Midwest Renewable Energy Siting Project

Metropolitan Mayors Caucus, April 18, 2023

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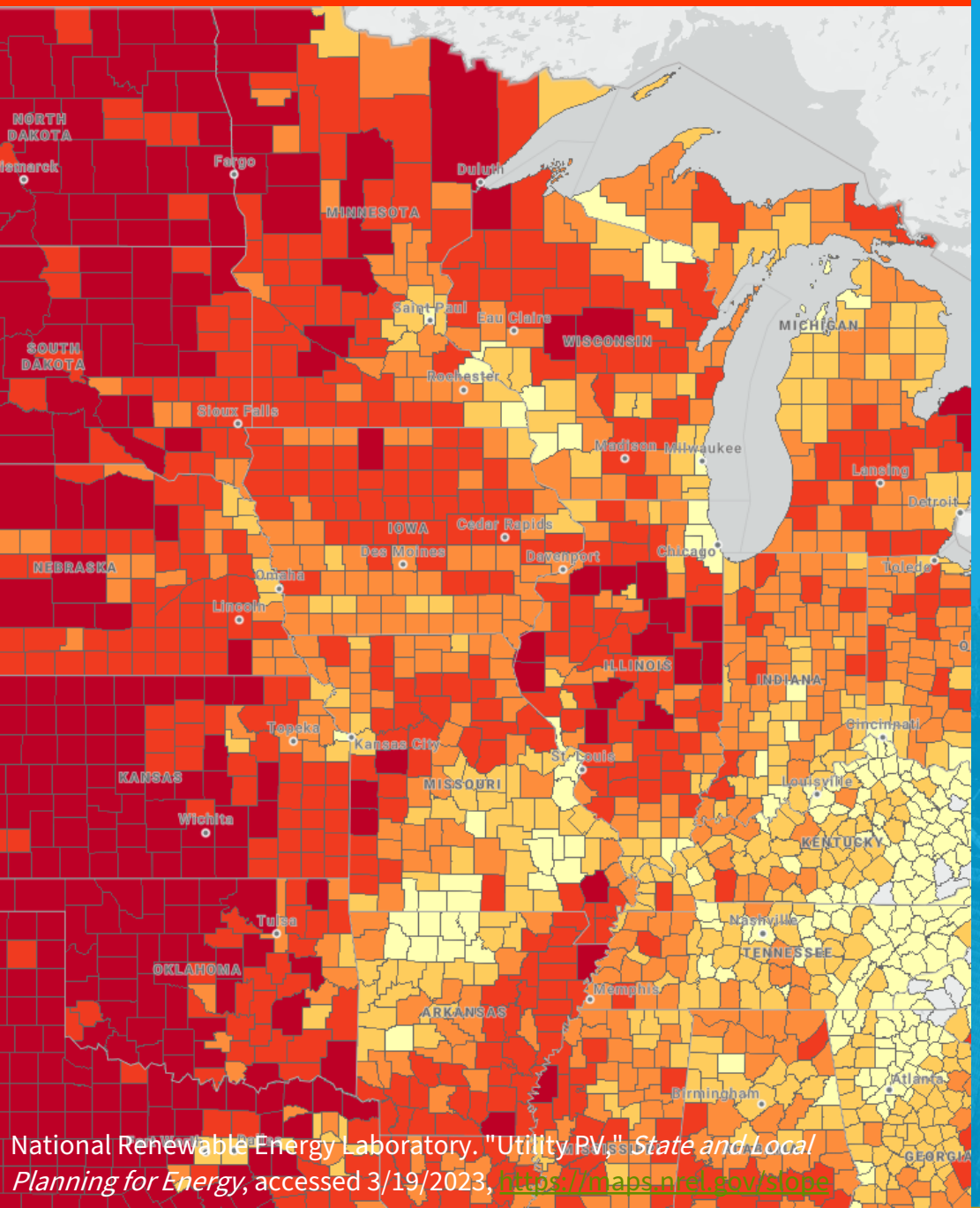
Large-scale Solar Resource Potential, MWh/county

