Three State Regional Analysis

Creating "Solar-Ready" Communities

Minnesota - Wisconsin – Illinois

Local Governments and the Advancement of Solar

The global solar market has been growing rapidly over the past several years. As solar is a local resource, the local government often determines how to best regulate its development. Local plans, policies and regulations often fail to recognize the community's solar resource and thus limits the use and development of this valuable form of energy. Like any other type of development, communities must address land-use implications, technology specifications, and regulatory processes in enabling the private sector to create value with this resource. Local governments should be intentional about how they choose to permit and limit solar development in their communities.

This document looks at the 3-state region of Minnesota, Wisconsin, and Illinois and identifies similarities and differences in state law and typical practices in permitting, planning, and zoning for solar energy development. Using this analysis, a toolkit for each state has been developed, based upon a common policy foundation, to support local governments in their planning and regulatory efforts insofar as they relate to solar development.

Minnesota, Wisconsin, Illinois

The Grow Solar Partnership is a collaborative effort between Wisconsin, Illinois and Minnesota to bring down soft costs related to the installation of the solar energy systems. Grow Solar is working to advance solar activities in each state that:

1. Facilitate the adoption of solar permitting, planning, and zoning best practices
2. Develop model finance arrangements for solar installations
3. Build workforce capacity to properly design, sell, and interconnect code-compliant PV systems
4. Improve rules, standards, and policies to provide a framework for sustainable market growth

The following document provides:

1. background on solar development in each state,
2. an analysis of how each state approaches permitting, planning, and zoning, and
3. a summary of how local governments can use the state's toolkit to facilitate solar development.

Minnesota Solar Policy and Markets

Minnesota is experiencing rapid solar development growth due to changes in state policy, declining costs, and the availability of various incentives. Because the solar industry is rapidly growing in the state, local governments are increasingly seeing developments come to their communities. Whether the development is in rooftop or ground-mount, community shared solar or behind-the-meter solar investment, local governments need to be prepared with intentional planning and zoning policies as well as permitting protocols before issues arise.

Solar Policy

In 2013, the State Legislature passed a suite of laws that greatly encourage solar development in Minnesota, including the following statutes:

- Minn. Stat 216B.1691, subd. 2f. Requires Minnesota's public utilities to generate or procure 1.5 percent of the utility's retail electricity sales from solar energy.
- Minn Stat. 116C.7792. Xcel Energy must provide $5 million in financial incentives each year for 5 years for systems 20 kW or less.
- Minn Stat. 216B.1641 establishes the Xcel Energy Community Solar Garden Program.
- Minn Stat. 216C.411 creating a new "Made in Minnesota" incentive that that provides rebate funding for locally-manufactured PV installations under 40 kW.

Prior to the above legislation, the State passed 216B.1691 Renewable Energy Objectives, which requires 25% of total retail electricity sales to be generated from renewable energy sources by 2025. This standard alone did not spur solar development, but helped open the door to a broader mix of renewable energy. Net metering has been in place since 1982, and was expanded in 2013 to allow net metering for installations as large as one MW (public utilities only).

Solar Market

Minnesota has a number of incentives to help spur and finance solar development to reach state goals and mandates. Available incentives are listed here:

- Property Assessed Clean Energy (PACE) (216C.436) financing for commercial applications
- Made in Minnesota production incentives for systems under 40kw
- Xcel Energy's Solar Rewards production incentive for systems under 20 kW
- Property tax and sales tax exemptions for components of solar development
- The Federal Solar Investment Tax Credit of up to 30%, available through the end of 2016

Currently, Minnesota has approximately 20 MW of installed solar capacity. Under the solar standard, that number is expected to grow to at least 400 MW in the next 5 years. A minimum of 40 MW of the total must be in small (less than 20 KW) systems. With the community solar gardens program, the early indication is that these gardens will be very popular and that installed solar will exceed the 1.5% solar standard.

