

# 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

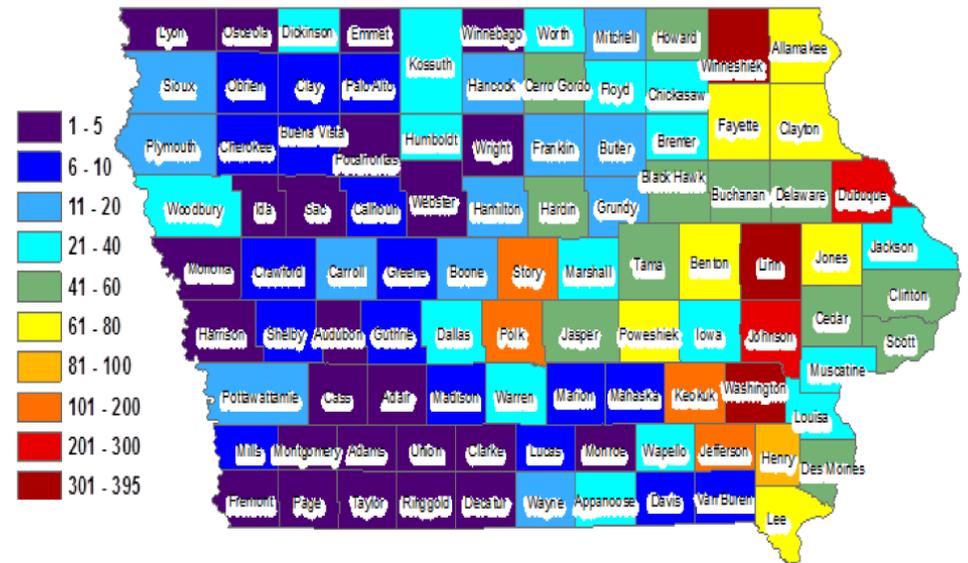


# Agenda

- Overview of Solar in Iowa and Economic Impacts
- County Solar Ordinances and Best Practices
- Community Solar
- Pollinator-Friendly Development

# Solar in Iowa

- 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 16<sup>th</sup> in the U.S. and our solar resources is similar to states like Florida, Georgia, and South Carolina



<sup>1</sup> Information from Iowa Department of Revenue's solar tax credit annual report for 2018 at <https://tax.iowa.gov/report/Reports>

# Ag Revenue & Economic Development

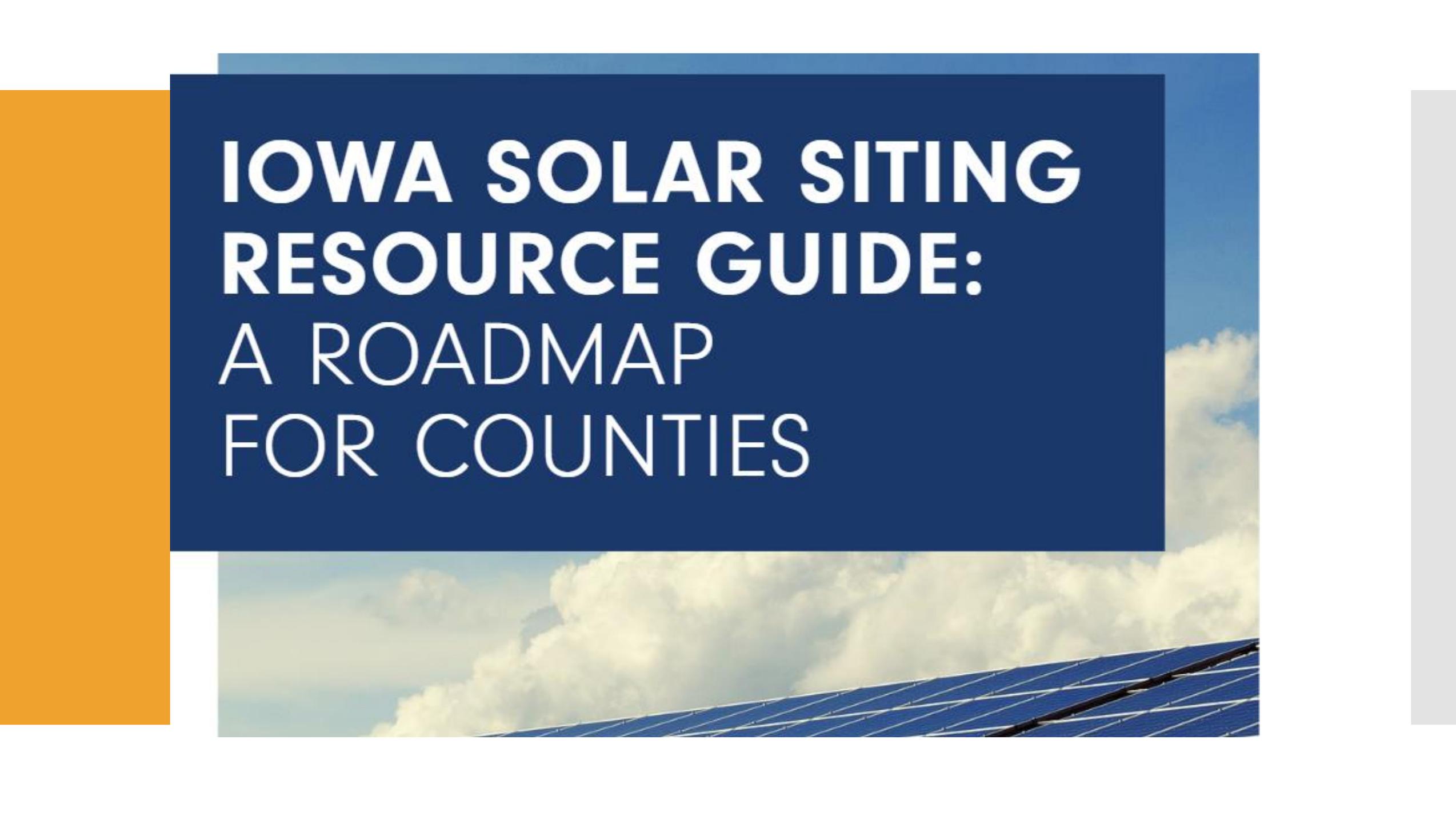
- Solar can provide a good income source and diversity for farmers with some land lease payments between \$600 and \$700/acre
- There are 850 solar jobs in Iowa and over 100 supply chain businesses
- Nationally, solar technicians are the fastest-growing occupation

