Table of Contents

Solar Works in Minnesota ........................................... 2

Solar Companies Serving Minnesota .......................... 4

Overview .................................................................... 6

Company Listings and Descriptions ......................... 7

Manufacturers .......................................................... 7

Distributors ............................................................. 10

Installers .................................................................. 11

Project Services ...................................................... 19

Education/Outreach.................................................. 30

Common Expectations of a Solar Installation .......... 34

Solar Resources ........................................................ 35

Minnesota Solar Facts .............................................. 36
Solar Works in Minnesota

Minnesota is increasing the generation of solar energy and reducing its dependence on imported fuels.

Minnesota reached a milestone of 505 megawatts (MW) of known grid-tied solar photovoltaic (PV) capacity on July 1, 2017, more than double the state’s total capacity of 246 MW on Dec. 31, 2016 and up from just 37 MW in 2015 and up from less than 1 MW in 2009. In the first half of 2017, Minnesota added 259 MW of solar capacity. About 300 MW of added capacity is projected for the rest of 2017.

In 2007, Minnesota adopted bipartisan legislation called the Next Generation Energy Act. The bill established one of the first in the nation Renewable Energy Standards, calling for 25% of Minnesota’s electricity to come from renewable energy sources by 2025. In 2013, Minnesota passed the Solar Energy Standard that requires investor-owned utilities (Xcel Energy, Minnesota Power, and Otter Tail Power) to obtain 1.5% of their electric power from solar by 2020, with a goal of 10% by 2030. Minnesota’s solar market also benefitted from state incentive programs such as Xcel Energy’s Solar*Rewards Program and the Made in Minnesota Solar Incentive Program (2014-2017).

The bulk of new solar in 2016 came from large utility-scale projects installed mainly in Xcel Energy territory—including the 100 MWac North Star solar project, 36.4 MWac of community solar, and the first 6.5 MWac of the 100 MWac Aurora Distributed Solar project site in Chisago County. A 10 MWac Solar array was completed by Minnesota Power at Camp Ripley in Little Falls in November 2016.

Minnesota is projected to have more than 800 MW of solar capacity in 2017

By the end of 2017, Minnesota is expected to have more than 800 MW of solar capacity. If projections prove true, Minnesota will likely become a top-10 state for solar capacity (it ranked 12th in 2016, according to the SEIA Solar Market Insight Report 2016 Year in Review). The new 2017 solar generation is expected to come mainly from community solar gardens built in Xcel territory. A 62 MWac solar farm for Xcel Energy in Lyon County was completed in January 2017 and the remaining 14 sites from the Aurora Distributed Solar project, totaling about 94 MWac, came online in the second quarter of 2017. More than 10 MWac of rooftop solar is expected to be installed on Minnesota homes and businesses supported by rooftop solar incentive programs. If projections are met, Xcel Energy will exceed its 1.5% Solar Energy Standard by year’s end.

Growing Minnesota solar jobs

Solar jobs in Minnesota increased 44% from November 2015 to November 2016, according to the 2016 National Solar Jobs Census conducted by The Solar Foundation. Minnesota employed 2,872 people in the solar industry as of December 31, 2016, up from 1,995 the year before. Over the last three years, state solar jobs have increased by 253%, from 814 in 2013 compared with the 2016 total.

Minnesota solar-related jobs—covering manufacturing, sales and distribution, and project development and installation—have expanded significantly over the last five years:

- 1,131 solar jobs were created from 2013-2015, a 131% increase over 2012 totals.
- An estimated 500 Minnesota companies conduct solar manufacturing, sales, distribution, and installation functions.
- Each MW of solar PV installed in Minnesota supports 13 installation jobs.
- Based on the funding committed by the Minnesota Department of Commerce through the Made in Minnesota Solar Incentive Program from 2013-2017, an estimated 495 jobs were supported or created in the solar industry in Minnesota.

1,131 solar jobs were created from 2013-2015, a 131% increase over 2012 totals.

• An estimated 500 Minnesota companies conduct solar manufacturing, sales, distribution, and installation functions.

• Each MW of solar PV installed in Minnesota supports 13 installation jobs.

• Based on the funding committed by the Minnesota Department of Commerce through the Made in Minnesota Solar Incentive Program from 2013-2017, an estimated 495 jobs were supported or created in the solar industry in Minnesota.

The rooftop solar market has thrived thanks largely to incentive programs such as Made in Minnesota and Xcel Energy’s Solar*Rewards. The price to install a solar array in Minnesota decreased 60% from 2010 to 2017.

Says Mark Turley of Alexandria Industries in Alexandria, Minnesota:

“We manufacture products and parts for the solar industry, and incentive programs like Made in Minnesota have increased demand for these parts. We did $12 million in renewable energy parts business last year; two years ago we did zero dollars.”
## Solar Service & Supply Companies in Minnesota

