Resources to Advance Clean Energy

Fritz Ebinger
Clean Energy Resource Teams (CERTs)
UMN Regional Sustainable Development Partnerships & Extension

CERTs: A Public Resource

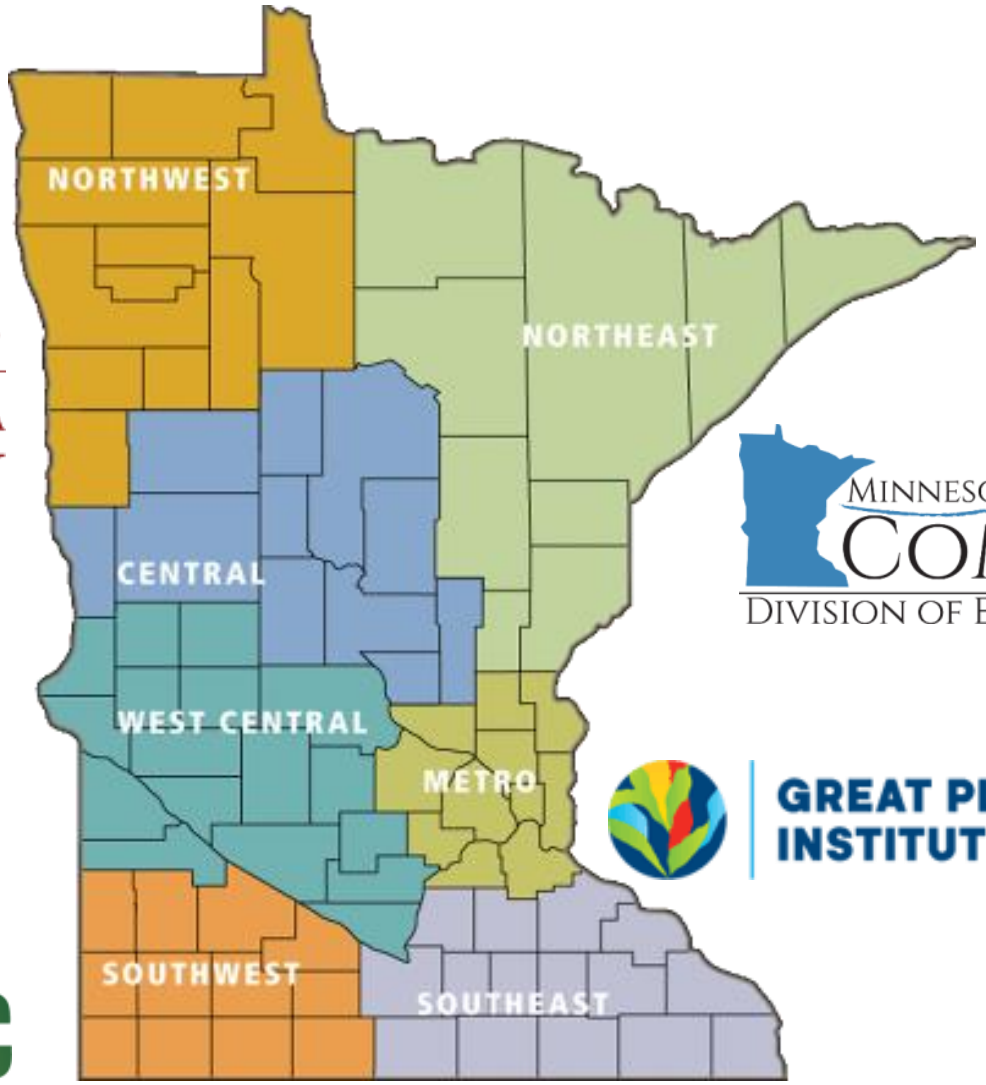
CERTs Mission: Connect individuals and their communities to the resources they need to identify and implement community-based clean energy projects

Statewide Partnership & Collaboration

Clean Energy Resource Teams

Regional Sustainable Development Partnerships

University of Minnesota Extension



Minnesota Department of Commerce
Division of Energy Resources

Great Plains Institute
Better Energy. Better World.

SRDC

What Does CERTs Do?