Barriers to Market Growth

As solar gets ramped up in Minnesota, local governments are already experiencing regulatory and policy conflicts that slow the expansion of the solar development market and increase costs for the industry. This is particularly true for large solar farms or community shared solar gardens that are proposed to be

installed on large plots of land. Because local governments have not addressed solar development in existing policies, they are finding it difficult to regulate.

Similarly, for rooftop systems, local governments lack a clear and consistent process and are sometimes in conflict across jurisdictions. The State is unlikely to implement statewide standards, leaving to local governments the challenge of adopting national best practices to improve the process and reduce costs.

Wisconsin Solar Policy and Markets

Wisconsin has policies in place that support the growth of renewable energy. The state has also seen growth in the solar industry in recent years and has a robust supply chain. Recent regulatory rulings regarding rate structures and distributed generation customers has cast some uncertainly on the solar development market in Wisconsin. Fortunately, the state has solar rights statutes that protect solar development and set a statewide standard for solar rights.

Solar Policy

Wisconsin's solar policies include:

- **Renewable Portfolio Standard (**Wisconsin Statute § 196.378). In 2005, Wisconsin enacted a Renewable Portfolio Standard, which set a goal that 10% of statewide energy would come from renewable sources by 2015.
- **Net Metering.** Net metering, initially created under Public Service Commission order (Order 6690-UR-107, effective January 1, 1993), allows owners of renewable energy systems no larger than 20 kW to sell excess generation back to the utility at retail rates.
- **Interconnection Standards.** In 2004, the Wisconsin Public Service Commission adopted interconnection standards for distributed generation systems up to 15 MW in capacity.

Solar Market

IN 2014, 2 MW of solar electric capacity was installed in Wisconsin. Currently, 20 MW of solar energy is installed in the state, ranking 28th in the nation. It is unclear how the solar development market will be affected by recent regulatory rulings. In spite of the regulatory rulings, Wisconsin has seem growing interest in community shared solar models, in both the investor-owned and the member-owned utility industry.

Barriers to Market Growth

For rooftop systems, Wisconsin's renewable energy rights statute provides a consistent foundation for solar development at the local level, ensuring that property owners have the ability to capture their solar resources. The permitting process, however is not similarly guided by statute. It is unlikely that the state will implement statewide permitting standards, leaving to local governments the challenge of adapting national best practices to improve the process and reduce costs. In 2014, the Wisconsin Public Service Commission, in three rate cases, increases in fixed rates for utility customers, and additional charges for customers that self-generate with solar. These rate structures make investments in solar and energy efficiency less cost effective. However, solar development has continued, albeit at a slower pace, in spite of the risk of diminished returns.

Illinois Solar Policy and Markets

Solar Policy

Illinois' solar policies include:

- Renewable Energy Portfolio Standard: Illinois Public Acts 095-1027 & 096-0159 mandate that 25% or its energy needs be met by renewable energy sources by 2025, including 6% of its RPS (1.5% of total electricity) comes from solar power.
- Homeowners' Solar Rights Act: Illinois state law prohibits homeowners' associations and similar organizations from preventing homeowners from using or installing solar energy systems.
- Special Assessment for Solar Energy Systems:
- Solar Renewable Energy Credit Procurement Plan (Public Act 98-0672): Up to $30 million will be dedicated to purchasing SRECs to stimulate and transform the solar development market in 2015-16.

Solar Market

Illinois currently has 54 MW of installed solar energy capacity and ranks 25th in the nation. The state installed 6 MW of solar in 2014. 2015 is expected to be a big year for solar in the state. The Illinois Power Authority released its solar procurement plan for renewable energy, which includes $30 million to spend on Solar Renewable Energy Credits (SRECs) for 2015 and 2016 to help stimulate new solar development.