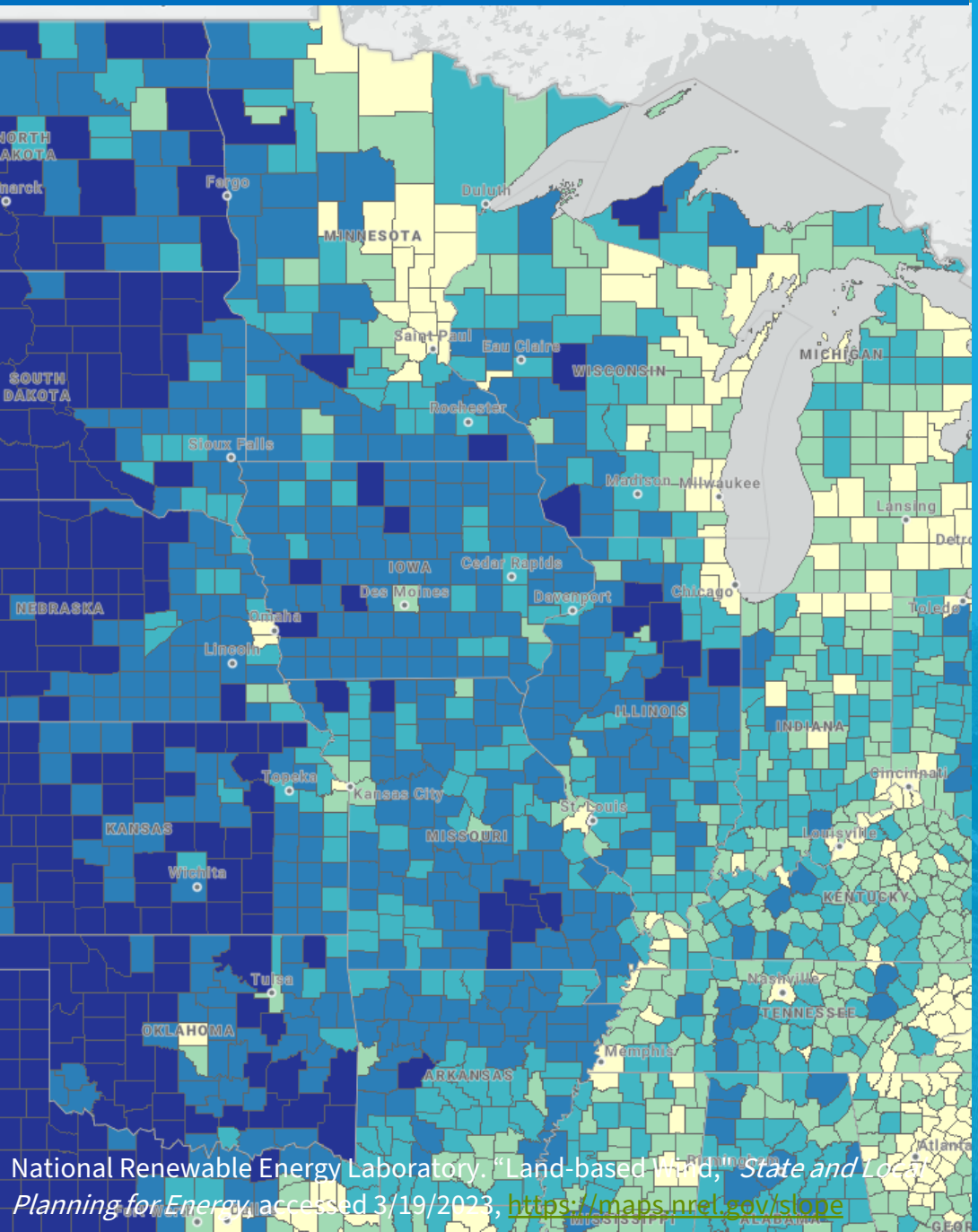


National Renewable Energy Laboratory. "Utility PV." *State and Local Planning for Energy*, accessed 3/19/2023, https://maps.nrel.gov/slope

Midwest Siting Project

1. As local renewable energy resources become more valuable and desired in the energy market, development will follow.
2. Local and state regulators are searching for best practices, resolution opportunities for land use conflict.
3. To meet clean energy goals, siting and deploying large- and community-scale renewable energy projects needs to be predictable and transparent to developers and communities, and to both energy and non-energy advocates.

Land-based Wind Resource Potential, MWh/county



National Renewable Energy Laboratory. "Land-based Wind, *State and Local Planning for Energy*, accessed 3/19/2023, https://maps.nrel.gov/slope