Regional Sustainable Development Partnerships

University of Minnesota Extension

Clean Energy Resource Teams

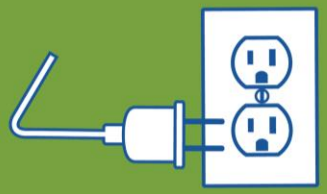
LEARN

Write blog posts & case studies

Create educational guides

Manage diverse web-based tools

CONNECT



Host events, tours, and conferences

Help with community organizing

Connect people to technical resources

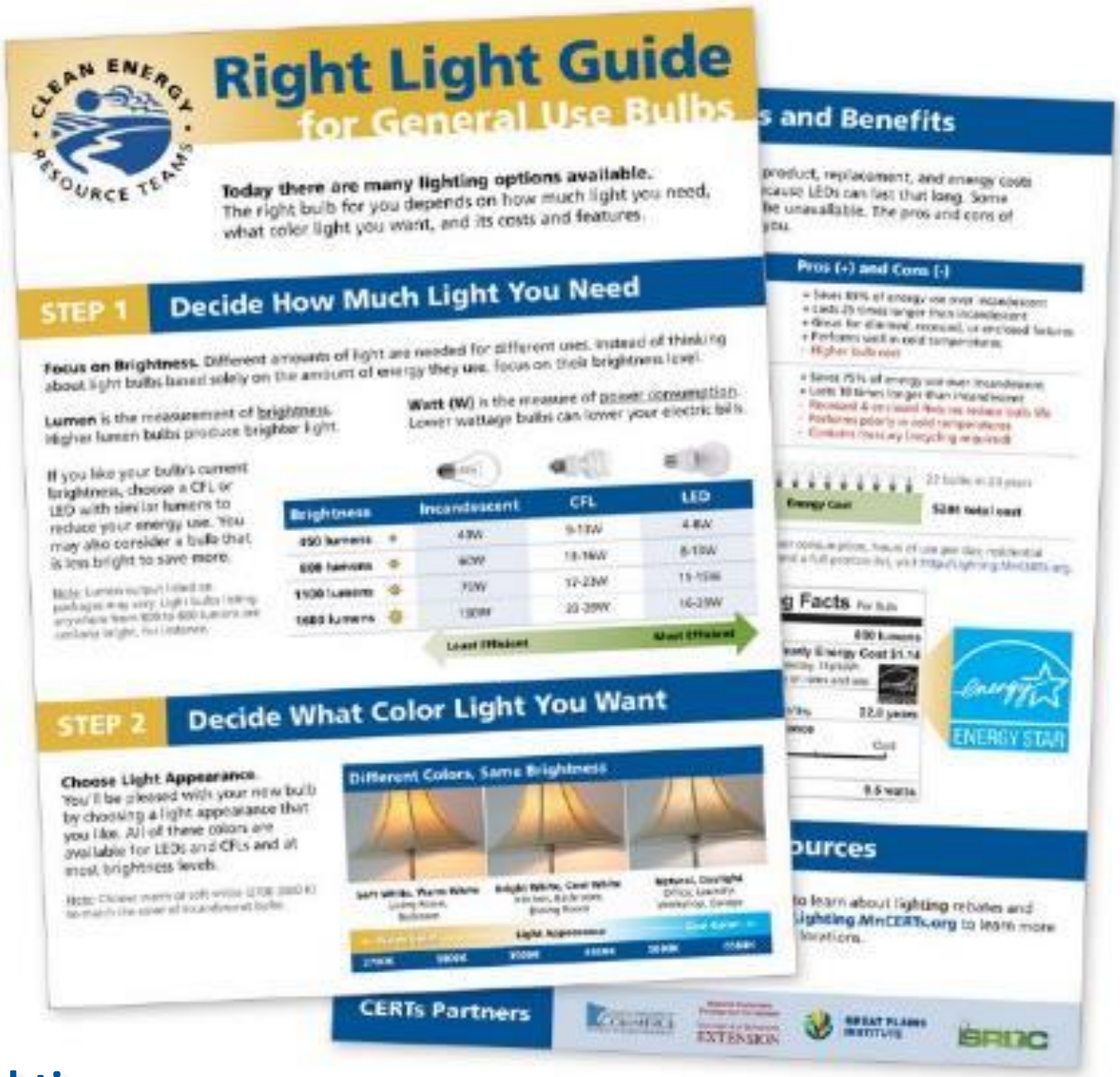
ACT

Provide seed grant funding and more

Deliver research-based campaigns

Spur other statewide programs

Right Light Guide



mncerts.org/lighting

CERTified Campaigns

Efficient Spray Valves and Aerators: Make a Splash

Light Recycling:

LED Lighting for Turkey Barns:

GOBBLING UP SAVINGS

LED Lighting for Gas Station Canopies:

Small Business Blitzes

CLEAN ENERGY RESOURCE TEAMS

Southern Minnesota Municipal Power Agency

Waseca Utilities

Spring Valley Utilities Light & Water Department

City of Redwood Falls Public Utilities

Municipal Utilities

Wells Public Utilities

North Branch Municipal Water & Light

Grand Marais Public Utilities

Litchfield Public Utilities

Saint Peter Public Utilities

Princeton Public Utilities

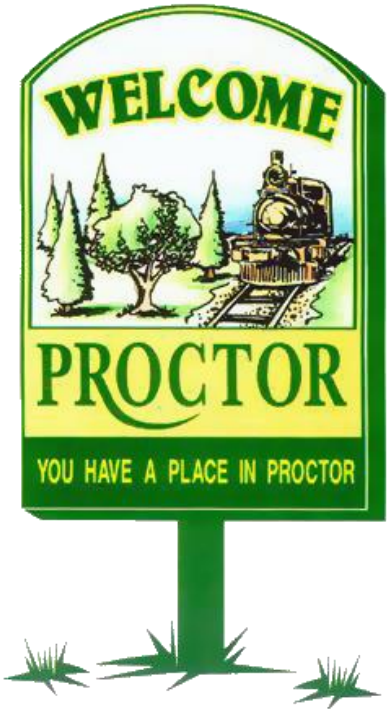
Preston Public Utilities

MMU Mora Municipal Utilities

Fairmont Public Utilities

City of Lake City Public Utilities

Bp Blooming Prairie Public Utilities



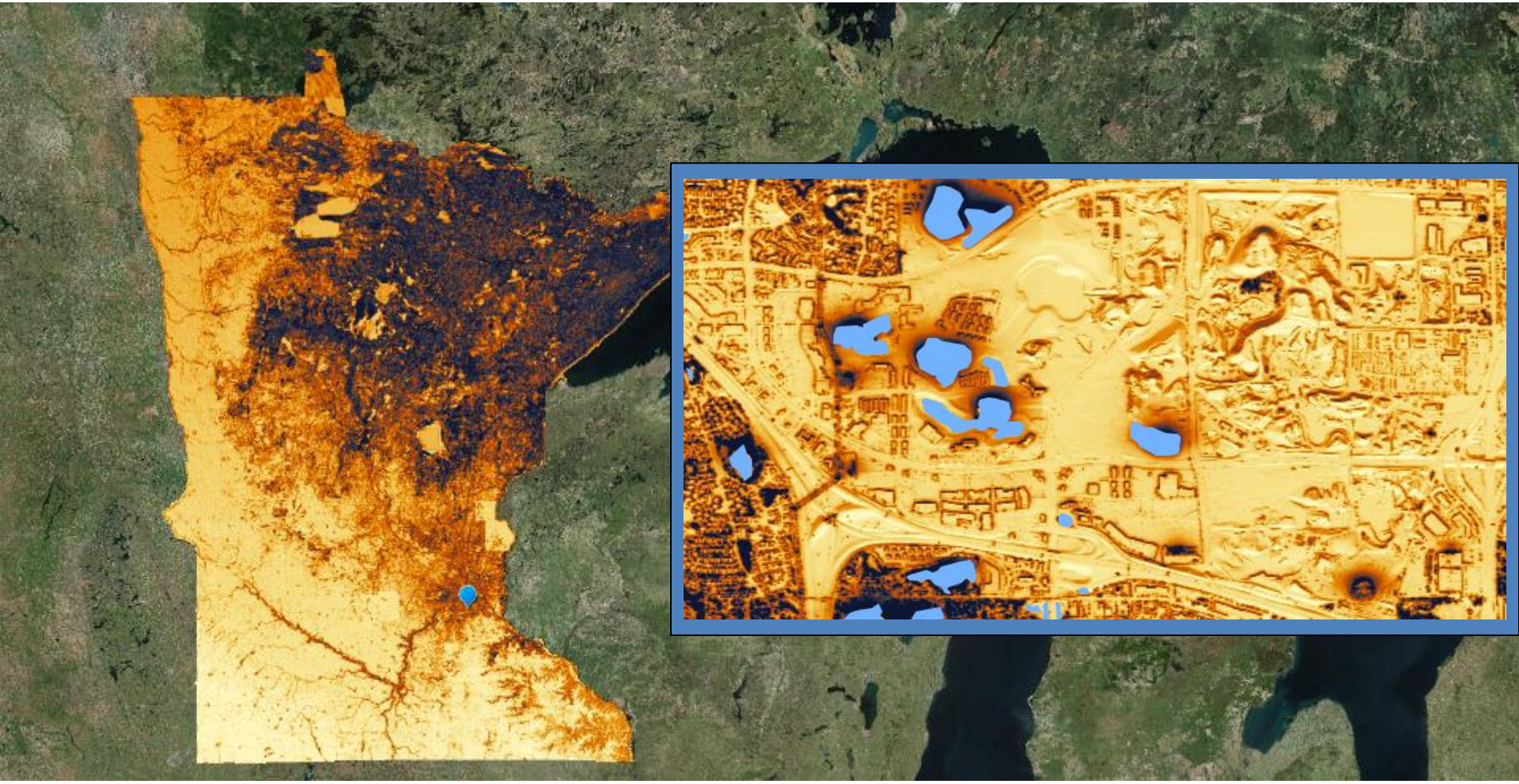
Federated Rural Electric

