

Solar Energy Financing: Empowering Wisconsin Local Governments



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Solar Energy Financing **GUIDE**



Empowering **Wisconsin** Local Governments



- Municipal, Tribal & School
- Residential & Commercial
- Microgrids
- Government Actions

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What's in the Solar Energy Financing Guide?

Financing Municipal, Tribal & School Solar Projects

- Direct Buy
- Public/Private Partnership
 - Third-Party Financing

Financing Residential & Commercial Solar

- Solar Group Purchasing
- Community Solar Gardens
- Legacy Solar Cooperative Model
- PACE Financing
- Green Power Purchase

Microgrids

Government Actions that Facilitate Solar

Resources

Organizations

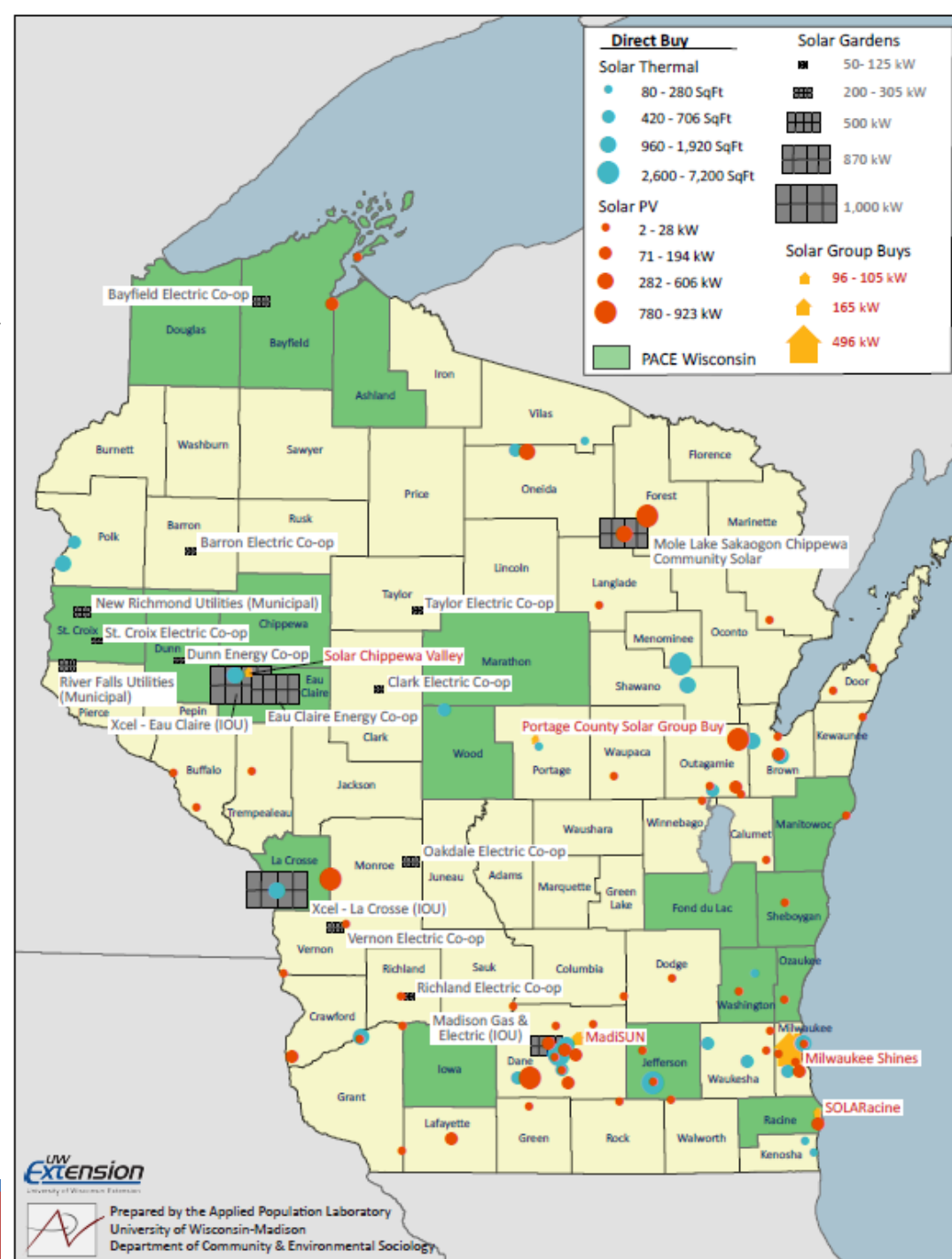
Appendices

Glossary

The State of Solar in Wisconsin

Local Governments Tribes, Schools

- Direct Buy – PV, solar thermal
- Solar Group Buys
- Solar Gardens
- PACE



Direct Buy

DIRECT PURCHASE

- Municipality funds and owns
- Offset cost with funding:
 - Focus on Energy incentives
 - Grant funds (OEI, US DOE)
 - Utility funding
- Act 32
Tax levy