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerotek Energy Services</td>
<td>Golden Valley, MN</td>
</tr>
<tr>
<td>Alexandria Industries</td>
<td>Alexandria, MN</td>
</tr>
<tr>
<td>All Energy, Inc</td>
<td>St. Paul, MN</td>
</tr>
<tr>
<td>All Energy Associates, Inc</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Allied Graphics</td>
<td>St. Michael, MN</td>
</tr>
<tr>
<td>Alservier Strategies</td>
<td>Apple Valley, MN</td>
</tr>
<tr>
<td>Amberg Renewable Energy, Inc</td>
<td>Albertville, MN</td>
</tr>
<tr>
<td>Ameresco</td>
<td>Eden Prairie, MN</td>
</tr>
<tr>
<td>Apadan Solar Technologies</td>
<td>Golden Valley, MN</td>
</tr>
<tr>
<td>Apex Efficiency Solutions, SBC</td>
<td>Anoka, MN</td>
</tr>
<tr>
<td>Applied Energy Innovations</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Aquilla Solar Corp</td>
<td>New Lake, MN</td>
</tr>
<tr>
<td>A-Sharp Energy</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Associated Benefits &amp; Risk Consulting</td>
<td>Minnetonka, MN</td>
</tr>
<tr>
<td>Automated Control Systems</td>
<td>Savage, MN</td>
</tr>
<tr>
<td>Avant Energy, Inc</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Barr Engineering Co</td>
<td>Bloomington, MN</td>
</tr>
<tr>
<td>Blattner Energy, Inc</td>
<td>Orono, MN</td>
</tr>
<tr>
<td>Borrego Solar Systems Inc</td>
<td>Plymouth, MN</td>
</tr>
<tr>
<td>Carr Creek Electric Service LLC</td>
<td>Coon Rapids, MN</td>
</tr>
<tr>
<td>Cedar Creek Energy</td>
<td>Green Bay, WI</td>
</tr>
<tr>
<td>Clean Energy Economy Minnesota</td>
<td>Mountain Iron, MN</td>
</tr>
<tr>
<td>Clean Energy Resource Team</td>
<td>Saint Paul, MN</td>
</tr>
<tr>
<td>Common Sense Energy</td>
<td>Plainview, MN</td>
</tr>
<tr>
<td>CompaRn, Inc</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Consulting Engineers Group, Inc</td>
<td>Lakeville, NY</td>
</tr>
<tr>
<td>Cosmos Energy, Inc</td>
<td>Rochester, MN</td>
</tr>
<tr>
<td>Crenlo Cab Products</td>
<td>Rochester, MN</td>
</tr>
<tr>
<td>Dalsin Industries</td>
<td>Bloomington, MN</td>
</tr>
<tr>
<td>Despatch Industries</td>
<td>Lakeville, MN</td>
</tr>
<tr>
<td>Development Services, Inc</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Dunham Associates, Inc</td>
<td>St. Paul, MN</td>
</tr>
<tr>
<td>Ecoclimatium</td>
<td>Duluth, MN</td>
</tr>
<tr>
<td>Energy Conservation Products &amp; Services, Inc</td>
<td>Carlton, MN</td>
</tr>
<tr>
<td>Energy Plus DBA Conservation Technologies</td>
<td>Duluth, MN</td>
</tr>
<tr>
<td>Energy Wise Solutions</td>
<td>Cannon Falls, MN</td>
</tr>
<tr>
<td>Evans, Inc</td>
<td>Eden Prairie, MN</td>
</tr>
<tr>
<td>EVS, Inc</td>
<td>Duluth, MN</td>
</tr>
<tr>
<td>Fagen, Inc</td>
<td>Granite Falls, MN</td>
</tr>
<tr>
<td>Forteva Solar</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Frattalone Companies, Inc</td>
<td>St. Paul, MN</td>
</tr>
<tr>
<td>Gary Hammer Electric</td>
<td>Becker, MN</td>
</tr>
<tr>
<td>Genie Solar Support Services</td>
<td>Excelsior, MN</td>
</tr>
<tr>
<td>Geronimo Energy</td>
<td>Edina, MN</td>
</tr>
<tr>
<td>Go Green Energy</td>
<td>Orono, MN</td>
</tr>
<tr>
<td>Green Circuit</td>
<td>Hudson, WI</td>
</tr>
<tr>
<td>Green Energy Products</td>
<td>Springfield, MN</td>
</tr>
<tr>
<td>Green Energy Solutions</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Green Home Doctors</td>
<td>Minnetonka, MN</td>
</tr>
<tr>
<td>Heliene Inc</td>
<td>Mountain Iron, MN</td>
</tr>
<tr>
<td>Hunt Electric Corporation</td>
<td>Bloomington, MN</td>
</tr>
<tr>
<td>IBEW Local Union 292</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>IDEAL Energies</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>International Precision Machining, Inc</td>
<td>Waite Park, MN</td>
</tr>
<tr>
<td>Itel Energy</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Kargec-Faulconbridge, Inc (KFI Engineers)</td>
<td>St. Paul, MN</td>
</tr>
<tr>
<td>Knobelcdorf Electric, Inc</td>
<td>Goodhue, MN</td>
</tr>
<tr>
<td>Lovegreen Industrial Services</td>
<td>Eagan, MN</td>
</tr>
<tr>
<td>M+W Energy</td>
<td>Chandler, AZ</td>
</tr>
<tr>
<td>Malina Solar Structure</td>
<td>Saint Paul, MN</td>
</tr>
<tr>
<td>Matheson Tri Gas</td>
<td>Eagan, MN</td>
</tr>
<tr>
<td>Metal Services of Blooming Prairie, Inc</td>
<td>Blooming Prairie, MN</td>
</tr>
<tr>
<td>Meyer Bergman Johnson, Inc</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Midwest Solar Expo, LLC</td>
<td>Brooklyn, NY</td>
</tr>
<tr>
<td>Milo Electric, LLC</td>
<td>Prior Lake, MN</td>
</tr>
<tr>
<td>Minnesota Municipal Utilities Association</td>
<td>Plymouth, MN</td>
</tr>
<tr>
<td>Minnesota Native Landscapes</td>
<td>Otsego, MN</td>
</tr>
<tr>
<td>Minnesota Renewable Energy Society (MRES)</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>New Energy Equity, LLC</td>
<td>Annapolis, MD</td>
</tr>
<tr>
<td>Novel Energy Solutions</td>
<td>St. Charles, MN</td>
</tr>
<tr>
<td>Nu Energy Tech Solutions</td>
<td>Devlin, Ontario</td>
</tr>
<tr>
<td>Olson Energy Corporation</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Oxbow Sunworks</td>
<td>Stillwater, MN</td>
</tr>
<tr>
<td>Paulson Law Office, Ltd</td>
<td>Edina, MN</td>
</tr>
<tr>
<td>Poly-Tex Inc</td>
<td>Castle Rock, MN</td>
</tr>
<tr>
<td>Power System Engineering, Inc</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Powerfully Green</td>
<td>Orono, MN</td>
</tr>
<tr>
<td>Purdy Electric</td>
<td>Orléans, MN</td>
</tr>
<tr>
<td>REAL Solar, Inc</td>
<td>Backus, MN</td>
</tr>
<tr>
<td>Red Rock Energy</td>
<td>North Branch, MN</td>
</tr>
<tr>
<td>RedWind Consulting, LLC</td>
<td>Eden Prairie, MN</td>
</tr>
<tr>
<td>Renewable Energy Services</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Robert A Olson JD, Attorney At Law, PA</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>SGB Group Transformers</td>
<td>Appleton, MN</td>
</tr>
<tr>
<td>Simple Solar Designs</td>
<td>Rice, MN</td>
</tr>
<tr>
<td>SoCore Energy</td>
<td>Chicago, IL</td>
</tr>
<tr>
<td>Solar Connection</td>
<td>Rochester, MN</td>
</tr>
<tr>
<td>Solar Connection Inc</td>
<td>Rochester, MN</td>
</tr>
<tr>
<td>Solar Design Studio</td>
<td>Platte City, MO</td>
</tr>
<tr>
<td>Solar Farm, LLC</td>
<td>St. Paul, MN</td>
</tr>
<tr>
<td>SolarStone Partners</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>St. Cloud Heating and Air Conditioning Inc</td>
<td>St. Cloud, MN</td>
</tr>
<tr>
<td>Stern Companies, Inc</td>
<td>Baxter, MN</td>
</tr>
<tr>
<td>Straburg Design Company</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Sundial Solar Energy</td>
<td>St. Paul, MN</td>
</tr>
<tr>
<td>SunPeak</td>
<td>Madison, WI</td>
</tr>
<tr>
<td>TechKnowledge, LLC</td>
<td>Eden Prairie, MN</td>
</tr>
<tr>
<td>The Great Plains Institute for Sustainable Development</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Mortenson Construction</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>New Energy Equity, LLC</td>
<td>Annapolis, MD</td>
</tr>
<tr>
<td>Novel Energy Solutions</td>
<td>St. Charles, MN</td>
</tr>
<tr>
<td>Nu Energy Tech Solutions</td>
<td>Devlin, Ontario</td>
</tr>
<tr>
<td>Olson Energy Corporation</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Wagner Zahn Architecture Inc</td>
<td>Duluth, MN</td>
</tr>
<tr>
<td>Oxbow Sunworks</td>
<td>Stillwater, MN</td>
</tr>
<tr>
<td>Paulson Law Office, Ltd</td>
<td>Edina, MN</td>
</tr>
<tr>
<td>Winkelman Energy Group</td>
<td>St. Cloud, MN</td>
</tr>
<tr>
<td>Winona Renewable Energy LLC</td>
<td>Winona, MN</td>
</tr>
<tr>
<td>Winthrop &amp; Weinstine</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Writing for the Workplace, LLC</td>
<td>Saint Paul, MN</td>
</tr>
<tr>
<td>Yadna Solar, Inc</td>
<td>Backus, MN</td>
</tr>
<tr>
<td>Yucatan Solar LLC</td>
<td>St Paul, MN</td>
</tr>
<tr>
<td>Zenergy, LLC</td>
<td>Sebewa, MN</td>
</tr>
<tr>
<td>Zinniel Electric Co</td>
<td>Sleepy Eye, MN</td>
</tr>
</tbody>
</table>
Overview
The purpose of this guide is to inform the solar industry in Minnesota by helping Minnesota businesses connect with one another, establish supply chain efficiencies, and build a stronger local industry. Consumers may gain a better understanding of the depth of the solar industry in Minnesota and may find the directory useful in their journey to install solar on their home or business.

The companies are listed in alphabetical order with contact information, website, and a brief description provided by the entity of the products and services they provide. Accompanying each listing is a graphic indicating the industry sectors that each company serves.

**M** Manufacturers are companies located in Minnesota that are either Original Equipment Manufacturers (OEMs) or those that supply components for the manufacturing process. These listings are primarily for business-to-business sales, as most manufacturers do not sell directly to the consumer.

**D** Distribution companies provide sourced equipment to installers or end users. They may source all the components for a solar array or specialize in specific areas, such as electrical components or racking.

**I** Installation companies listed are typically the first contact for someone interested in solar. Along with their company information and the services they provide is an indicator of the markets they serve: Residential (10-kW sized systems), Commercial/Utility/Multi-Family, or Community Solar Gardens.

**PS** Project Services listings represent engineering, legal, and finance companies that offer specialized services needed to support individual solar projects. These are companies that installers and developers will use to bring some projects to completion.

**EO** There are also Education and Outreach entities that provide education and training focused on solar and other renewables. Manufacturers and installers can use this section to find and train qualified workers. Consumers will find courses or seminars to learn more about solar energy. Advocates will find organizations to join and support. Educators can find materials and course outlines for their classrooms.

Directory Key

<table>
<thead>
<tr>
<th>M</th>
<th>Manufacturers</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Distributors</td>
</tr>
<tr>
<td>I</td>
<td>Installers</td>
</tr>
<tr>
<td>PS</td>
<td>Project Services</td>
</tr>
<tr>
<td>EO</td>
<td>Education/Outreach</td>
</tr>
</tbody>
</table>

Installers are further broken down by:

- Residential
- Commercial (includes Utility and Multi-family)
- Community Solar Garden

### Alexandria Industries M
401 Country Rd 22 NW  Alexandria, MN  
**www.alexandriaindustries.com**

**Mark W Turley**  
623-565-3356  
mturley@alexandriaindustries.com

We are a full-service aluminum extruder with complete fabrication capabilities. We also have capabilities in plastic injection molding, casting machining, sub-assembly, assembly, and kitting. Our fabrication facility includes equipment for CNC machining, lineal processing fabrication, punching, and full-service fabrication requirements. We offer program management services for small and large scale requirements.

### Allied Graphics M
16290 54th Street NE  St. Michael, MN  
**www.allied-graphics.com**

**Steve Paskach**  
763-428-8365  
sales@allied-graphics.com

Allied Graphics is an industry leading screen printing manufacturer of durable, high-quality custom graphics for equipment manufacturers that are looking for product labels that will last for several years in direct sunlight without fading or color washout. We specialize in printing and finishing overlays, decals, stickers, labels, tags, and more. We service all of North and South America.

### Automated Control Systems M PS
3951 W. 143rd Street  Savage, MN  
**www.autocontrols.net**

**Bradley Tutch**  
952-895-1222  
bttutch@autocontrols.net

Dalsin Industries, with high rate production facilities in Minnesota and Arizona, delivers precision metal product contract manufacturing, as well as automated fabrication from sheet and plate materials (carbon steel, stainless steel, aluminum, and others), progressive stamping 660T from 48” wide coils in aluminum, stainless steel, galvalume, galvanized, and galvaneal.

### Despatch Industries M
8860 207th St West  Lakeville, MN  
**www.despatch.com**

**Erik Anderson**  
952-469-8273  
erik.anderson@despatch.com

Despatch Industries manufactures capital equipment for the metallization process of manufacturing PV solar cells.

### Energy Conservation Products & Services, Inc M
PO Box 393  Carlton, MN  
**www.lakefieldenergy.com**

**Ronald Anderson**  
218-390-6688  
ronaldandsueanderson@msn.com

We manufacture Solarway 6000 space heating solar air panels that are certified by the Solar Rating and Certification Corporation. We provide solar site analysis, installation, and maintenance services.

### Crenlo Cab Products M
1600 4th Ave NW  Rochester, MN  
**www.crenlo.com/mc/enclosures/**

**Steve Leidig**  
507-289-3371  
sleidig@crenlo.com

Sensitive electronic equipment comes in many shapes and sizes. Safely housing and protecting it can be a challenge. Before you settle for something that kind of works, come to us with your request. We can help with everything from a simple modification to one of our standard products to a completely custom solution. We provide a wide range of services from design consulting services to supply chain management solutions. With over 60 years of experience to draw from, Crenlo is prepared to meet any challenge.
Manufacturers

**Heliene Inc.** M 8787 Silicon Way  Mountain Iron, MN
www.heliene.ca
Zach Marconett 763-334-2994
zmarconett@heliene.com

With an innovative team and a proven track record, Heliene is a manufacturer of high-quality, high-efficiency solar photovoltaic modules in Canada and the USA, with its products installed in North America, Europe, Asia, and the Caribbean. We successfully manufacture and sell a bankable product for the solar infrastructure industry.