Midwest Siting Project

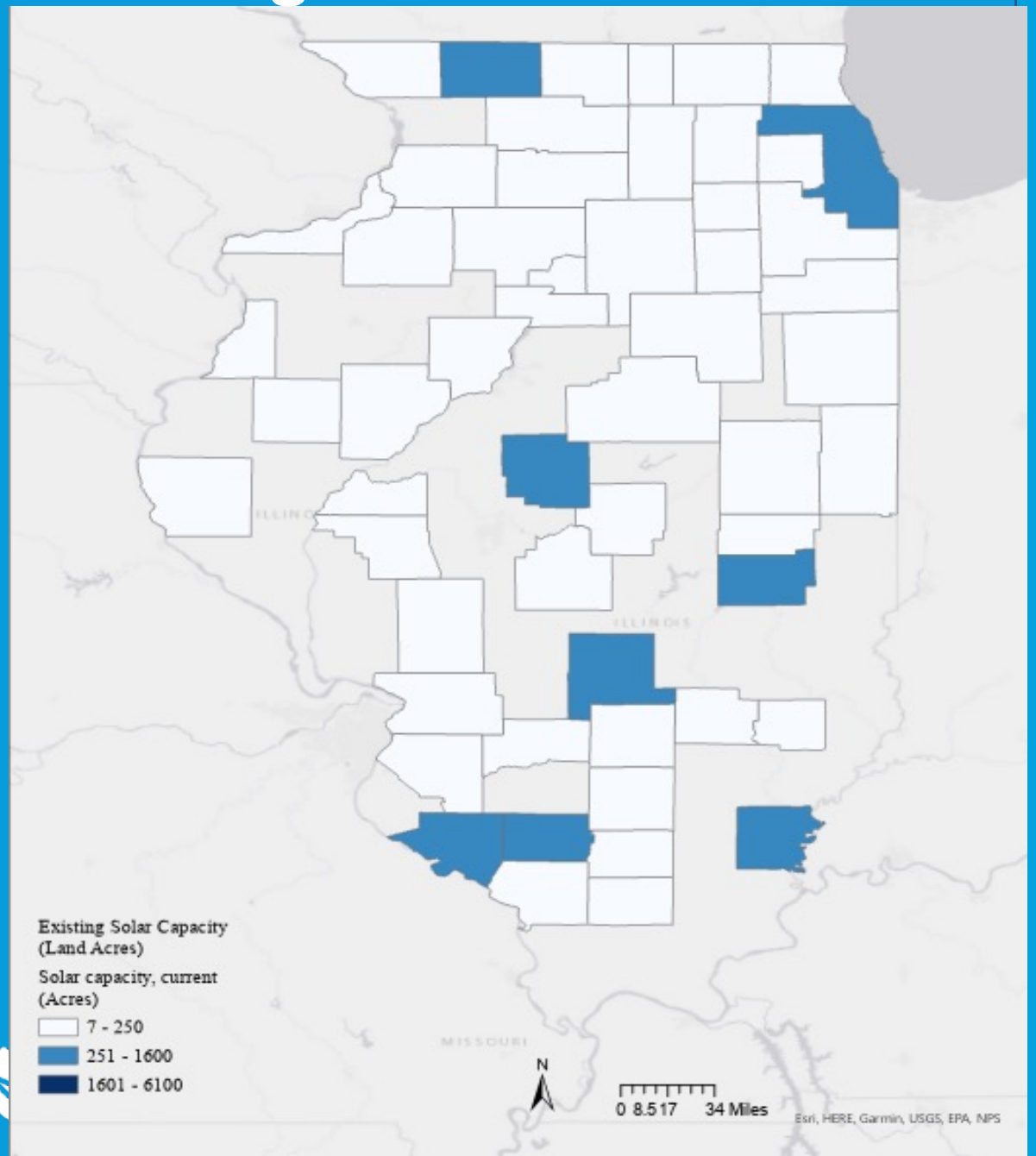
The Great Plains Institute, funded by the Crown Family Foundation and working with The Nature Conservancy, launched an initiative focused first on Illinois, to:

1. **Engage local and state stakeholders on risks** and opportunities associated with renewable development
2. **Provide unbiased third-party information** or identify information gaps to be filled and use science-based best practices for protection of natural systems
3. **Enable mitigation opportunities** to protect community resources, agricultural economic base, and natural systems and create win-win outcomes
4. **Develop consensus best practices** and regulatory consistency the recognizes community-specific priorities in siting decision-making