Incentives that are available include:

- Solar and Wind Energy Rebate Program: A rebate program geared to the encouragement of smaller-scale distributed renewable energy, including solar and wind. Rebates are available for solar installations up to $10,000 for homeowners, $20,000 for businesses, and $30,000 for public sector and non-profit entities.
- PACE: Illinois Public Act 096-0481 enables local governments to enter into Property Assessed Clean Energy Agreements.
- Large- Distributed Solar Grant Program: This grant supports the development and implementation of large-scale distributed solar thermal and solar photovoltaic systems in Illinois. Solar photovoltaic projects are eligible for grants up to 25% of project costs for businesses and 40% for local governments and non-profit entities.

Barriers to Market Growth

Illinois could be looking at significant ramping up of public and private sector solar development with the advent of new incentives and the implementation of the solar energy RPS. However, for rooftop and distributed solar energy systems, Illinois does not have statewide standards setting a clear and consistent process across jurisdictions where these installations will be located. Local governments face the challenge of adapting national best practices to local conditions, removing inadvertent or outdated barriers in policy and regulation, and reducing unnecessary costs to a burgeoning solar market.

Comparison of Local Permitting Practices

Communities should clearly identify the permits needed for solar development in order to create a more transparent and consistent development process. The following outlines the similarities and differences between each of the states in how the permitting process is applied as it relates to solar energy installations.

Building Code

Building codes may be an important tool that can be used to address solar. While all three states have a building code (Illinois communities are not required to adopt the state code), none of these codes address solar energy installations. Further, each state varies in how the codes are adopted by local jurisdictions.

Minnesota: In Minnesota, there is a statewide building code that is applied to all local governments - though not all are required to adopt and enforce the code. The state building is a min/max code and development may be neither less restrictive nor more restrictive.

Wisconsin: In Wisconsin, the state building codes applies to all cities, villages, and towns with a population greater than 2,500. Those communities shall exercise jurisdiction over the construction and inspection of new development. The state code serves as a minimum standard and local jurisdictions may enforce a more restrictive code if they choose.

Illinois: In Illinois, there is not a statewide building code that local jurisdictions are required to adopt. Instead, local governments have the authority to adopt their own. Many localities have adopted their own code as they have deemed appropriate. However, 20 ILCS 3105/10.09-1 mandated that any municipality or county which had not adopted a building code by July 1, 2011, would have to comply with IBC 2006 or later.

State	Building Codes
Minnesota	2012 International Building Code
Wisconsin	2009 International Building Code
Illinois	Various across multiple jurisdictions

Electric Code

Each state has adopted the NEC though they are at different versions, it is expected that this will even out as each state updates its code.

Permitting Fee Structure

Local jurisdictions in each state are authorized to develop their own fee structure.

Comparison of Local Planning Practices

Plans include identification of community resources and background information that inform the process of defining the desired future outcomes. Recognizing local solar energy resources as a driver for development in the community helps integrate the resource into decision-making. The comprehensive plan is the foundational document, but communities can address solar development in other types of plans, including economic development plans, climate action plans, and energy plans.

Comprehensive Planning

Comprehensive Plans are the policy foundation for local governments. State statutes, enabling legislation, and typical practices were reviewed in all three states to identify where there are similarities and differences. Each state varies in how comprehensive plans are treated at the state level. In Illinois, municipalities are authorized to prepare comprehensive plans, but are not required. In Minnesota, comprehensive plans are only required for the 7-county Twin Cities metro area, and are authorized in the rest of the state. In Wisconsin, comprehensive plans are required for all communities that engage in zoning, subdivision regulation, or official mapping.