Touchstone Energy® Cooperatives
The power of human connections®

People's Energy Cooperative
Your Touchstone Energy® Cooperative

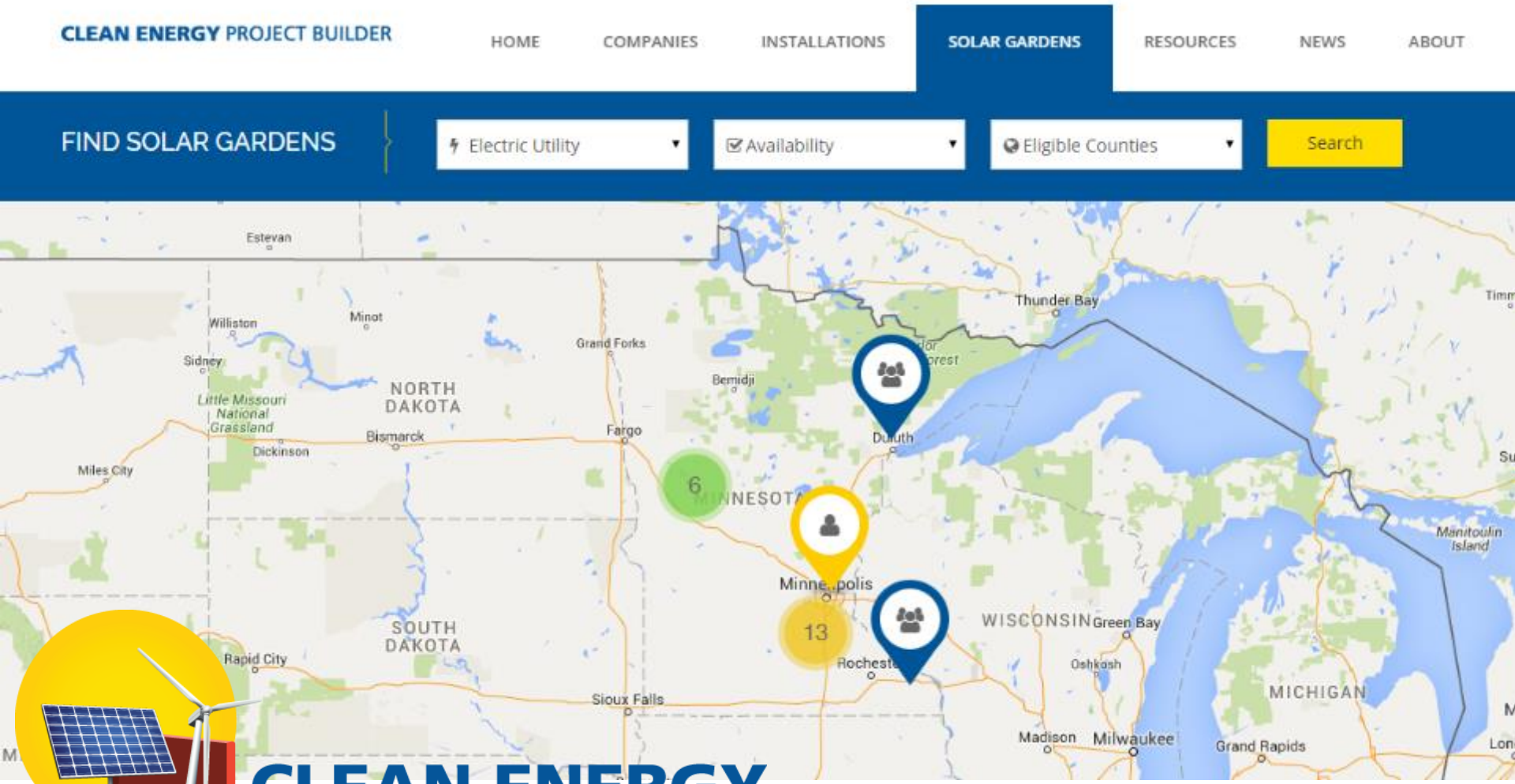
Positively Park Rapids!
A MAIN STREET EXPERIENCE

Solar Suitability App



mn.gov/solarapp

Clean Energy Project Builder



CLEAN ENERGY
PROJECT BUILDER

cleanenergyprojectbuilder.org

Tools for Farms and Businesses

Renewable Energy for Greater Minnesota

Renewable Energy for Greater Minnesota: Solar, wind, and biomass are plentiful sources of clean energy in Minnesota, and we're here to help farmers and rural small businesses get projects done. CERTs offers tools to pursuing renewable energy projects.