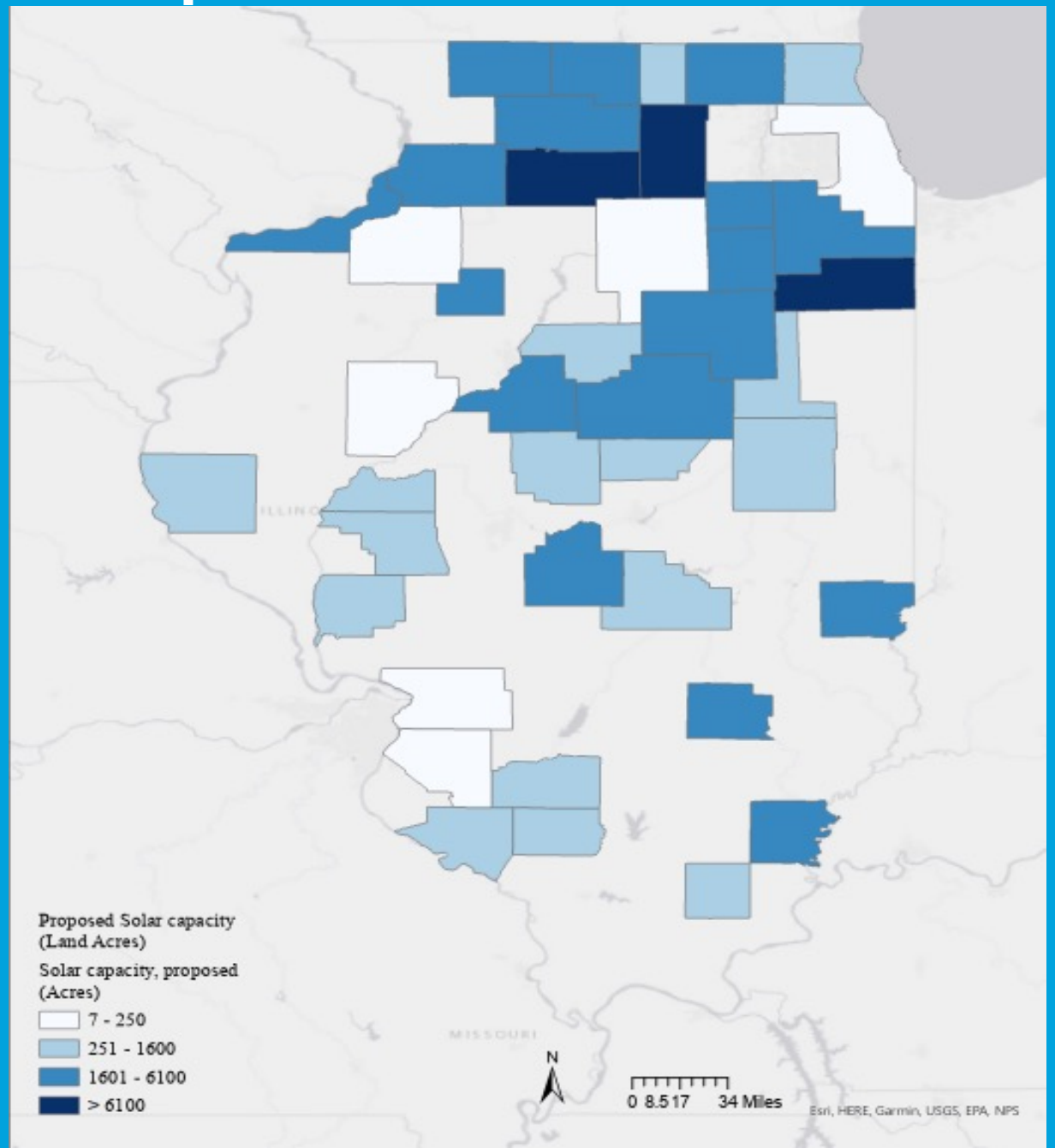
AFT Workshop Recommendations

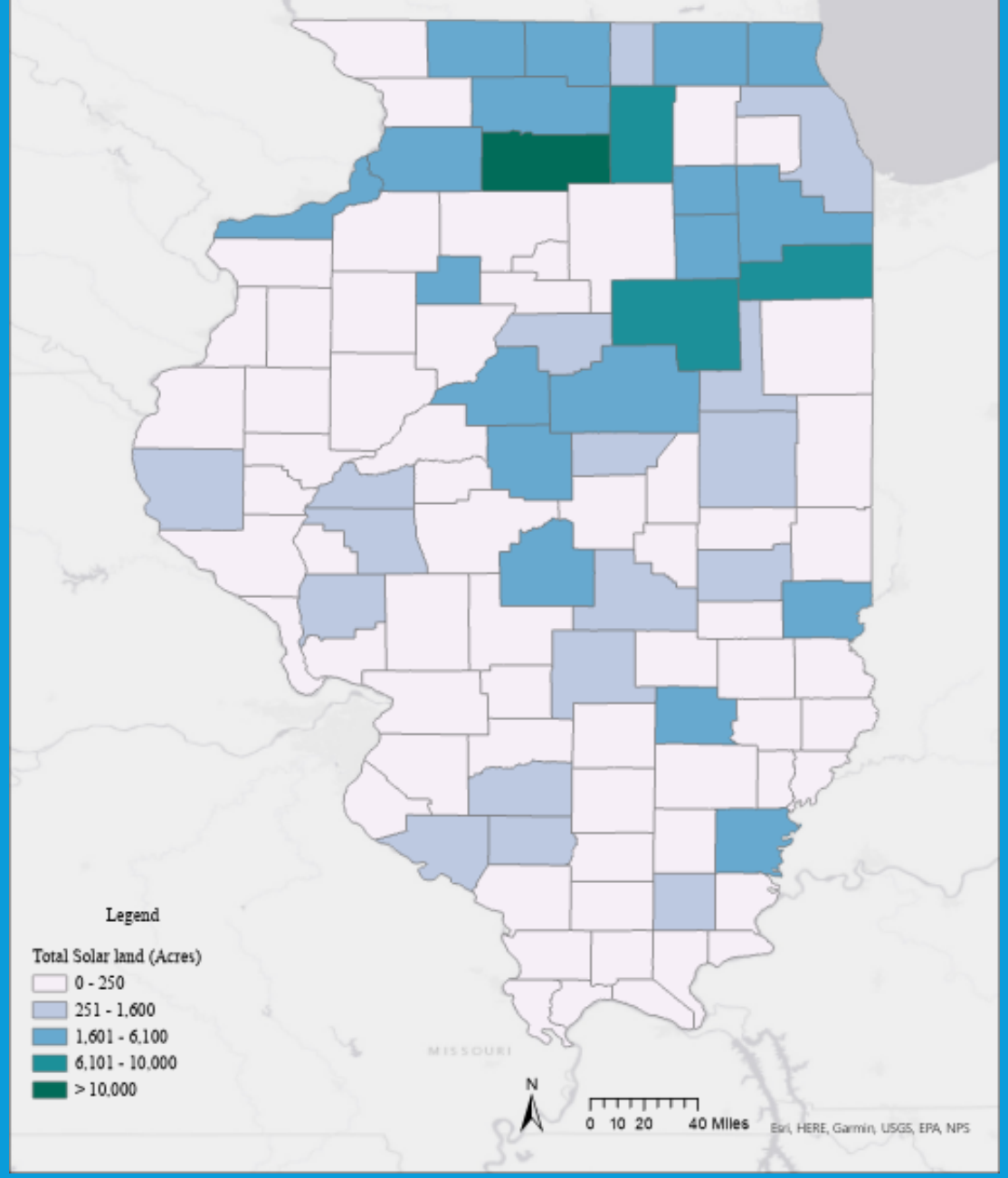
- **Create strong "brightfield" financial incentives**. Document the cost difference between brownfield development and undeveloped/farmland sites. Identify communities ready to partner on "brightfield" initiatives.
- **Evaluate existing incentives**. Is Illinois' 3% brownfield procurement mandate and the IRA's bonus credit (10%) for brownfield development enough to transform the market? What are the barriers to directing projects to surface mine areas?
- **Work with IDNR** to use Infrastructure Act money for abandoned mine land reclamation for expanding renewable energy development.
- **Ensure solar projects are designed** to contribute to agricultural and natural resource conservation goals like Nutrient Loss Reduction Strategy
- **Work with Metropolitan Mayors Caucus** (SolSmart) and Regional Planning Councils to encourage smart solar.