**International Precision Machining, Inc.** M 511 Sundial Drive  Waite Park, MN
www.ipminc.com
Daniel Meyer 320-656-1241
dmeyer@ipminc.com

IPM, Inc. is an ISO certified job and contract precision machining provider located in Waite Park, Minn. Our manufacturing facility consists of over 30,000 square feet and utilizes modern CNC milling, turning, gear cutting and grinding equipment to manufacture precision parts to your exact specifications. The gear cutting services we can provide are hobbing, shaping, shaving, and broaching.

**Itek Energy** M 2746 31st Ave S.  Minneapolis, MN
itekenergy.com
Margot Fleming 612-318-6384
margot.fleming@spye.co

We are a Made in America solar module manufacturer.

**Lovegreen Industrial Services** M I 2280 Sibley Court  Eagan, MN
lovegreen@lovegreen.com

Our crews are skilled, union-trained Millwrights for field installation and we have a 40,000 sq ft fabrication & machine shop that is MN-SHARP certified. We have a fantastic record for job safety and over 65 years in business. We provide field erection of frames and supports (bolted and welded) ▪ Commercial

**Malina Solar Structure** M D 2327 Wycliff St #3  Saint Paul, MN.
www.malinasolar.com
Patrick Holt 612-388-0505
patrick.holt@malinasolar.com

Distributed throughout the U.S. from St. Paul Minn., Malina Solar Structure’s time efficient racking system is an excellent option for your solar projects. Made of structural steel with industrial grade coating, our compact, easy and quick install products and ground anchoring lines offer an attractive, finished look that will also endure exposure to the toughest seasonal elements of Minnesota.

**Matheson Tri Gas** M D 3191 Mike Collins Drive  Eagan, MN
www.mathesongas.com
David Becker 320-212-2402
dbecker@mathesongas.com

We are a manufacturer and supplier of industrial and medical gases and supplies.

**Metal Services of Blooming Prairie, Inc.** M 605 5th Street NE  Blooming Prairie, MN
www.metal-services.com
Lowell Meyer 507-583-2144
lowellm@metal-services.com

Metal Services is a custom metal fabrication facility that specializes in the following: sawing, sheet & plate laser & plasma cutting, forming, welding of all types, and tube & pipe bending.

**Poly-Tex Inc.** M 27725 Danville Avenue  Castle Rock, MN
www.poly-tex.com
John Frederick 612-670-8309
jfrederick@frederickconsult.com

Poly-Tex has been providing canopy systems to the industry for over 30 years. Our original market targeted the passive solar greenhouse industry, and we have provided greenhouse canopy systems nationwide, including large systems in excess of five acres.

**Red Rock Energy** M EO 12181 375th St.  North Branch, MN
www.redrok.com/main.htm
Duane C. Johnson 651-583-2265
redrok@redrok.com

We are an all-around solar tracking expert, providing solar trackers and electronic parts.

**SGB Group Transformers** M P.O. Box 122  Appleton, MN
smitusa.com
Larry Rebman 320-289-2840
larryemls@hotmail.com

We provide transformers for step up, grounding, reactors and coils, main power transformer (MPT) 1000-15,000,000 kVA 208 through 800,000 volts.

**Stern Companies, Inc.** M 7756 College Road  Baxter, MN
www.sternindustries.com
Jen Ahonen 218-824-8924
jahonen@sternindustries.com

Stern Companies, Inc. manufactures and sells its technical know-how and capabilities to produce custom innovative solutions for renewable energy (wind and solar) and industrial, automotive, and defense applications. One of our specialties is grid-tie and off-grid inverters and chargers.

**Straub Design Company** M 2238 Florida Ave S.  Minneapolis, MN
www.straubdesign.com
Paul Ebnet 952-546-6686
pebnet@straubdesign.com

Straub Design is a leading supplier of industrial automation equipment that is focused on tape application. We provide a variety of systems for the solar industry including solar cell and frame taping. If your production process includes the application of tape, please consider Straub Design. Straub Design—solutions that stick since 1972.

**TechKnowledge, LLC** M 15366 W Sunrise Circle  Eden Prairie, MN
www.TechUsOut.net
Lane Woodland 612-709-9038
lwoodland@TechUsOut.net

TechKnowledge, LLC designs, develops, manufactures and sells its technical know-how and capabilities to produce custom innovative solutions for renewable energy (wind and solar) and industrial, automotive, and defense applications. One of our specialties is grid-tie and off-grid inverters and chargers.
Distributors

**Apadana Solar Technologies**  
D  |  PS  
2360 Nevada Ave N. Golden Valley, MN  
[www.apadanatech.com](http://www.apadanatech.com)  
**John Ehresmann**  
763-203-2106  
Solar@ApadanaTech.com  

Apadana Solar Technologies is a full-service solar energy system designer and installer of commercial and residential solar systems. We are a company founded and staffed by engineers, supply chain professionals, and solar energy experts, with a mission to help our customers achieve their social, environmental, and financial goals via clean energy.  
* Residential  •  Commercial

**Electrical Solutions & Design Inc**  
D  |  D  |  PS  
2777 Meadowvale Rd Suite B  
Elk River, MN  
[www.electricalsolutionsdesign.com](http://www.electricalsolutionsdesign.com)  
**Rick Ryan (Principal)**  
763-567-3839  
rickryan@electricalsolutionsdesign.com  

We are a manufacturers rep bringing solutions to customers in sustainable energy, electrical & energy efficiency LED lighting, new LED fixtures, and/or LED retrofit lighting modules, saving energy and bringing better lighting.

**Green Energy Products**  
D  |  PS  
1315 W Central St  Springfield, MN  
**Tim**  
507-723-4885  
info@SolarGEP.com  

Green Energy Products provides customized renewable energy services and installations featuring SunPower solar.  
* Residential  •  Commercial  •  Community Solar Garden

Installers

**Malina Solar Structure**  
M  |  D  
2327 Wycliff St #3  Saint Paul, MN.  
[www.malinasolar.com](http://www.malinasolar.com)  
**Patrick Holt**  
612-388-0505  
patrick.holt@malinasolar.com  

Distributed throughout the U.S. from St. Paul Minn., Malina Solar Structure’s time efficient racking system is an excellent option for your solar projects. Made of structural steel with industrial grade coating, our compact, easy and quick install products and ground anchoring lines offer an attractive, finished look that will also endure exposure to the toughest seasonal elements of Minnesota.

**Matheson Tri Gas**  
M  |  D  
3191 Mike Collins Drive  Eagan, MN  
[www.mathesongas.com](http://www.mathesongas.com)  
**David Becker**  
320-212-2402  
dbecker@mathesongas.com  

We are a manufacturer and supplier of industrial and medical gases and supplies.

**Simple Solar Designs**  
D  |  PS  |  EO  
2610 119th St NW  Rice, MN  
facebook - Simple Solar Designs  
**Gary Court**  
320-493-9775  
Simplesolaradesigns@aol.com  

We provide solar hot water thermal heat systems.  
* Residential  •  Commercial  •  Community Solar Garden

**All Energy Solar, Inc**  
1642 Carroll Ave  St. Paul, MN  
[allenergysolar.com](http://allenergysolar.com)  
**Belle Gerhard, Office Manager**  
800-620-3370  
info@allenergysolar.com  

We are a solar electric installer dedicated to serving our customers with the highest quality solar panel installations. We provide clean, green solar energy solutions for residential, commercial and government clients in Iowa, Massachusetts, Minnesota, and Wisconsin. Our team of industry professionals have been focused on providing long term, trusted relationships since 2009.  
* Residential  •  Commercial

**Amber Renewable Energy**  
1  
53972 Hwy 28  Alberta, MN  
ambergrenewableenergy.com  
**Roy Amberg**  
320-324-2566  cell 320-760-0448  
ramberg1962@gmail.com  

We provide sales, service, and installation of solar and wind equipment.  
* Residential  •  Commercial

**Amec Foster Wheeler**  
PS  
800 Marquette Ave  Minneapolis, MN  
[www.amecfw.com](http://www.amecfw.com)  
**Iain McNerlin**  
651-323-8704  
iain.mcnerlin@amecfw.com  

We are an engineering, procurement, and construction full-service provider to the commercial solar industry.  
* Commercial

**Ameresco**  
PS  
9855 West 78th Street  Eden Prairie, MN  
[www.ameresco.com](http://www.ameresco.com)  
**John Neville, Regional Director**  
952-315-6941  
jneville@ameresco.com  

Ameresco helps organizations meet energy saving and energy management challenges with an integrated comprehensive approach to energy efficiency and renewable energy. Leveraging budget neutral solutions like energy savings performance contracts (ESPCs) and power purchase agreements, Ameresco (NYSE: AMRC) is a leading publicly traded energy services company specializing in the development and implementation of energy services including energy generation, energy efficiency solutions, and renewable energy systems.  
* Commercial  •  Community Solar Garden

**Apadana Solar Technologies**  
D  |  PS  
2360 Nevada Ave N. Golden Valley, MN  
[www.apadanatech.com](http://www.apadanatech.com)  
**John Ehresmann**  
763-203-2106  
Solar@ApadanaTech.com  

Apadana Solar Technologies is a full-service solar energy system designer and installer of commercial and residential solar systems. We are a company founded and staffed by engineers, supply chain professionals, and solar energy experts, with a mission to help our customers achieve their social, environmental, and financial goals via clean energy.  
* Residential  •  Commercial

**Apex Efficiency Solutions, SBC**  
PS  
403 Jackson St, Suite 308  Anoka, MN  
[www.apex-co.us](http://www.apex-co.us)  
**Greg Ackerson**  
763-355-7336  
grega@apex-co.us  

We are an organization dedicated to improving the community and world. We develop and implement energy efficiency improvements and renewable energy projects for our clients. Ten percent of our profits are returned to the community through donations to other nonprofit organizations.  
* Commercial  •  Community Solar Garden

**Applied Energy Innovations**  
PS  
4000 Minnehaha Ave S. Minneapolis, MN  
[www.AEIexpertise.com](http://www.AEIexpertise.com)  
**Jill Spanitz-Marckel**  
612-532-0384  
jill@appliedenergyinnovations.org
Ari is a HVAC heating/cooling, electrical, solar, and weatherization/insulation general contractor, with an emphasis in energy efficiency/renewable energy and property improvement. Our services, combined or separate, encompass complete building energy performance, with a respect for replacing dirty/wasted energy with clean energy, in a responsible way that benefits all of our community.