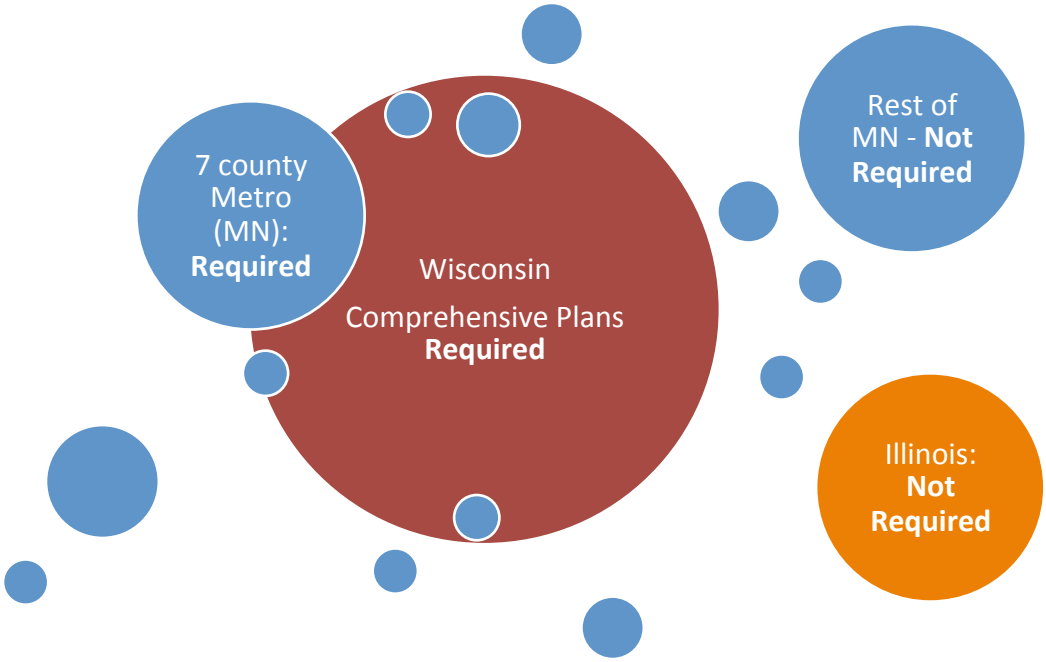

Figure 1. Where comprehensive plans are required, by state.

Smart Planning

Wisconsin is the only state that has a smart planning statute, 66.1001, which provides statutory planning guidance. This statute is often referred to as the "smart growth law" and it outlines elements to be included in comprehensive plans. While solar is not explicitly addressed in the smart planning law, there are a number of opportunities where it can be included in the various elements including: *Housing, Utilities and Community Facilities, Agricultural, Natural and Cultural Resources, Economic Development, and Land-use.*

Regional Planning

There is regional planning in each of the three states, however the degree to which a regional body has influence varies from state to state. In Wisconsin there are 9 regional planning commissions, which play an advisory role only to the communities within them. The Southeastern RPC provides the most ambitious regional plan, Vision 2050, and includes the City of Milwaukee and surround communities.

In Illinois, the Chicago Metropolitan Agency for Planning (CMAP) has the most robust regional planning in the state. The current CMAP regional plan is GO TO 2040, which plans for a more sustainable future.

The plan specifically addresses solar in the following ways:

> **Foster sustainable practices and renewable energy generation**. Communities should take the opportunity to pilot their own projects to promote small-scale renewable energy generation, which could include wind and solar power […].
>
> **Economic.** Manufacturers in the region have major opportunities for growth in emerging green industries (e.g. manufacturing components for wind turbines or solar panels […].
>
> The [communities] should review their zoning ordinances to make sure they incorporate best practices for siting renewable energy facilities {…}.
>
> **Utilize renewable energy generation in water utilities.** Municipal utilities should seek to employ solar and wind energy to generate all or part of the power required for utility operations. Unused power can be sold back to the grid.

Minnesota has a unique regional government in the Metropolitan Council, the regional planning body for the metro area, which includes Minneapolis and St. Paul. The Met Council completes its regional plan prior to the development of local comprehensive plans. The plan guides and coordinates future growth and development in the region, and local governments in the metropolitan area (over 180 entities) must develop plans that support the regional plan. The new regional plan (Thrive 2040) directly addresses solar energy, suggesting communities participate in incentive programs for solar generation, utilize financing programs like PACE, promote the development of community solar gardens, and consider development standards that increase the solar reflective quality of surface. Additionally, Minnesota statute (462.355) requires metro area communities to include in their plans an element to address the protection and development of access to direct sunlight for the production of energy.