Existing Solar Installations



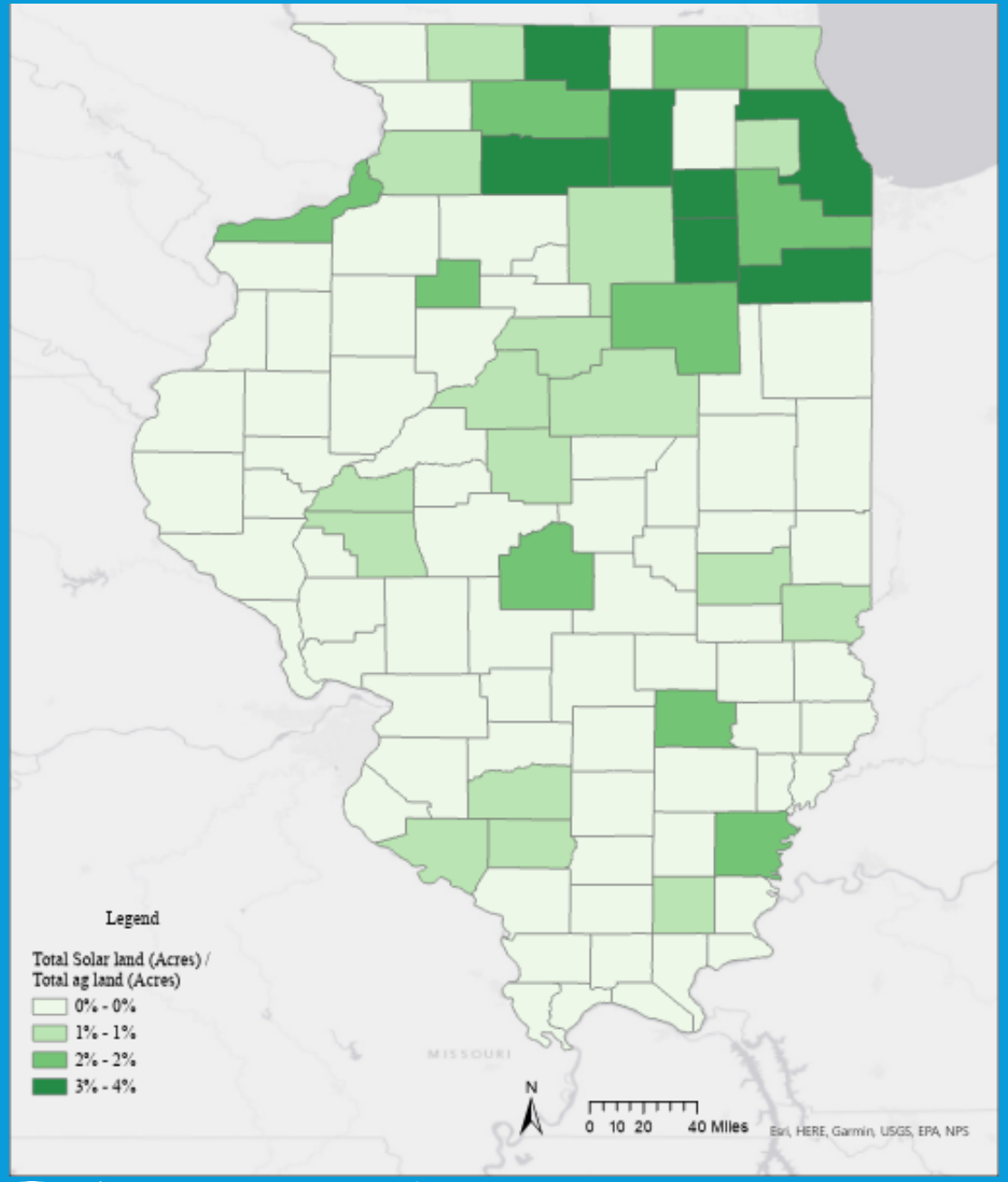
Proposed Solar Installations





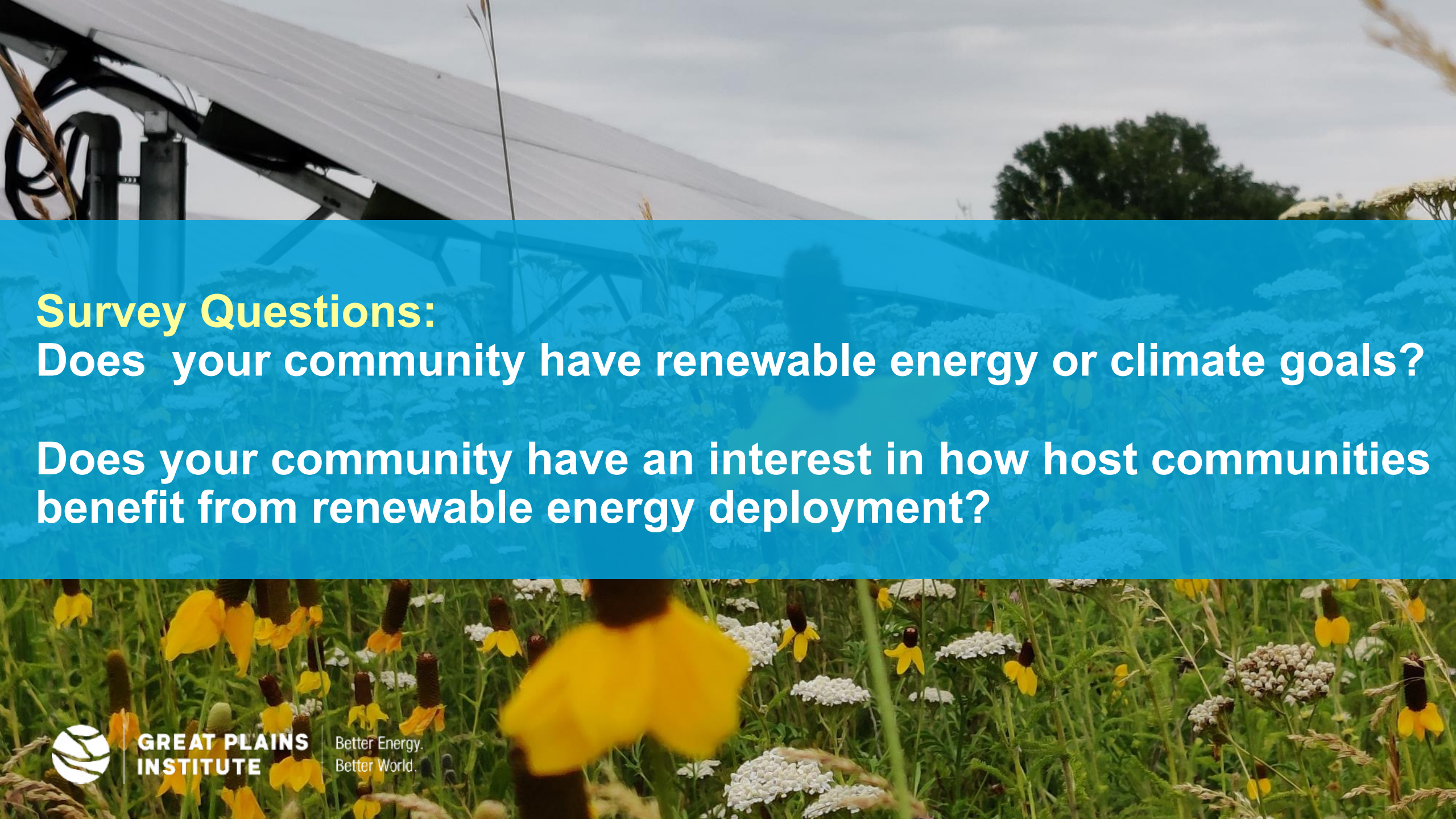
Acres of Solar Development

- ✓ Shows the total acres of land by county potentially in solar development, based on both existing operational solar and solar proposed in the transmission queue.
- ✓ The transmission queue is a measurement of market potential and demand, even though many of the proposed projects will not be built.
- ✓ Most counties see only small amounts of development, less than 250 acres across the entire county
- ✓ Lee County has the greatest amount of proposed solar, affecting over 10,000 acres of land.



Solar to Agriculture Ratio

- ✓ Compares the total agricultural land in each county to the total solar, including existing and proposed projects to reflect the market.