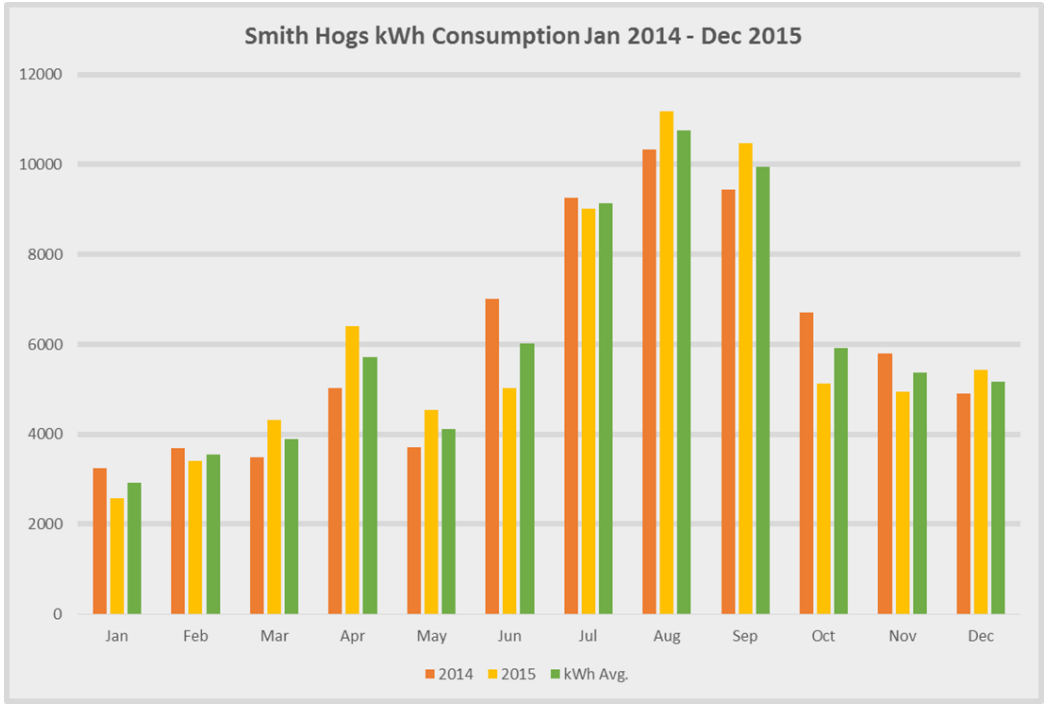
1. Renewable Energy System Sample Application

2. Energy Efficiency Project Sample Application

http://www.cleanenergyresourceteams.org/project-planning/farmers

R.E. for Greater Minnesota

- Starts with a load analysis
- How much energy use? What's the goal? Budget? Inefficiencies?



Renewable Energy for Greater Minnesota

R.E. for Greater Minnesota

R.E. for Greater Minnesota

Renewable Energy for Greater Minnesota

RESULTS

Print Results

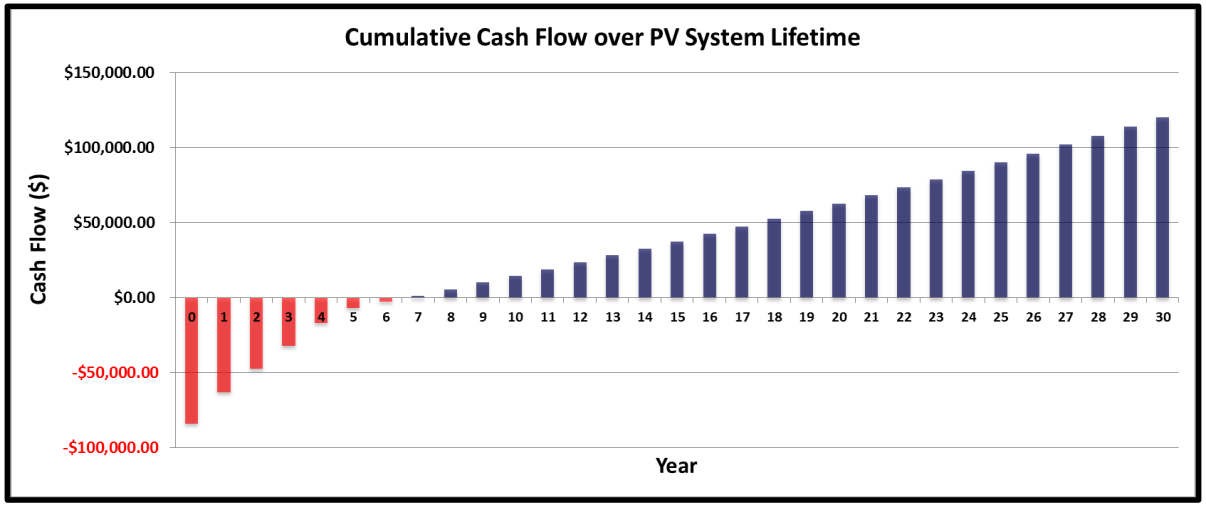
51,265 kWh per Year *

System output may range from 48,133 to 52,885kWh per year near this location.
Click HERE for more information.