Courtesy of Brown County



ENERGY EFFICIENCY + SOLAR

- ESCO – Energy Service Company
 - Reduce energy use- Energy efficiency upgrades paid for through energy savings by ESCO
 - Solar offsets greater portion of energy costs
- LEED or Zero Net Energy
 - Lake Mills Elementary- LEED Platinum/65% energy reduction

Photo: Courtesy Miron Construction



Case Study – Direct Buy

Lakeland Union High School, Minocqua

- 280kW solar PV system – supplies 20% of school’s electricity annually
- System cost - \$631,000 – financed under Act 32
- \$291,400+ savings over 15 years guaranteed by Schneider Electric
- \$264,000 estimated lifetime energy cost savings



Photo courtesy of SunPeak

Public-Private Partnership

Third-party private business owns, operates, maintains, repairs solar system on municipal property

-Receives 30% Renewable Energy Investment Tax Credit

POWER PURCHASE AGREEMENT (PPA)

- Municipality buys electricity from third-party over fixed period of time
 - May buy the system after 6-7 years

SOLAR LEASE

- Municipality leases the use of the solar system



Photo Courtesy Half Moon Ventures & City of Jefferson

Case Study – Third Party Solar

Forest County Potawatomi Community, Crandon

- 15 solar projects on tribal buildings
- 923 kW solar power
- 50% of system costs funded by US DOE grant
- 50% of cost funded by private entity to take advantage of federal solar tax credit
- Early data show payback < 5 years



Assisted Living



Recreation Bldg



Bingo Casino Event Center

Photos Courtesy of: Forest County Potawatomi Community

Financing Residential & Commercial Solar

Solar Group Buy

Community Solar Garden

Legacy Solar Model

PACE

Case Study – Community Solar

St. Croix Solar Garden- Sunflower 1: 125,000 kWh

- St. Croix Electric Coop/
Dairyland Power, 2014
- 120 subscribers

Solar Connect Community

- 1MW each cities of La
Crosse/ Eau Claire/ Xcel
Energy

Community Solar Case Studies

ST. CROIX SOLAR GARDEN

St. Croix Electric Cooperative, part of Dairyland Power, built a 103 kW community solar garden called Sunflower 1 in 2014. One hundred-twenty co-op member subscribers paid for up to five, 500-watt production unit(s) and collect credits on their monthly electric bills from the solar garden's output.



The solar PV array produced 125,000 kWh of electricity in its first year. It is estimated to prevent 123 tons of CO₂ emissions annually and more than 3,000 tons over the course of 25 years.

SOLAR*CONNECT COMMUNITY SERVES EAU CLAIRE AND LA CROSSE

The City of Eau Claire, an Energy Independent Community, will have a 1 megawatt (MW) community solar garden by working with their utility Xcel Energy. It is sited on a reused part of an abandoned 26-acre city-owned landfill located next to Xcel's headquarters and close to area educational opportunities. The City of Eau Claire is leasing the land to the developer.

The Eau Claire garden and another 1MW community solar garden by Xcel in La Crosse (also an Energy Independent Community), are called Solar*Connect Community.

The City of Eau Claire subscribed for 116 kW of solar electricity to fully offset the electric use at its public swimming pool. Eau Claire County, Stanley Boyd School District, Chippewa Valley Technical College, Village of North Hudson, Menominee



Solar Connect groundbreaking.

School District and Fort McCoy are other public subscribers. In addition to local government use, more than 20 businesses and 80 homeowners are subscribers. In La Crosse, Gundersen Health, Mayo and Marshfield Clinics have subscribed.

PACE Wisconsin

Property Assessed Clean Energy (PACE): pacewi.org

Low cost, long term loan for energy efficiency, renewable energy, water conservation

- 24 counties participating
- Commercial projects
- Loans through lender
- Charged on property tax
- No up-front cost, often cost savings greater than monthly repayment amount



Resources

energyonwi.uwex.edu

- Web site
- Newsletter

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Wisconsin Office of Energy Innovation -
www.stateenergyoffice.wi.gov
MREA - <https://www.midwestrenew.org>
RENEW - www.renewwisconsin.org