- Residential • Commercial

**Aquila Solar Corp**

207 Second Street West Wabasha, MN
aquillasolar.com

- Residential • Commercial

**Blattner Energy, Inc.**

392 County Road 30 Avon, MN 56310
www.blattnerenergy.com

- Residential • Commercial

**Carr Creek Electric Service LLC**

207 Sommers Street North Hudson, WI
www.energyexperts.solar

Christopher Jarosch
715-760-0071
chris@energyexperts.solar

Carr Creek Electric Service provides comprehensive services including solar PV, energy storage systems, and generators. So whether you are looking to peak shave your company’s energy demand, provide power for a cabin, or simply provide clean energy to your home, you can depend on us to have the knowledge and experience to provide a solution.

- Residential • Commercial

**Cedar Creek Energy**

1285 114th Avenue NW Suite 100 Coon Rapids, MN
www.cedar creekenergy.com

Rob Appelhof
763-432-5261
info@cedar creekenergy.com

Cedar Creek Energy is a full-service electrical contractor specializing in turnkey solar energy and energy efficiency projects. Cedar Creek has been a leader in this space since 2007. Cedar Creek offers solutions for commercial, municipal, government, nonprofit, educational, and residential clients.

- Residential • Commercial • Community Solar Garden

**Common Sense Energy**

412 West Broadway Plainview, MN
www.csdllc.solar

Amy Lorentz
507-710-4120
amy@csdllc.solar

Common Sense Energy prides itself in creating custom solutions for those seeking energy self-reliance. At CSE, your concerns are heard; whether it be environmental concerns or the increasing impact of the cost of energy on your wallet, we do our best to meet the goals and priorities of the customer.

- Residential • Commercial • Community Solar Garden

**Development Services, Inc.**

402 N Harold, PO Box 48 Ivanhoe, MN
dsi-services.com

Vince Robinson
507-530-1756
vince@dsi-services.com

DSI is a multifaceted consulting firm in the areas of: community and economic development; housing development and management; grant writing and administration; and renewable energy development. We have substantial experience with solar project development from conception, to entity organization, to financing, to implementation. One of our specialties is creative organizational structure and investor identification. We have assisted in the development of entities with membership from one to hundreds.

- Residential • Commercial • Community Solar Garden

**Energy Conservation Products & Services, Inc.**

PO Box 393 Carlton, MN
Google Solarway 6000
Ronald Anderson
218-390-6688
ronaldand sueanderson@msn.com

We manufacture Solarway 6000 space heating solar air panels that are certified by the Solar Rating and Certification Corporation. We provide solar site analysis, installation, and maintenance services.

- Residential • Commercial

**Energy Plus DBA Conservation Technologies**

4811 Miller Trunk Highway Duluth, MN
www.conservtech.com

Damian Pennings
218-722-7818
damian@energy-plus.com

We provide sales and installation of PV solar and woodstoves.

- Residential • Commercial

**Energy Wise Solutions**

130 Kiser St Bessemer City, NC
www.energywiselutions.net

Kevin Smith
704-281-7022
ksmith@energywiselutions.net

Our team is NABCEP certified and able to provide expert consulting, design, and installation. Most of the products we use come with a 25-year manufacturer’s warranty. The best part is that solar electric (PV) is virtually maintenance free! We feature the SolarEdge StorEdge HV Hybrid Inverter including battery backup, LG Chem 9.8kWh 63Ah 400V Lithium Ion Battery RESU10H.

- Residential

**Fagen, Inc.**

501 W Hwy 212 Granite Falls, MN
www.fageninc.com

William Stark
320-564-3324
wstark@fageninc.com

Fagen, Inc. is a full-service industrial contractor headquartered in Granite Falls, Minn. Utilizing a database of over 25,000 direct-hire employees, Fagen, Inc. has constructed a variety of successful projects including solar power, wind power, and other industrial process facilities.

- Commercial

**Forteva Solar**

3948 W 49th 1/2 St #24713 Minneapolis, MN
www.fortevasolar.com

Andrew Root
612-361-7861
solar@forteva.com

Forteva Solar specializes in designing and installing custom solar, electric vehicle (EV) charging, energy storage, and LED lighting solutions for commercial building owners, real estate developers and custom home builders to help them incorporate sustainable energy into their developments and projects.

- Residential • Commercial • Community Solar Garden

**Frattalone Companies, Inc.**

3205 Spruce Street Saint Paul, MN
www.frattaloneco.com

Scott A. Spisak
651-484-0448
scotts@frattaloneco.com
Frattalone Companies is an experienced civil site contractor providing full turnkey solar site construction services including erosion control, site clearing, grading, permanent fencing, access roads, laydown areas, foundation installation, and turf establishment. Our in-house staff develops GPS models that allow us to integrate total machine control, both for grading and 3 axis foundation post driving. • Commercial • Community Solar Garden

Gary Hammer Electric • PS
PO Box 394 Becker, MN
Gary Hammer
320-250-1447
ghammer@zoom.net
Gary Hammer is a full-service electrical company that works with solar installation companies to connect their solar systems to the grid.
• Residential • Commercial

Geronimo Energy • PS
7650 Edinborough Way, Suite 725
Edina, MN
www.geronimoenergy.com
Lindsay T. Smith
952-988-9000
marketing@geronimoenergy.com
Geronimo Energy is a utility-scale, full-service renewable energy development company headquartered in Minneapolis. We have developed over 1,600 megawatts of wind and solar projects that are either operational or currently under construction throughout the United States. • Commercial • Community Solar Garden

Green Circuit • PS EO
901 4th street #101 Hudson, WI
rhino greencircuit.com
Brett Robinson
651-343-8477
brett@greencircuit.com
Green Circuit provides engineering, procurement, and construction (EPC) project design, consulting, and construction management financing. • Commercial • Community Solar Garden

Green Energy Products • D • PS
1315 W Central St Springfield, MN
www.SolarGEP.com
Tim
507-723-4885
info@SolarGEP.com
Green Energy Products provides customized energy services and installations featuring SunPower solar. • Residential • Commercial • Community Solar Garden

Green Home Doctors • PS
4737 County Road 101, #163
Minnetonka, MN
www.greenhomeds.com
Matt Danielson
612-216-1640
info@greenhomeds.com
We specialize in energy conservation services. This starts with energy audits and follows through with insulation and air sealing services. Before a client installs a photovoltaic system, their home should be energy efficient. We have established relationships with many satisfied customers.
• Residential

Hunt Electric Corporation • PS
7900 Chicago Avenue South
Bloomington, MN
www.huntelec.com
Dawn Eimers
651-643-6520
deimers@huntelec.com
We are a full-service electrical contractor with 100 MW+ of experience in design and construction of commercial, utility, and CSG solar PV arrays.
• Commercial • Community Solar Garden

IBEW Local Union 292 • PS EO
312 Central Ave. SE, Suite 292
Minneapolis, MN
ibew292.org
Chris Kohn
612-617-4240
ckohn@ibew292.org
Our members provide installation, operation, maintenance, and repair of all electrical wiring and electrical equipment used in the construction of photovoltaic solar arrays. • Residential • Commercial • Community Solar Garden

iDEAL Energies • PS
5810 Nicollet Ave Minneapolis, MN
www.idealenergies.com
Braden Solum
952-836-8524
braden.solum@idealenergies.com
iDEAL Energies is the premier Minneapolis-based commercial solar energy developer with over 160 commercial systems currently in operation. We design, install, finance, and operate turnkey solar energy systems for commercial for-profit businesses, nonprofit businesses, school districts, government entities, REITs, and ESOPs. • Commercial

Knobelsdorff Electric, Inc. • PS
25701 370th Street Goodhue, MN
www.knobelsdorffelectric.com
Jeff Olsen
651-923-4970
jeffo@knobelsdorffelectric.com
Knobelsdorff Electric provides complete services for the solar industry, including all work from low voltage up to 35,000 volt systems, riser poles and point of interconnect. We know string and central inverter systems and handle all AC underground installations, DC installations of racking, modules and inverters. We can perform work as an EPC contractor or work as a sub to other EPC contractors.
• Commercial • Community Solar Garden

Lovegreen Industrial Services • MI
2280 Sibley Court Eagan, MN
lovegreen@lovegreen.com
Mark Bednarchuk
651-707-9571
mbednarchuk@lovegreen.com
Our crews are skilled, union-trained Millwrights for field installation and we have a 40,000 sq ft fabrication & machine shop that is MN-SHARP certified. We have a fantastic record for job safety and over 65 years in business. We provide field erection of frames and supports (bolted and welded). • Commercial

M+W Energy • PS
570 N. 54th St., Ste 100 Chandler, AZ
www.mwgroup.net
Robert Wanless
602-402-3638
Robert.Wanless@mwgroup.net
M+W Energy is a turnkey engineering, procurement & construction (EPC) provider of solar photovoltaic power plants. We operate nationwide and have installed over 1 gigawatt of projects in the U.S. market. M+W’s services begin on projects that are under development and span into the period of operations and maintenance. With our office in Edina, Minn., we will have installed over 160 MWs by the end of 2017 within the state.
• Commercial • Community Solar Garden

MiLo Electric, LLC • PS
15220 Oak Ridge Circle SE Prior lake, MN
Michael T. Pettit
952-956-4528
mondune1@msn.com
We provide residential and commercial solar installations.
• Residential • Commercial

Mortenson Construction • PS
700 Meadow Lane North Minneapolis, MN
www.mortenson.com/solar
Robert Ed
763-287-5658
robert.ed@mortenson.com
Mortenson has proven to be a reliable and bankable EPC partner. Our expertise in energy modeling tools combined with our self-perform capabilities keep us focused on delivering the lowest cost of energy over the life cycle of our projects. • Commercial • Community Solar Garden
Novel Energy Solutions  
23913 Co Rd 39  St. Charles, MN  
www.novelenersolutions.com

Cliff Kaehler, CEO  
507-272-5401  
cliff.kaehler@novelenersolutions.com

Novel Energy Solutions (NES) offers a turnkey solution to solar power companies with over $3 billion of currently operational solar assets. NES also develops community solar gardens and has over 70 MW in queue in the MN solar rewards program.