- ✓ Total percentages are fairly small, with only a few counties greater than 3% with a full build-out of the queue.
- ✓ Higher percentage ratios are clustered in the northern part of the state, where pressure on agricultural lands from other uses is also high.



Survey Questions:

Does your community have renewable energy or climate goals?

Does your community have an interest in how host communities benefit from renewable energy deployment?

Illinois Model Solar Ordinance

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Illinois Solar Model Ordinance

Photo by Katharine Chute

Prepared by Great Plains Institute with support from Sunshot and the Energy Foundation

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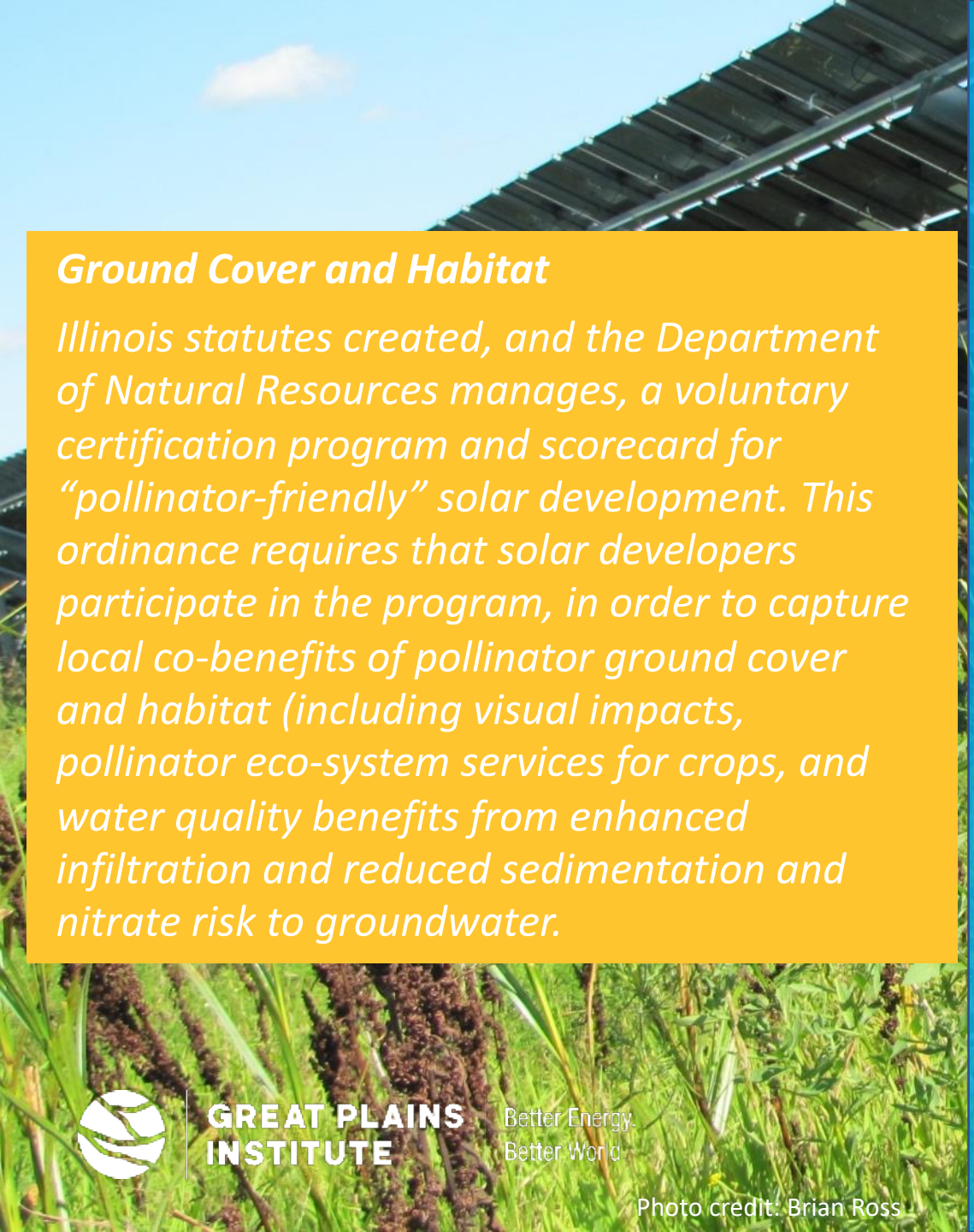
Next Solar Model Ordinance . . .