# 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

# County Solar Siting Ordinances in 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.

The image shows the cover of a report titled "IOWA SOLAR SITING RESOURCE GUIDE: A ROADMAP FOR COUNTIES". The title is written in white, bold, sans-serif capital letters on a dark blue rectangular background. The background of the entire cover is a photograph of a solar panel array on a roof, with a blue sky and white clouds. On the left side, there is a vertical orange bar, and on the right side, there is a vertical grey bar.

# IOWA SOLAR SITING RESOURCE GUIDE: A ROADMAP FOR COUNTIES

# BEST PRACTICES OF SOLAR SITING

APPLICATION  
& APPROVAL PROCESS



SITING



SETBACKS



OPERATIONS &  
MAINTENANCE PLANS



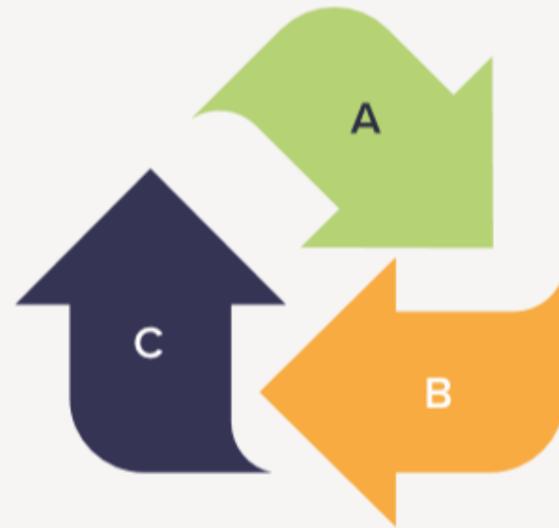
INFRASTRUCTURE



DECOMISSIONING



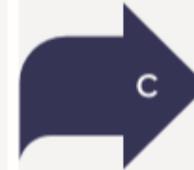
## PROCESS



Clear and well-defined



Permitted or Conditional use



Staff or Zoning Board  
of Adjustment approves

## APPLICATION & APPROVAL PROCESS



- 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

SITING



## 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. . .”*

SITING



## 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

SITING



## 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

SITING



## 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)

SITING



## 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 not recommend requiring screening, which adds costs and can cause shading