- Residential  •  Commercial  •  Community Solar Garden

Oxbow Sunworks  
5633 Memorial Ave N. Stillwater, MN  
www.oxbow-solar.com

Morgan Southard  
651-408-3962  
Morgan@oxbow-solar.com

Oxbow Sunworks is a full-service solar installation contractor serving the Minnesota and Wisconsin industries. We are an elite group of electricians, installers, operators, and managers with unparalleled collective experience. We pride ourselves in providing expert system integration on behalf of the Midwest’s finest developers, EPCs and clients of all kinds. With over 65 MW installed since our origination, we have a depth of understanding and adaptability unlike any others around.

- Residential  •  Commercial  •  Community Solar Garden

Powerfully Green  
20 Crystal Creek Rd.  Orono, MN  
www.powerfullygreen.com

Steve Gagne  
763-438-1976  
info@powerfullygreen.com

For nearly a decade, Powerfully Green has enhanced residential and commercial properties throughout Minnesota with solar energy solutions. As a full-service NABCEP-certified installer, we ensure the success of your solar project by managing system design, engineering, permits, utility interconnect, incentives, performance monitoring, training, and ongoing support.

- Residential  •  Commercial  •  Community Solar Garden

REAL Solar, Inc.  
3963 8th St SW Backus, MN  
www.reall.org

Jan Hubbard  
218-947-3779  
jan@reall.org

REAL Solar is a Minnesota and North Dakota licensed electrical and general contractor providing design-build engineering, procurement, and construction services in residential, commercial, municipal, and utility solar energy installation markets.

- Residential  •  Commercial  •  Community Solar Garden

Simple Solar Designs  
2610 119th St NW Rice, MN  
facebook-Simple Solar Designs

Gary Court  
320-493-9775  
Simplesolardesigns@aol.com

We provide solar hot water thermal heat systems.

- Residential  •  Commercial  •  Community Solar Garden

SoCore Energy  
225 W Hubbard, Suite 200 Chicago, IL  
www.socoreenergy.com

Laura Caspari  
312-859-3951  
Laura.Caspari@socoreenergy.com

SoCore Energy develops solar energy installations for commercial, industrial, utility, and public sector customers throughout the United States—with a client list that includes Fortune 500 retailers, industrial operators, municipalities, and academic institutions. We are a full-service clean energy developer, providing site identification, project development, engineering, construction management, operations & maintenance, and incentive application services in-house.

- Residential  •  Commercial

Olson Energy Corporation  
Suite 900 IDS Center, 80 South 8th Street Minneapolis, MN  
olsonenergycorp.com  
Robert A. Olson, JD, President  
612-349-5271  
rao@robertaolson.net

Olson Energy develops solar and wind commercial and utility scale facilities including storage facilities in association with experienced EPC contractors, structuring financing for eventual ownership by for-profit entities, but also especially for nonprofit and tax-exempt entities, such as cities, counties, and municipal power companies with the project donated to that entity, after five years.

- Commercial  •  Community Solar Garden

Purdy Electric  
10641 Hillcrest Dr Orr, MN  
Jeff Purdy  
218-780-6437  
jeffpurdy@centurytel.net

As the owner of Purdy Electric, I have been an electrician for over 30 years. For more than 20 years I have lived off the grid with both solar PV and wind. I started Purdy Electric in 2002 and perform all types of electrical work. I install both grid-tied and off-grid PV systems. Systems have ranged from .75 kW to as large as 35 kW.

- Residential  •  Commercial

Solar Connection  
6524 34th Ave NW, Suite A Rochester, MN  
www.solarconnectioninc.com

Rachael Howe  
507-292-8400  
rhowe@solarconnectioninc.com

Solar Connection is a solar installation company specializing in customer-owned commercial and residential systems. We offer turnkey design and installation.

- Residential  •  Commercial

Solar Farm, LLC  
2355 Fairview Ave #101 St. Paul, MN  
www.solarfarm.com

James Darabi  
651-271-8410  
james.darabi@solarfarm.com

Solar Farm provides solar electric (PV) system design, sales & installation.

- Commercial  •  Community Solar Garden

SolarStone Partners  
3944 Xerxes Avenue South Minneapolis, MN  
solarstonepartners.com

Gordon Simanton  
612-801-2000  
gordy@solarstonepartners.com

SolarStone’s executive team has been involved with over $3 billion of currently operational wind, solar, and hydro projects across the U.S. and Europe. Development experience includes project development, land acquisition, project management, transmission and distribution interconnection, energy policy, project finance, construction, operations, and maintenance.

- Community Solar Garden

St. Cloud Heating and Air Conditioning Inc.  
1545 Hwy 23 East St. Cloud, MN  
stcloudheating.net

Gary Anderson  
320-253-0657  
gary@stcloudheating.net

We provide residential and small commercial HVAC service and installations, new construction and remodeling, and solar PV systems and solar thermal heating and hot water.

- Residential  •  Commercial
Installers

Sundial Solar Energy • PS
3209 W 76th St #305 Edina, MN
www.sundialsolarenergy.com
Jon Kramer
240-463-3688
sundialsolarenergy@gmail.com
Sundial Solar is one of Minnesota’s oldest and leading solar companies. We specialize in development and financing of commercial and industrial businesses, municipal entities, schools districts, and pioneering creative projects. • Commercial

SunPeak • PS
440 Science Drive Madison, WI
www.sunpeakpower.com
Matt Bellehumeur
608-535-4554
contact@sunpeakpower.com
SunPeak is a turnkey developer of commercial solar PV electricity systems based in Madison, Wisconsin. Businesses can be assured the feasibility studies, financial payback analysis, system engineering, installation and ongoing maintenance will be professionally handled. Projects typically range from 100 kW to 5 MW (hundreds to thousands of solar panels) and offer significant cost savings relative to conventional utility electric rates. • Commercial

TruNorth Solar • PS
5239 Edina Industrial Blvd. Edina, MN
www.TruNorthSolar.com
Martin Morud
612-888-9599
info@TruNorthSolar.com
TruNorth Solar is a solar installation company in Minnesota specializing in residential, commercial, and utility sized PV projects. With a reputation for integrity and high quality work, TruNorth Solar has comprehensive knowledge of the solar industry and the regulatory structure in which it operates, allowing our team to capitalize on new policies to the benefit of our customers and the environment. We look forward to serving as your solar expert on your next solar project. • Residential • Commercial • Community Solar Garden

Winona Renewable Energy LLC • PS
1449 Ridgewood Dr Winona, MN
www.winonarenewableenergy.com
Tim Gulden
507-312-0190
info@WinonaRenewableEnergy.com
We provide turnkey solar electric solutions for the residential, commercial, nonprofit, and government sectors. Services include: site surveys, quoting, design, procurement, installation, commissioning, training, and customer service. We pride ourselves in outstanding professional service, superior attention to detail, solid integrity, proactive safety, quality products, and competitive value. • Residential • Commercial • Community Solar Garden

Zenergy, LLC • PS
308 Frontage Road Sebeka, MN
www.ZenergyGuide.com
Jeff Brandt
218-837-5155
jeffb@zenergyguide.com
Zenergy is a leading installer of solar PV modules and services in Minnesota. Our experienced team performs site assessments, designs and installs solar arrays, and provides ongoing support for homeowners and businesses. Mounting experience includes ballasted flat roof, pitched roof, ground mount, top-of-pole, and custom-designed mounts. • Residential • Commercial • Community Solar Garden

Zinniel Electric Co. • PS
25955 County Road 27 Sleepy Eye, MN
www.ZinnielElectric.com
Timothy J. Zinniel
800-817-7930
tzinniel@zinnielelectric.com
For nearly 40 years, Zinniel Electric has proven to be a trusted electrical contracting company in southern Minnesota. Tim Zinniel (NABCEP) began the solar division in 2008. We have completed PV projects ranging in size up to 3 MW on homes, farms, schools, government buildings, and businesses. We focus on meeting electrical needs in the most efficient, safe, and affordable manner.

Aerotek Energy Services • PS
8501 Golden Valley Rd. Suite 200 Golden Valley, MN
www.aerotek.com
Mike Burtzel
763-923-2004
mburtzel@aerotek.com
Aerotek Energy specializes in recruiting candidates within the solar industry. We have supported utility scale, community garden, and commercial solar projects from development stage through O&M. Core skill sets include: engineering, drafting/design, CMs, PMs, safety, electricians, and installers. Through our proprietary database, our recruiters have direct access to more than 28 million candidates and we have seven non-franchised MN office locations.