Month	Solar Radiation (kWh / m² / day)	AC Energy (kWh)	Energy Value ($)
January	1.74	1,983	173
February	3.52	3,415	298
March	5.26	5,436	474
April	5.57	5,366	468
May	4.48	4,448	388
June	5.76	5,274	460
July	6.43	5,935	518
August	6.41	5,984	522

Summary of Financial Results

Initial Cost of PV System (Without Incentives)	$159,800.00	
Total Incentives	$75,590.00	
Net Cost of PV System After Incentives	**$84,210.00**	
First Year Utility Bill Savings	**$3,733.64**	
Number of Years to Cost Recovery	**7.0**	Years
Simple Payback	**22.6**	Years
Net Present Value (NPV) of PV System	**$37,603.13**	
Internal Rate of Return	**10.57%**	
Profitability Index	**1.45**	
Cumulative Cash Flow	**$120,259.80**	



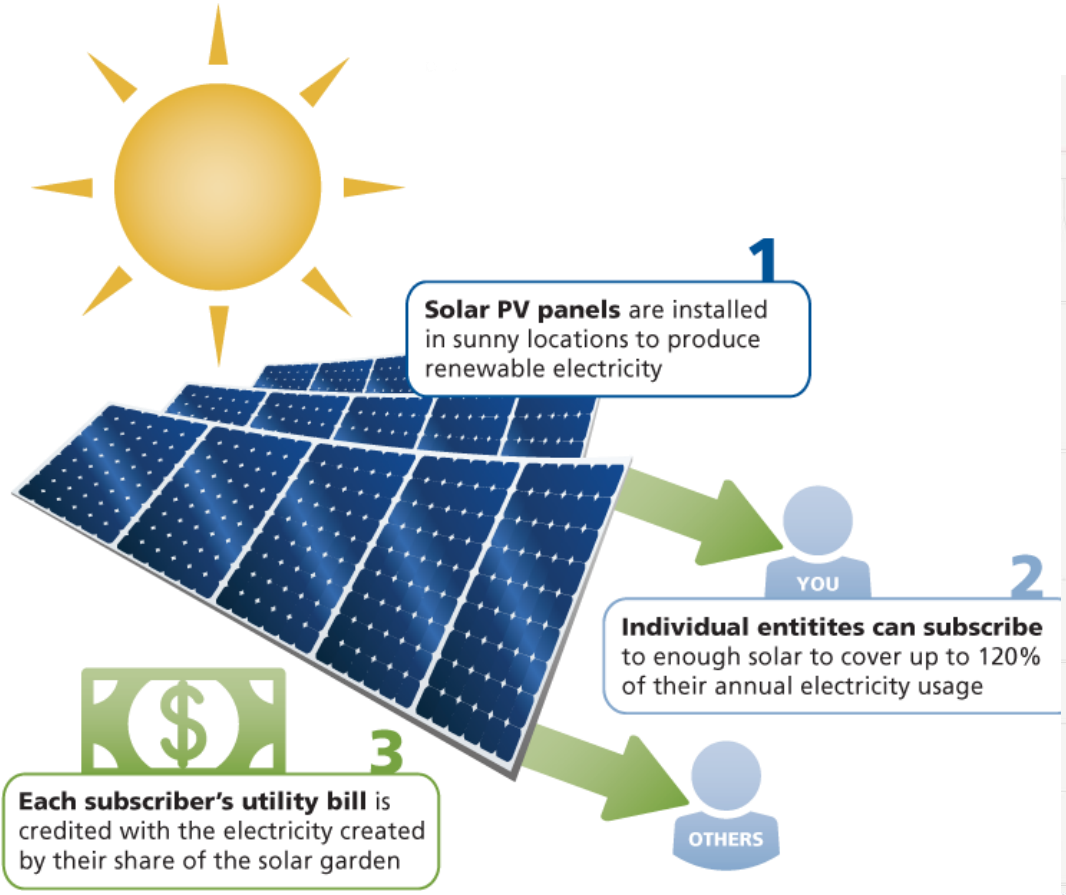
AGRI Biomass Grant

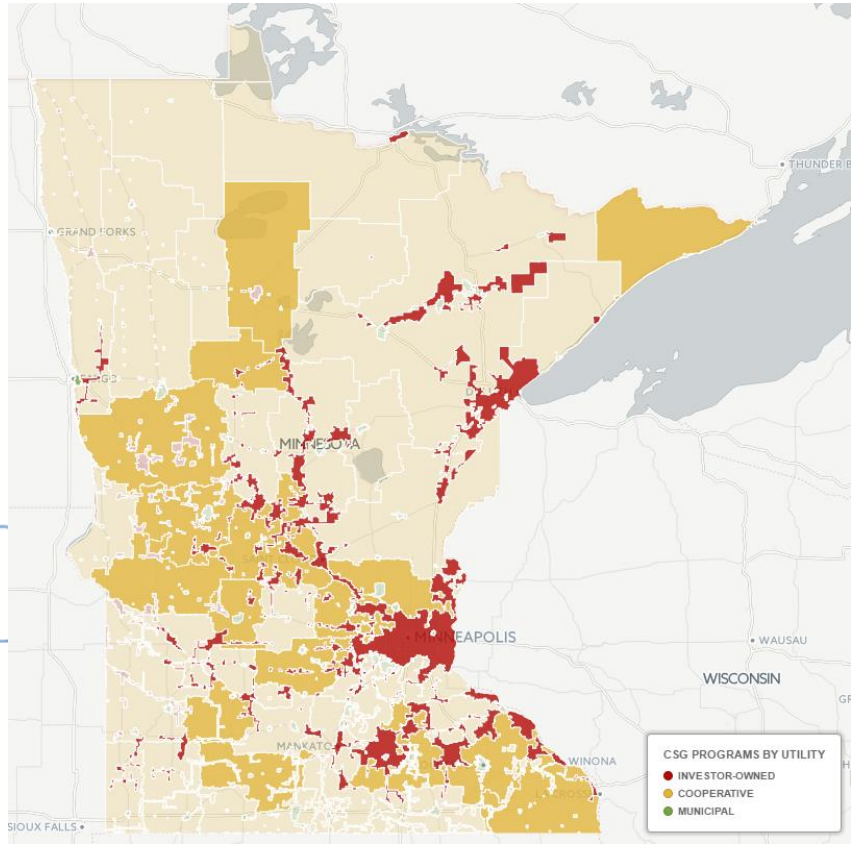
Renewable Energy for Greater Minnesota

“Canned” project from Becky, Al and Jim Eincyk