Comparison of Zoning Practices

Plans and regulation written without the solar resource in mind can limit solar energy use. Basic zoning concepts such as setbacks, height, and lot coverage restrictions affect solar resource use. If the solar resource on a residential lot is limited to the front yard, a prohibition on accessory structures in the front yard will preclude solar development. Doing so is not necessarily the wrong decision, but the decision should be deliberate, not inadvertent.

Authority

Each state was reviewed for enabling legislation for zoning and solar or renewable energy related components of statutory language. Some significant difference will change the toolkit by state, particularly for Wisconsin. Basic enabling legislation in all three states is similar, with some regional differences, and thus basic zoning barriers, issues, and opportunities are similar.

Minnesota and Illinois statutes leave choices in the hands of local jurisdiction for most basic zoning and advanced zoning issues for addressing solar development. As with the planning best practices, regional planning entities provide technical assistance to local governments and can be a vector for implementing best practices although the capacity of these entities and their commitment to addressing renewable energy issues varies widely.

Solar Rights

Wisconsin has a strong solar rights statute that creates a common format and structure for solar zoning. Wisconsin state law, 66.0401 states:

> No county, city, town, or village may place any restriction, either directly or in effect, on the installation or use of solar energy system […].

Further, 66.0401 (2), provides local governments the authority to enact an ordinance that would require the trimming of vegetation that blocks solar equipment, provided the vegetation was not present prior to the installation.

This statute directly limits the local government's authority to regulate solar energy development. In Wisconsin, local governments will need to use caution when addressing solar in zoning codes or other regulatory processes.

Both Minnesota and Illinois have statutes that enable local governments to enact protections for solar development, but does not independently assert such protection at the State level. State law does imply a "solar right" in some circumstances, such as Minnesota's statute regulating local variances, which specifically describes lack of access to direct sunlight for solar energy production as a "practical difficulty" that allows (but does not require) the granting of a variance from local ordinances.

Solar Access

Both Minnesota and Wisconsin state law contains provisions for allowing the purchase of solar easements across neighboring properties, while no such enabling legislation exists in Illinois. Minnesota also, as mentioned above, requires metro area local governments to address the protection and development of solar resources, including access across neighboring properties (but does not independently protect solar development rights).

Illinois law does protect solar development rights in subdivisions governed by Home Owners' Associations (HOAs), ensuring that HOAs cannot prohibit solar development or render it economically untenable via restrictions. Neither Minnesota nor Wisconsin have statutory provisions regarding HOAs.

Conclusions

Implications for toolkit

Permitting: While there are differences across the states as far as which version of national and international code standards has been adopted and how it applies across each state, most jurisdictions in all three states can use the national best practice foundation of the Solar ABCs Expedited Permit process. Wisconsin and Minnesota have already developed a model solar permitting process, while Illinois has not adopted a state model but does have the Chicago Solar Express process as an example. A Grow Solar permit model is adapted from existing resources, and the resources on structural issues developed in Wisconsin and Minnesota are a useful component of the Grow Solar permitting toolkit, supplemented by national standers offered in the Solar ABCs and Sandia National Lab.

Planning: The Grow Solar planning best practice toolkit is similar across the three states as enabling legislation and planning practices across the three states is similar. The opportunities for implementing the best practices will vary across the Grow Solar geography due to variations in regional guidance and technical capacity in regional planning entities. Wisconsin has the only statewide statutory planning

guidance. That guidance (Smart Growth Plans), while somewhat embattled and sporadically implemented, provides some statewide foundation for integrating solar market transformation goals into local plans.

Zoning: Both Minnesota and Wisconsin have existing zoning toolkits that address the specifics of solar zoning best practices and can be rebranded for use in Grow solar technical assistance. Illinois does not have any specific solar zoning models or toolkits, but follows a similar enabling statute as Minnesota and an adaptation of Minnesota's toolkit can provide guidance for action. Minnesota's zoning toolkit is evolving as the community solar garden program ramps up and local land use barriers and conflicts become more evident.