Ameresco • PS
9855 West 78th Street Eden Prairie, MN
www.ameresco.com
John Neville, Regional Director
952-315-6941
jneville@ameresco.com
Ameresco helps organizations meet energy saving and energy management challenges with an integrated comprehensive approach to energy efficiency and renewable energy. Leveraging budget neutral solutions like energy savings performance contracts (ESPCs) and power purchase agreements, Ameresco (NYSE: AMRC) is a leading publicly traded energy company specializing in the development and implementation of energy services including energy generation, energy efficiency solutions, and renewable energy systems. • Commercial • Community Solar Garden

Apadana Solar Technologies • PS
2360 Nevada Ave N. Golden Valley, MN
www.apadanatech.com
John Ehresmann
763-203-2106
Solar@ApadanaTech.com
Apadana Solar Technologies is a full-service solar system designer and installer of commercial and residential solar systems. We are a company founded and staffed by engineers, supply chain professionals, and solar energy experts, with a mission to help our customers achieve their social, environmental, and financial goals via clean energy. • Residential • Commercial

Apex Efficiency Solutions, SBC • PS
403 Jackson St, Suite 308 Anoka, MN
www.apex-co.us
Greg Ackerson
763-355-7336
grega@apex-co.us
We are an organization dedicated to improving the community and world. We develop and implement energy efficiency improvements and renewable energy projects for our clients. Ten percent of our profits are returned to the community through donations to other nonprofit organizations. • Commercial • Community Solar Garden

Applied Energy Innovations • PS
4000 Minnehaha Ave S. Minneapolis, MN
www.AEExpertise.com
Jill Spanitz-Marckel
612-532-0384
jill@appliedenergyinnovations.org
AEI is a HVAC heating/cooling, electrical, solar, and weatherization/insulation general contractor; with an emphasis in energy efficiency/ renewable energy and property improvement. Our services combined or separate encompass complete building energy performance, with a respect to replacing dirty/wasted energy with clean energy, in a responsible way that benefits all of our community. • Residential • Commercial
A-Sharp Energy **PS EO**
2517 Humboldt Ave S, Suite 103
Minneapolis, MN
[asharpenergy.com](http://asharpenergy.com)
**Daniel Enderton**
855-612-6612
daniel@asharpenergy.com
A-Sharp Energy provides two services: (1) a web service ([www.asharpenergy.com](http://www.asharpenergy.com)) that lets people learn about community solar and shop for a subscription, and (2) a subscription management platform for providers to administer their subscriptions over the life of a community solar project.

Associated Benefits & Risk Consulting **PS**
6000 Clearwater Drive
Minnetonka, MN 55343
**Carl Godziek**
952-947-9714
Carl.Godziek@AssociatedBRC.com
Associated Benefits & Risk Consulting is an insurance and risk management firm. We specialize in developing insurance and risk management programs for all types of firms involved in the solar industry. We work to develop customized insurance and risk management plans that are tailored to meet our customers’ needs.

Automated Control Systems **M PS**
3951 W. 143rd Street
Savage, MN
[www.autocontrols.net](http://www.autocontrols.net)
**Bradley Tutch**
952-895-1222
btutch@autocontrols.net
ACS is a product development firm that provides engineering services for many local and national companies. We have extensive experience in electronic systems that manage battery charging for both solar and wind power sources.

Avant Energy, Inc. **PS EO**
220 South Sixth Street, Suite 1300
Minneapolis, MN
[www.avantenergy.com](http://www.avantenergy.com)
**General Contact**
612-349-6868
info@avantenergy.com
Avant Energy is an energy management company with over 30 years of experience in energy consulting, project development, and utility management services. We work with our clients to develop innovative yet practical solutions based on the overarching belief that “better is possible.”

Barr Engineering Co **PS**
4300 Market Pointe
Bloomington, MN
[www.barr.com](http://www.barr.com)
**Rachel Walker**
952-832-2849
rwalker@barr.com
Barr provides engineering and environmental consulting to clients across the Midwest. Barr serves the solar and natural-resource-management organizations and others with complex problems. We pride ourselves on solving clients’ problems as if they were our own. We’ll bring to your projects the expertise we’ve gained from our work on thousands of projects—we promise to do our best work on your behalf.

Blattner Energy, Inc. **I PS**
392 County Road 50
Avon, MN 56310
[www.blattnerenergy.com](http://www.blattnerenergy.com)
**Matt Dankers**
320-356-7351
mattd@blattnerenergy.com
Blattner Energy is a premier EPC contractor in renewable energy construction with more than a century of large-scale project experience and over 30,000 megawatts of renewable energy installations across North America. Blattner provides complete engineering, procurement, and construction services for commercial and utility-scale PV, CPV, and CSP solar projects, delivering the highest levels of safety, quality, scheduling and productivity on every solar project. • Commercial

Cedar Creek Energy **I PS**
1285 114th Avenue NW Suite 100
Coon Rapids, MN
[www.cedarcreekenergy.com](http://www.cedarcreekenergy.com)
**Rob Appelhof**
763-432-5261
info@cedarcreekenergy.com
Cedar Creek Energy is a full-service electrical contractor specializing in turnkey solar energy and energy efficiency projects. Cedar Creek has been a leader in this space since 2007. Cedar Creek offers solutions for commercial, municipal, government, nonprofit, educational, and residential clients.

Common Sense Energy **I PS**
412 West Broadway
Plainview, MN
[www.csdllc.solar](http://www.csdllc.solar)
**Amy Lorentz**
507-710-4120
amy@csdllc.solar
Common Sense Energy prides itself in creating custom solutions for those seeking energy self-reliance. At CSE, your concerns are heard; whether it be environmental concerns or the increasing impact of the cost of energy on your wallet, we do our best to meet the goals and priorities of the customer. • Residential • Commercial • Community Solar Garden

Compar, Inc. **PS EO**
10301 Yellow Circle Drive
Minnetonka, MN
[www.comparinc.com](http://www.comparinc.com)
**Stephen Bohlig**
952-945-0300
info@comparinc.com
Since 1996 Compar, Inc. has undertaken solar research and operated research solar facilities. Compar has partnered with the Department of Energy, Environmental Protection Agency, and Xcel Energy.

Consulting Engineers Group, Inc. **PS**
21875 Eaton Avenue
Lakeville, MN
[www.ceg-engineers.com](http://www.ceg-engineers.com)
**Stephen Peichel**
651-463-6263
information@ceg-engineers.com
Consulting Engineers Group is an electrical power systems design company specializing in electrical facilities required to connect renewable generation to the utility systems.

Development Services, Inc **I PS**
402 N Harold, PO Box 48
Ivanhoe, MN
dsi-services.com
**Vince Robinson**
507-530-1756
vince@dsi-services.com
DSI is a multifaceted consulting firm in the areas of community and economic development; housing development and management; grant writing and administration; and renewable energy development. We have substantial experience with solar project development from conception, to entity organization, to financing, to implementation. One of our specialties is creative organizational structure and investor identification. We have assisted in the development of entities with membership from one to hundreds. • Residential • Commercial • Community Solar Garden

Dunham Associates, Inc. **PS**
50 South Sixth Street, Suite 1100
Minneapolis, MN
[www.dunhameng.com](http://www.dunhameng.com)
**Jake Armstrong**
612-465-7550
info@dunhameng.com
Dunham is a mechanical and electrical consulting engineering firm, delivering high-quality services to our clients. Our experience designing renewable energy systems includes solar and wind energy, as well as ground and lake source geothermal energy systems.
Energy Wise Solutions  
130 Kiser St  Bessemer City, NC  
www.energywisesolutions.net  
Kevin Smith  
704-281-7022  
ksmith@energywisesolutions.net

Our team is NABCEP certified and able to provide expert consulting, design, and installation. Most of the products we use come with a 25-year manufacturer’s warranty. The best part is that solar electric (PV) is virtually maintenance free! We feature the SolarEdge StorEdge HV Hybrid Inverter including battery backup, LG Chem 9.8kWh 63Ah 400V Lithium Ion Battery RESU10H. • Residential  • Commercial

EVS, Inc.  
10025 Valley View Rd Ste 140  
Eden Prairie, MN  
www.evs-eng.com

EVS is a consulting, engineering and surveying firm located in Eden Prairie, Minn. EVS offers electrical engineering for solar projects, site design/civil engineering, environmental engineering, land surveying, and solar and wind energy engineering services. EVS offers these services to meet the demands of a variety of projects for developers, contractors, private corporations, and government agencies.

Fredrikson & Byron, P.A.  
200 South Sixth Street  Minneapolis, MN  
www.fredlaw.com  
Daniel Yarano, Chair Energy Group  
612-492-7149  
dyarano@fredlaw.com

We are a full-service law firm with offices in Minnesota, Iowa, North Dakota, Mexico and China. Our energy practice includes renewable energy development, financing, and M&A. We assist clients in the oil and gas industry and assist in building large transmission and pipeline projects.

Gary Hammer Electric  
PO Box 394  Becker, MN
Gary Hammer  
320-250-1447  
ghammer@izoom.net

We are a full-service electrical company that works with solar installation companies to connect their solar systems to the grid. • Residential  • Commercial

Genie Solar Support Services  
1215 Lilac Lane  Excelsior, MN
Donna Pickard  
952-500-0789  
dpickardgss@gmail.com

We support solar installers by applying, on their behalf, for utility interconnections.

Geronimo Energy  
7650 Edinborough Way, Suite 725  
Edina, MN  
www.geronimoenergy.com  
Lindsay T. Smith  
952-988-9000  
marketing@geronimoenergy.com

Geronimo Energy is a utility-scale, full-service renewable energy development company headquartered in Minneapolis. We have developed over 1,600 megawatts of wind and solar projects that are either operational or currently under construction throughout the United States. • Commercial  • Community Solar Garden

Green Circuit  
901 4th street #101  Hudson, WI  
rhingreenircuit.com  
Brett Robinson  
651-343-8477  
brett@green-circuit.com

Green Circuit provides engineering, procurement, and construction (EPC) project design, consulting, and construction management financing. • Commercial  • Community Solar Garden

Green Energy Products  
1315 W Central St  Springfield, MN  
www.SolarGEP.com  
Tim  
507-723-4885  
info@SolarGEP.com

Green Energy Products provides customized renewable energy services and installations featuring SunPower solar. • Residential  • Commercial  • Community Solar Garden

Green Financing Solutions  
Minneapolis, MN  
www.greenfinancingsolutions.com  
Ian Schonwald  
612-655-1181  
ian@greenfinancingsolutions.com

Green Financing Solutions (GFS) works with project owners and contractors as an owner and project advocate. We outline your options, educate you on financial impact, and work with you to get the project across the finish line. Our expertise in serving different types of clients nationwide allows us to assist with numerous kinds of projects.

