility-scale projects in Louisa, Mitchell, and Howard Counties will bring the total to almost 1,000 MW

Iowa’s solar potential is 16th in the U.S. and our solar resources is similar to states like Florida, Georgia, and South Carolina

1 Information from Iowa Department of Revenue’s solar tax credit annual report for 2018 at https://tax.iowa.gov/report/Reports
- Solar can provide a good income source and diversity for farmers with some land lease payments between $600 and $700/acre
- There are 850 solar jobs in Iowa and over 100 supply chain businesses
- Nationally, solar technicians are the fastest-growing occupation
Solar and Electric Rates

- Iowa’s wind has kept our rates low compared to our neighbors
- Solar also has zero fuel expense, is low-maintenance, and the cost has dropped 90% in over the last decade
- Solar is a great complement to wind
- Demand for renewable energy will only continue to grow as multinational companies work to achieve sustainability goals and this can benefit Iowa
Home rule allows counties in Iowa to set rules for solar installation siting.

Only a handful of Iowa counties have adopted an ordinance so far, but that number is growing.

We encourage counties to adopt a comprehensive ordinance following existing best practices from across Iowa and the Midwest.

Take into consideration the jurisdiction of the Iowa Utilities Board (IUB) to approve projects that are 25 megawatts or larger in size.
IOWA SOLAR SITING RESOURCE GUIDE: A ROADMAP FOR COUNTIES
BEST PRACTICES OF SOLAR SITING

APPLICATION & APPROVAL PROCESS

SITING

SETBACKS

OPERATIONS & MAINTENANCE PLANS

INFRASTRUCTURE

DECOMMISSIONING
PROCESS

A

Clear and well-defined

B

Permitted or Conditional use

C

Staff or Zoning Board of Adjustment approves
• Establish a clear, well-defined application process and set of known application requirements

• Solar installations should be treated as a permitted or conditional use in established zoning districts

• If the application and associated solar development meet the clearly identified conditions, county staff or the Zoning Board of Adjustment should approve the application

• Clear timelines and process provide certainty for developers and residents
Comprehensive Plan Update

• Iowa code specifies that zoning ordinances and decisions “shall be made in accordance with a comprehensive plan…” (Iowa Code § 335.5)

• We recommend a county first adopt an amendment to align the county comprehensive plan with a county’s intentions to attract renewable development.

• Example: Cedar County

  “Goal III. Encourage the creation and use of alternative and renewable energy sources. Objective 1: increase alternative and renewable energy sources in the county.

  “Strategies: Review and modify the zoning ordinance and other relevant county regulations as necessary to remove barriers to the use of renewable energy systems such as solar, wind, and geothermal.

  “The County should promote the use of renewable and inexhaustible energy sources over non-renewable energy sources. . .”
Zoning Districts

• Recommend designating business/commercial, industrial, and agricultural districts as eligible for utility-scale projects

• Additional districts could be considered, especially after seeing development in one or more of these districts

• Smaller-scale or community solar may be appropriate in more types of zoning districts, including those within or close to residential neighborhoods
Safety and Signage

- Fencing protects the solar array and provides for safety by preventing entry into a project area.
- Linn and Clinton Counties require that security fences, gates and warning signs must be maintained in good condition until the utility-scale solar installation is decommissioned.
- Projects may be required to post signs that clearly feature the name, address, emergency contact information for the operator, and warnings.
- Louisa County gives the ZBA authority to enter a project site to determine if permit requirements are being met.
System Height Requirements

- There are also no compelling safety reasons for height restrictions
- In counties with zoning, height restrictions could be based on the zoning district

Fencing Requirements

- County requirements for fencing should be limited since project developers are required to follow the specific fencing requirements of the National Electrical Code (NEC), which is updated every three years.
- We recommend that counties allow for or encourage the project operator or owner to invest in fencing that facilitates movement of wildlife and pollinators (such as deer fencing)
Noise

- We do not recommend adding standards for noise. Minimum setback requirements should sufficiently address these issues without adding specific, separate provisions for noise.

Glare

- Given how solar panels are constructed, glare or reflected light is not typically a major issue. We do not recommend a glare provision.

Screening

- We do not recommend requiring screening, which adds costs and can cause shading.
Purpose

- With wind, setbacks safety, noise, shadow flicker are main concerns; these are not concerns with solar
- Setbacks should balance multiple interests and support cost-effective solar development
- Setbacks too large can unnecessarily limit solar development and economic benefits without providing benefits
Setbacks from Occupied Residences & Property Lines

- We recommend property line setbacks should not exceed 50 feet; setbacks from occupied residences should stay within a range of 100 to 200 feet.
- Counties may also base setbacks on the minimum setback requirements in the zoning district in which the project is located.
- Ordinances should provide for waivers for voluntary reductions in setbacks.
- No setbacks should be required if a property line is shared by two participating landowners.
Right of Way Setbacks

- A county may require a specific setback distance from a roadway.
- In counties with zoning, we recommend using the right of way setback standards for principal or accessory use structures specific to the zoning district where the project is located.
- In counties without zoning, we recommend consultation with right-of-way operators to ensure that projects do not disrupt current or planned use.
Solar Access Agreements

- Iowa Code § 564A.1 encourages voluntary solar access easements and sets out requirements for easements to protect solar access
- Code also authorizes city councils and county boards of supervisors to establish solar access regulatory boards (or authorize certain existing boards for this purpose)
- Allows for compensation to the owner of the solar project if shade interferes with the project and/or compensates the owner of the easement for maintaining the easement space
O&M Plans

• Counties should adopt an operations and maintenance plan designed to avoid negative impacts on the surrounding land, water, and neighbors.

• To address both short-term and long-term maintenance of a project area, counties may require an operations and maintenance plan as part of the application process, such as:
  • Soil erosion and sediment control
  • Storm water management
  • Ground cover and buffer areas
  • Cleaning chemicals and solvents
  • Maintenance, repair, or replacement of facility
Native Vegetation and Ground Cover

- We encourage counties to consider requiring native vegetation to bolster wildlife, soil, and water quality benefits.
- Native planting helps developers maintain storm water permitting requirements, reduce erosion, and mitigate land use concerns.
- Linn County and Clinton County require soils to be planted and maintained in perennial vegetation to include a mix of grasses and wildflowers resulting in a short stature prairie.
Infrastructure and Road Use Agreements

- Road impacts from solar development will be less than wind development
- Counties may require a pre-construction plan for handling potential impacts to roads and other infrastructure from solar project construction as well as a post-construction review to identify impacts and provide for repairs
- Counties should put a process in place for assessing and repairing infrastructure before construction begins
Solar panels may have a life of 25 years, and could be useful for up to 40 years.

We recommend that counties require a decommissioning plan which defines the obligations of the project developer to remove the solar array and restore the land when the project will no longer be used.

Counties should require the project developer/owner to notify the county of their intent to stop using the facility and that should be the trigger for decommissioning to begin.
Prime Farmland

- To produce 10 percent of Iowa’s electricity from solar energy, 13,440 acres would need to be occupied by solar arrays, or just 0.05 percent of all of Iowa’s farmland.
- Solar systems typically have less land impact than other forms of development such as residential or commercial development.
- Water quality and native habitat benefits as well as potential agricultural co-benefits (certain livestock, honey).
- We do not recommend any provisions that prohibit solar as a use on prime farmland.
IOWA SOLAR SITING RESOURCE GUIDE: A ROADMAP FOR COUNTIES

For more details, check out the full handbook:
“"Iowa Solar Siting Resource Guide: A Roadmap for Counties”
Thank you!

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