- 1.65 MMBtu wood chip furnace
- 2-story broiler chicken barn
- Albany, MN
- Displacing 2/3 propane heat

Community Solar Gardens





SolarGardens.MnCERTs.org

Tools for Local Government and Landowners

GUARANTEED ENERGY SAVINGS PROGRAM

http://www.cleanenergyresourceteams.org/gesp

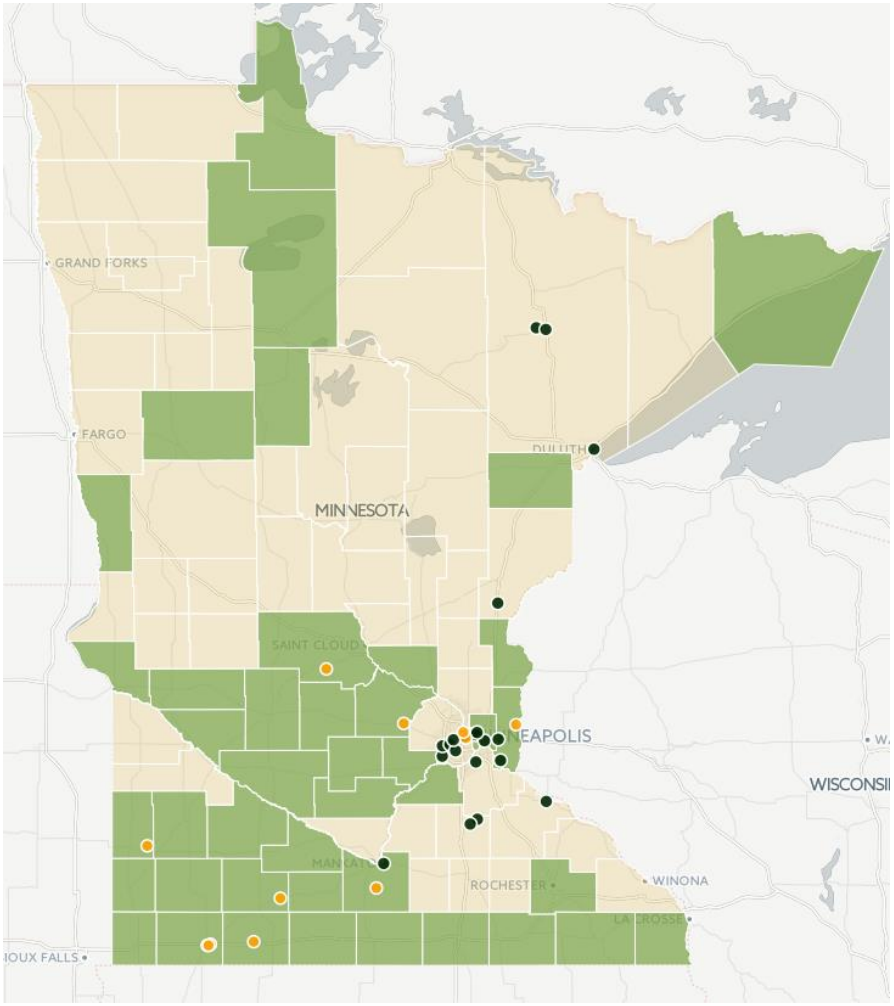
PACE
property-assessed clean energy financing

http://www.cleanenergyresourceteams.org/pace

Minnesota GreenStep Cities

http://www.cleanenergyresourceteams.org/greenstep

Property Assessed Clean Energy



PACE financing sheds light on major energy savings at Blue Line Travel Center in Worthington, MN

Larry and Deb Potter own Blue Line Travel Center in Worthington, MN. For a long time they thought about saving energy with lighting upgrades, but they couldn't find the right financing to get it done. The availability of PACE financing shed new light on their goals.