Green Home Doctors  
4737 County Road 101, #163  
Minnetonka, MN  
www.greenhomedr.com  
Matt Danielson  
612-216-1640  
info@greenhomedr.com

We specialize in energy conservation services. This starts with energy audits and follows through with insulation and air sealing services. Before a client installs a photovoltaic system, their home should be energy efficient. We have established relationships with many satisfied customers. • Residential

IBEW Local Union 292  
312 Central Ave. SE, Suite 292  
Minneapolis, MN  
ibew292.org  
Chris Kohn  
612-617-4240  
ckohn@ibew292.org

Our members provide installation, operation, maintenance, and repair of all electrical wiring and electrical equipment used in the construction of photovoltaic solar arrays. • Residential  • Commercial  • Community Solar Garden

iDEAL Energies  
5810 Nicollet Ave  Minneapolis, MN  
www.idealenergies.com  
Braden Solum  
952-836-8524  
braden.solum@idealenergies.com

iDEAL Energies is the premier Minneapolis-based commercial solar energy developer with over 160 commercial systems currently in operation. We design, install, finance, and operate turnkey solar energy systems for commercial for-profit businesses, nonprofit businesses, school districts, government entities, REITs, and ESOPs. • Commercial

Kandiyo Consulting, LLC  
433 South 7th St, Suite 2025  
Minneapolis, MN  
www.renewableNRGpartners.com  
Michael Krause  
612-229-7702  
michaelkrause61@yahoo.com

We provide business planning, marketing and sales strategies; financial analysis and funding; project management support; and proposal drafts.

Karges-Faulconbridge, Inc.  
(KFI Engineers)  
670 County Road B W  St. Paul, MN  
www.kfiengineers.com  
Chrissy McNamara  
651-254-6922  
cmmnamara@kfi-eng.com

Karges-Faulconbridge, Inc. (KFI) is a recognized industry leader in process and facilities infrastructure, design, and performance. We are a mechanical and electrical engineering and commissioning firm that provides services for a wide range of customers including educational, government, commercial, industrial, institutional, retail, and healthcare organizations.
Knobelsdorff Electric, Inc.  
25701 370th Street Goodhue, MN  
www.knobelsdorffelectric.com  
Jeff Olsen  
651-923-4970  
jeffo@knobelsdorffelectric.com  
Knobelsdorff Electric provides complete services for the solar industry, including all work from low voltage up to 35,000 volt systems, riser poles, and point of interconnect. We know string and central inverter systems, handle all AC underground installations, DC installations of racking, modules and inverters. We can perform work as an EPC contractor or work as a sub to other EPC contractors.  

M+W Energy  
570 N. 54th St., Ste 100 Chandler, AZ  
www.mwgroup.net  
Robert Wanless  
602-402-3638  
Robert.Wanless@mwgroup.net  
M+W Energy is a turnkey engineering, procurement & construction (EPC) provider of solar photovoltaic power plants. We operate nationwide and have installed over 1 gigawatt of projects in the U.S. market. M+W’s services begin on projects that are under development and span into the period of operations and maintenance. With our office in Edina, Minn., M+W will have installed over 160 MWs by the end of 2017 within the state.  

Meyer Borgman Johnson, Inc  
510 Marquette Ave, Suite 900  
Minneapolis, MN  
www.mbjeng.com  
Tony Litecky  
612-604-3624  
amail@mbjeng.com  
MBJ is a full-service structural engineering firm that provides array ballasting services in addition to structural reviews and reinforcing solutions of existing roofs for solar array installations.  

Minnesota Municipal Utilities Association  
3025 Harbor Lane North, Suite 400  
Plymouth, MN  
mmua.org  
Robert C. Jagusch  
612-840-9697  
rjagusch@mmua.org  
MMUA represents Minnesota's 125 municipally owned, not-for-profit electric utilities. We support our members with safety training, engineering and regulatory assistance, as well as support for projects and project funding.  

Minnesota Native Landscapes  
8740 77th St NE Otsego, MN  
www.MnNativeLandscapes.com/solar  
Tyler Adamscheck  
763-295-0010  
tylera@mnlnp.com  
We are Minnesota’s premier native vegetation experts with services ranging from erosion control to bio-engineering and everything in between. In addition to our extensive service offerings, we also produce local origin native plants and seed.  

Minnesota Solar Energy Industries Associations  
2512 33rd Ave S Apt 2  
Minneapolis, MN  
mnsea.org  
Minnesota Solar Energy Industries Association  
651-331-0919  
jmkeneary@mnsea.org  
MnSEA represents and serves Minnesota energy professionals and solar energy users. Our membership is comprised of over 100 organizations involved in solar photovoltaic energy, solar thermal energy, and energy storage. Membership includes solar installers, vendors, developers, distributors, manufacturers, job trainers, labor unions, law firms, and utilities.  

Minnesota Solar Sales LLC  
642 Quincy St. NE  
Minneapolis, MN  
Patrick Holt  
612-388-0505  
prholtmn@gmail.com  
We provide project management, PV design and technical sales, energy storage and management.  

MinnPACE  
380 St. Peter Street, Suite 850  
Saint Paul, MN  
minnpace.com  
Michael Linder  
651-204-6236  
Michael@minnpace.com  
PACE (Property Assessed Clean Energy) is the best source of financing solar projects in Minnesota. With no payments until May 15th of the year following the installation, the project is cash flow positive from the start. MinnPACE is a statewide program available to commercial and agricultural businesses with a 4.5% fixed interest rate for 10 years. Visit www.minnpace.com for more information.  

Mortenson Construction  
700 Meadow Lane North  
Minneapolis, MN  
www.mortenson.com/solar  
Robert Ed  
763-287-5658  
robert.ed@mortenson.com  
Mortenson has proven to be a reliable and bankable EPC partner. Our expertise in energy modeling tools combined with our self-perform capabilities keep us focused on delivering the lowest cost of energy over the life cycle of our projects.  

New Energy Equity, LLC  
705 Melvin Avenue, Suite 100  
Annapolis, MD  
www.newenergyequity.com  
Jake Dashiel  
443-616-2188  
jdashei@newenergyequity.com  
New Energy Equity sources financing from private, public, and institutional investors with established long-term, successful relationships. As an end-to-end project team with experience handling all aspects of the development process, New Energy Equity works with the most reputable solar construction companies to complete engineering, permitting, construction, and commissioning of solar transactions.  

Novel Energy Solutions  
23913 Co Rd 39  
St. Charles, MN  
www.novelenergysolutions.com  
Cliff Kaehler, CEO  
507-272-5401  
cliff.kaehler@novelenergy.biz  
Novel Energy Solutions (NES) offers a turnkey solar installation service with 100% financing to qualified businesses. NES also develops community solar gardens and has over 70 MW in queue in the MN solar rewards program.  

Nu Energy Tech Solutions  
49 Hwy 613  
Devlin, Ontario  
www.netscanada.ca  
Jeremy Nussbaumer  
807-276-3245  
Jeremy@netscanada.ca  
We provide renewable energy installations and consultations and energy conservation services.  

Olson Energy Corporation  
Suite 900 IDS Center, 80 South 8th Street  
Minneapolis, MN  
olsonenergy corporation.com  
Robert A. Olson, JD, President  
612-349-5271  
rao@robertaolson.net  
Olson Energy develops solar and wind commercial and utility scale facilities including storage facilities in association with experienced EPC contractors, structuring financing for eventual ownership by for-profit entities, but also especially for nonprofit and tax-exempt entities, such as cities, counties, and municipal power companies with the project donated to that entity, after five years.  

Oxbow Sunworks  
5633 Memorial Ave N  
Stillwater, MN  
www.oxbow-solar.com  
Morgan Southard  
651-408-3962  
Morgan@oxbow-solar.com  

Nu Energy Tech Solutions  
www.netscanada.ca  
Jeremy Nussbaumer  
807-276-3245  
Jeremy@netscanada.ca  
We provide renewable energy installations and consultations and energy conservation services.  

Olson Energy Corporation  
Suit 900 IDS Center, 80 South 8th Street  
Minneapolis, MN  
olsonenergy corporation.com  
Robert A. Olson, JD, President  
612-349-5271  
rao@robertaolson.net  
Olson Energy develops solar and wind commercial and utility scale facilities including storage facilities in association with experienced EPC contractors, structuring financing for eventual ownership by for-profit entities, but also especially for nonprofit and tax-exempt entities, such as cities, counties, and municipal power companies with the project donated to that entity, after five years.  

Oxbow Sunworks  
5633 Memorial Ave N  
Stillwater, MN  
www.oxbow-solar.com  
Morgan Southard  
651-408-3962  
Morgan@oxbow-solar.com
Oxbow Sunworks is a full-service solar installation contractor serving the Minnesota and Wisconsin industries. We are an elite group of electricians, installers, operators, and managers with unparalleled collective experience. We pride ourselves in providing expert system integration on behalf of the Midwest’s finest developers, EPCs and clients of all kinds. With over 65 MW installed since our origination, we have a depth of understanding and adaptability unlike any others around. • Residential • Commercial • Community Solar Garden

Paulson Law Office, Ltd. PS
4445 W. 77th Street, Suite 224
Edina, MN 55435

jc.p-law.com
Jeffrey C. Paulson
952-835-0055

pat@jcplaw.com

We handle all solar project-related services, including leasing, interconnection, power purchase agreements, environmental permitting, procurement, construction, financing, & O&M, as well as regulatory advocacy and litigation. We represent a range of developers from large utility-scale projects to smaller commercial projects and we are actively involved in the evolving community solar garden program in Minnesota.

Power System Engineering, Inc. PS
10710 Town Square Drive NE, Suite 201
Minneapolis, MN
www.powersystem.org

Curt Lyons
763-783-5355
lyonsc@powersystem.org

The electric power infrastructure is a complex system. Effectively interconnecting renewable generation projects to this system requires extensive analysis capabilities and an in-depth understanding of how it operates. PSE has this expertise; we provide a wide range of study and design services to support renewable energy projects, and have extensive experience in doing so.