1. What solar development issues are most critical to your community?
2. For what issues is it most critical that cities and counties have sample language or guidance?
3. Would you be interested in participating in a process to shape the next model solar ordinance?



Ground Cover and Habitat

Illinois statutes created, and the Department of Natural Resources manages, a voluntary certification program and scorecard for "pollinator-friendly" solar development. This ordinance requires that solar developers participate in the program, in order to capture local co-benefits of pollinator ground cover and habitat (including visual impacts, pollinator eco-system services for crops, and water quality benefits from enhanced infiltration and reduced sedimentation and nitrate risk to groundwater.

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Photo credit: Brian Ross

Ground Cover (Solar)

1. Large-scale removal of mature trees on the site is discouraged. Model Community may set request minimizing tree clearing or mitigation for cleared trees.
2. The project design shall include the installation and establishment of ground cover meeting the pollinator-friendly standard consistent with 525 ILCS 55/1 "Pollinator-Friendly Solar Site Act" or successor statutes.
3. The applicant shall submit a vegetation management plan adhering to guidance set forth by the pollinator-friendly scorecard published by the Illinois Department of Natural Resources.

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Ground Cover (Solar)

3. Pollinator-friendly standards shall be maintained on the site for the duration of site operation, until the site is decommissioned.
4. Model Community may require submittal of an inspection fee with the initial permit application to support ongoing inspection of the pollinator-friendly ground cover and consistency with the vegetation management plan.
5. The applicant shall submit a financial guarantee in the form of a letter of credit, cash deposit or bond in favor of the Community equal to one hundred twenty- five (125) percent of the costs to meet the pollinator-friendly standard. The financial guarantee shall remain in effect until vegetation is sufficiently established.

Stormwater and Water Quality

Stormwater and water quality risks are defined by several site and site design characteristics that can be addressed in the solar ordinance to meet the post-construction requirements of the Illinois construction stormwater permit.

Site characteristics that affect runoff and water quality include soil type and soil depth, which should be identified by the applicant in the permit application submittal in order for the community to encourage appropriate risk mitigation and capture water quality benefits. Site design characteristics that mitigate risk and create water quality benefits include managing: soil bulk density (compaction); ground cover choices; and array spacing and direction.

See the PV-SMaRT best practices guide and runoff calculator tool to verify site-specific opportunities and for more direct guidance about low-impact development standards and site design recommendations.

Stormwater (Solar)

Solar farms are subject to Model Community's stormwater management and erosion and sediment control provisions and NPDES permit requirements. Solar collectors shall not be counted as coverage or included in calculations of impervious surface coverage for post-construction stormwater management if;

1. The project complies with and maintains ground cover standards as specified in this ordinance, between and under array.
2. The project meets and maintains post-construction bulk density/soil compaction standards that allow infiltration and enable ready restoration of land to agriculture after decommissioning.
3. The project retains sufficient post-construction soil depth to enable infiltration benefits of pervious ground cover.
4. The array spacing and orientation are designed for sheet flow and provide full sufficient disconnection area between and under solar arrays.

THANK YOU!

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