See lighting project details >>

Parkwood Place in Mountain Lake, MN saving on energy costs with efficiency upgrades through PACE

Parkwood Place in Mountain Lake, MN provides assisted living and senior care options for elderly adults. They recently utilized the Rural Minnesota Energy Board's Property Assessed Clean Energy —or PACE—program to finance energy efficiency upgrades in their facility.

Read the interview >>

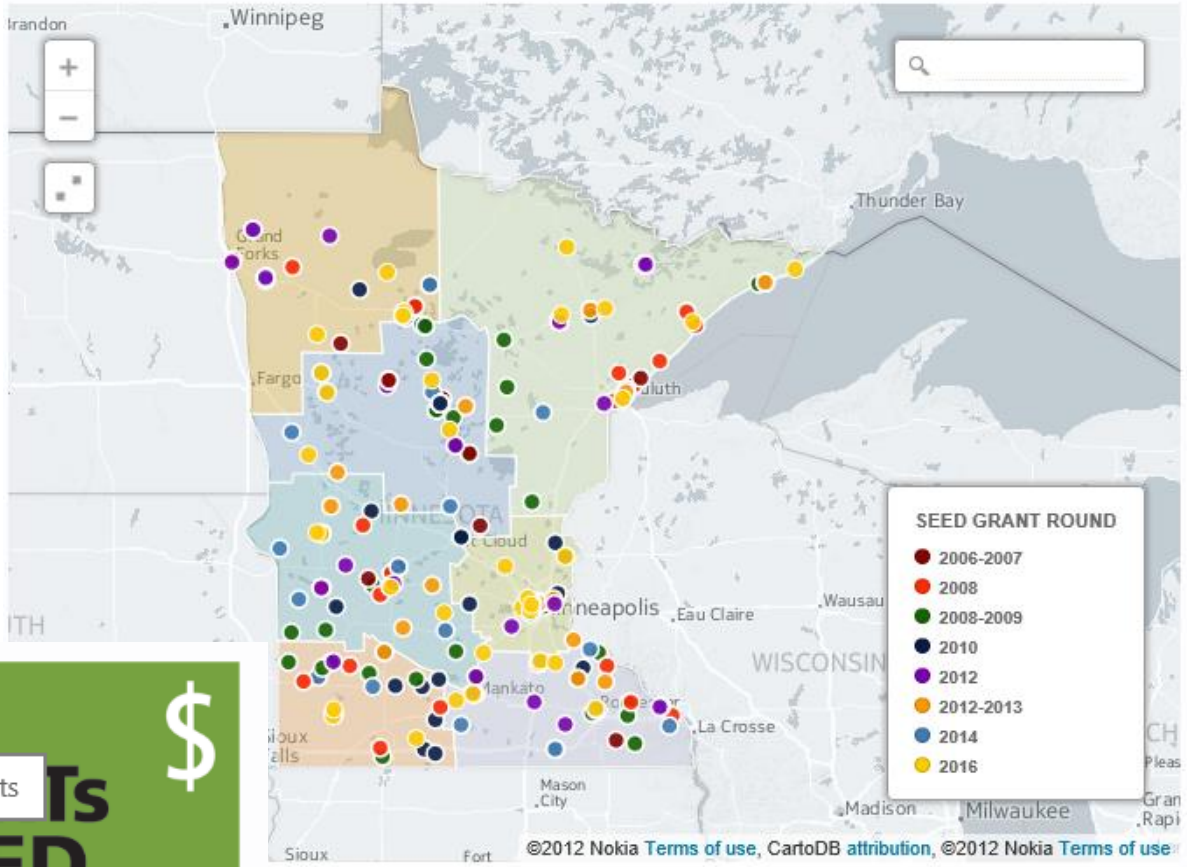
Solar made possible with PACE at Otten Bros. Garden Center and Landscaping in Long Lake, MN

For over half a century, Otten Bros. Garden Center and Landscaping has been harnessing the power of the sun to grow plants and create beautiful spaces. With this history, it seemed like a natural step to use sunlight to power their business, and PACE helped them pay for it.

Learn about their efforts >>

http://www.cleanenergyresourceteams.org/pace

Seed Grants



CERTs Seed Grants

SEED GRANTS

http://www.cleanenergyresourceteams.org/projects

CERTs:
Minnesotans Building a Clean Energy Future

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