## SETBACKS



### 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



### 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

## SETBACKS



## 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

SETBACKS



## 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

OPERATIONS &  
MAINTENANCE PLANS



## 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

OPERATIONS &  
MAINTENANCE PLANS



## 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



### 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

DECOMMISSIONING

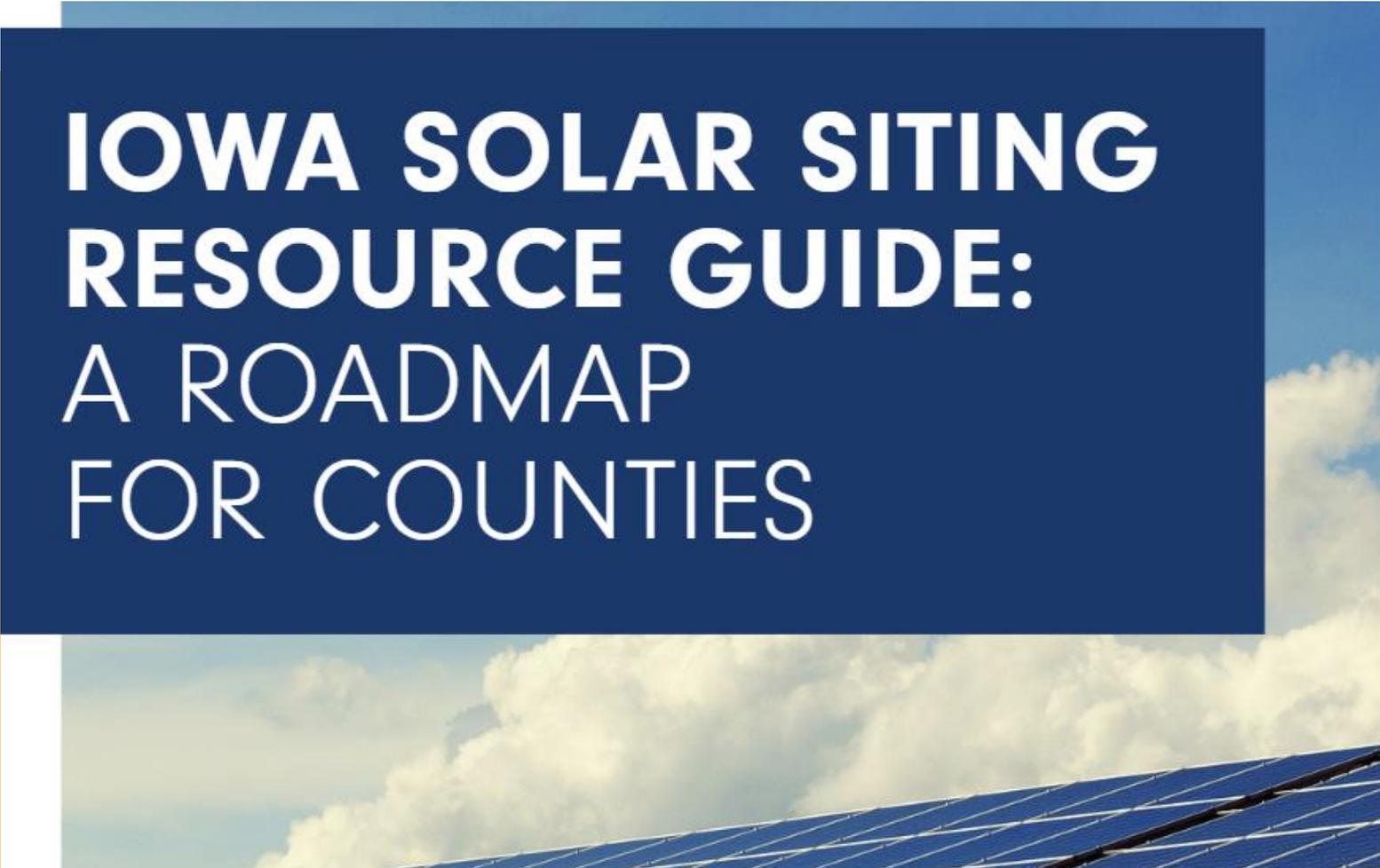


- Solar panels may have a life of 25 years, and could be useful for up to 40 years
- We recommend that counties require a decommissioning plan which defines the obligations of the project developer to remove the solar array and restore the land when the project will no longer be used
- Counties should 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

## Additional Standards

### 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”**

<https://www.iaenvironment.org/webres/File/Solar%20Siting%20Guide%202020.pdf>



Iowa  
Environmental  
Council

Thank you!

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