REAL Solar, Inc. PS
3963 8th St SW
Backus, MN
www.real.org

Jan Hubbard
218-947-3779
jan@real.org

REAL Solar is a Minnesota and North Dakota licensed electrical and general contractor providing design-build engineering, procurement, and construction services in residential, commercial, municipal, and utility solar energy installation markets. • Residential • Commercial • Community Solar Garden

RedWind Consulting, LLC PS
9853 Frederick Place
Eden Prairie, MN
www.redwindconsulting.com

Daniel E. Rustowicz
952-303-4769
contactus@redwindconsulting.com

RedWind specializes in renewable energy markets with an emphasis on commercial and utility-scale wind and solar generation. Our primary services include: advisory services, financing solutions, development, consulting, and expert witness testimony.

Robert A. Olson, JD, Attorney at Law, PA PS
Suite 900 IDS Center, 80 So. 8th Street
Minneapolis, MN

Robert A. Olson, JD, President
612-349-5271
rao@robertaolson.net

I am an experienced tax attorney and former bank owner who is knowledgeable in the financing and structuring of wind and solar and storage facilities. I have special knowledge and experience in the design of utility and commercial/industrial scale projects for nonprofit entities including cities and counties and municipal power companies.

Simple Solar Designs D PS EO
2610 119th St NW
Rice, MN

facebook/ Simple Solar Designs
Gary Court
320-493-9775
SimpleSolarsigns@aol.com

We provide solar hot water thermal heat systems. • Residential • Commercial • Community Solar Garden

SoCore Energy PS
225 W Hubbard, Suite 200
Chicago, IL
www.socoreenergy.com

Laura Caspari
312-859-3951
Laura.Caspari@socoreenergy.com

SoCore Energy develops solar energy installations for commercial, industrial, utility, and public sector customers throughout the United States—with a client list that includes Fortune 500 retailers, industrial operators, municipalities, and academic institutions. We are a full-service clean energy developer, providing site identification, project development, engineering, construction management, operations & maintenance, and incentive application services in-house.

Solar Design Studio PS
23185 State Hwy 92
Platte City, MO
www.solardesignstudio.com

Bob Solger
913-221-6253
bob@solardesignstudio.com

Solar Design Studio is an international consulting and engineering firm that specializes in the solar photovoltaic (PV) industry. From our headquarters in Kansas City, Missouri, we serve solar project developers, PV equipment distributors, and solar integrators and installers.

SolarStone Partners PS
3944 Xerxes Avenue South
Minneapolis, MN
www.solarstonepartners.com

Gordon Simanton
612-801-2000
gordy@solarstonepartners.com

SolarStone’s executive team has been involved with over $3 billion of currently operational wind, solar and hydro projects across the U.S. and Europe. Our development experience includes project development, land acquisition, project management, transmission and distribution interconnection, energy policy, project finance, construction, operations and maintenance. • Community Solar Garden

St. Cloud Heating and Air Conditioning Inc. PS
1545 Hwy 23 East
St. Cloud, MN
www.stcloudheating.net

Gary Anderson
320-253-0657
gary@stcloudheating.net

We provide residential and small commercial HVAC service and installations, new construction and remodeling, and solar PV systems and solar thermal heating and hot water. • Residential • Commercial

Sundial Solar Energy PS
3209 W 76th St #305
Edina, MN
www.sundialsonarenergy.com

Jon Kramer
240-463-3688
sundialsonarenergy@gmail.com

Sundial Solar is one of Minnesota’s oldest and leading solar companies. We specialize in development and financing of commercial and industrial businesses, municipal entities, schools districts, and pioneering creative projects. • Commercial

SunPeak PS
440 Science Drive
Madison, WI
www.sunpeakpower.com

Matt Bellehumeur
608-535-4554
contact@sunpeakpower.com

SunPeak is a turnkey developer of commercial solar PV electricity systems based in Madison, Wisconsin. Businesses can be assured the feasibility studies, financial payback analysis, system engineering, installation and ongoing maintenance will be professionally handled. Projects typically range from 100 kW to 5 MW (hundreds to thousands of solar panels) and offer significant cost savings relative to conventional utility electric rates. • Commercial
The Sun’s Warmth PS EO
28609 Walnut Run Way Red Wing, MN
www.sunswarmth.com
Rich Huelskamp
651-301-3271
rich@sunswarmth.com
We educate, advise, and conduct engineering analysis of potential projects and successfully complete project management of projects/programs. We are an energy efficiency and renewable energy consulting company.

TruNorth Solar I PS
5239 Edina Industrial Blvd Edina, MN
www.TruNorthSolar.com
Martin Morud
612-888-9599
Info@TruNorthSolar.com
TruNorth Solar is a solar installation company in Minnesota specializing in residential, commercial and utility sized PV projects. With a reputation for integrity and high quality work, TruNorth Solar has comprehensive knowledge of the solar industry and the regulatory structure in which it operates, allowing our team to capitalize on new policies to the benefit of our customers and the environment. We look forward to serving as your solar expert on your next solar project.

U.S. Renewable Energy Credit Exchange PS
3171 309th Ave NW Cambridge, MN
Tom Karas
763-333-5200
tkaras@puresenergy.net
US REC-X exists with an operational mandate to provide a valid REC marketplace for Local Clean Energy Heroes operating distributed energy projects. Capturing the REC revenue is one of the final steps in recovering all monetary value for making an investment in a clean energy project.

Winona Renewable Energy LLC I PS
1449 Ridgewood Dr Winona, MN
www.winonarenewableenergy.com
Tim Gulden
507-312-0190
info@WinonaRenewableEnergy.com
We provide turnkey solar electric solutions for the residential, commercial, nonprofit and government sectors. Services include: site surveys, quoting, design, procurement, installation, commissioning, training, and customer service. We pride ourselves in outstanding professional service, superior attention to detail, solid integrity, proactive safety, quality products, and competitive value.

Westwood Professional Services, Inc. PS
7699 Anagram Drive Eden Prairie, MN
www.westwoodps.com
Mallory Lindgren
952-937-5150
mallory.lindgren@westwoodps.com
Westwood is a multidisciplined surveying and engineering services provider with over 6GW of experience supporting the development and construction of utility-scale, distributed generation, and commercial rooftop solar projects across the United States. Our in-house expertise includes: civil, electrical, geotechnical and foundation engineering, environmental permitting, land surveying, and aerial mapping.

Wagner Zaun Architecture Inc PS EO
17 N Lake Ave Duluth, MN
www.wagnerzaun.com
Rachel Wagner
218-733-0690
rwagner@wagnerzaun.com
We are an architectural design firm with broad experience and expertise in passive solar design, zero net energy design, and active “solar ready” design.

Wenck PS
7500 Olson Memorial Hwy Suite 300 Golden Valley, MN
www.wenck.com
Abby Neuens
952-837-3348
aneuens@wenck.com
Wenck was founded more than 30 years ago and now features 14 branch offices in five states strategically located around the country. We provide engineering, environmental, construction, and emergency response services to deliver single-source real estate solutions for our clients.

Winthrop & Weinstine PS
225 South Sixth Street, Suite 3500 Minneapolis, MN
www.winthrop.com
Norm Jones
612-604-6605
njones@winthrop.com
We provide legal counsel for solar developers, investors and lenders who want to find debt and equity financing for long-term ownership of systems. We focus on ground mount or (pooled) rooftop projects from 1 MW to 10 MW. We have a special interest in financing Minnesota Community Solar Gardens.

Yucatan Solar LLC PS
2038 Ford Pkwy #444 St Paul, MN
www.yucatansolar.com
Gerardo G Ruiz
612-221-3774
gerardo.ruiz@yucatansolar.com
We are a solar project management and consulting firm specializing in utility-scale plants and special-purpose solar projects. Our personnel can supervise the adherence to technical solar standards of construction, as well as manage material logistics and quality control on site.

WSB PS
701 Xenia Avenue - Suite 300
Golden Valley, MN
wsbeng.com
Brian Bourassa
763-541-4800
bbourassa@wsbeng.com
WSB is a full-service civil engineering, planning, and environmental consulting firm. We provide environmental, permitting, geotech, ALTA survey, and preliminary and final design for renewable energy projects.
Jan Alswager has more than 23 years of experience lobbying at the Minnesota Legislature. After directing the legislative and political activities of a very large organization, she started her own firm. In addition to lobbying, her skills include legislative strategy, grassroots organizing, and coalition development. She has lobbied the legislature and agencies on solar energy and other issues.

A-Sharp Energy PS EO
2517 Humboldt Ave S, Suite 103
Minneapolis, MN
asharpenergy.com
Daniel Enderton
855-612-6612
daniel@asharpenergy.com

A-Sharp Energy provides two services: (1) a web service (www.asharpenergy.com) that lets people learn about community solar and shop for a subscription, and (2) a subscription management platform for providers to administer their subscriptions over the life of a community solar project.

Avant Energy, Inc. PS EO
220 South Sixth Street, Suite 1300
Minneapolis, MN
www.avantenergy.com
General Contact
612-349-6868
info@avantenergy.com

Avant Energy is an energy management company with over 30 years of experience in energy consulting, project development, and utility management services. We work with our clients to develop innovative yet practical solutions based on the overarching belief that “better is possible.”

Clean Energy Economy Minnesota EO
400 South 4th Street, Suite 401–202
Minneapolis, MN
www.cleanenergyeconomymn.org
Gregg Mast
612-743-9157
gmast@cleanenergyeconomymn.org

Clean Energy Economy Minnesota (CEEM) is an industry-led, nonprofit organization dedicated to strengthening Minnesota’s clean energy ecosystem through public education in support of a prosperous economy. Our mission is to provide educational leadership, collaboration, and policy analysis that accelerates clean energy market growth and smart energy policies.

Clean Energy Resource Teams EO
1991 Upper Buford Circle, 411 Borlaug Hall
Saint Paul, MN
www.cleanenergyresourceteams.org
Dan Thiede
612-626-0556
thie0235@umn.edu

The Clean Energy Resource Teams—or CERTs—is a statewide partnership with a shared mission to connect individuals and their communities to the resources they need to identify and implement community-based clean energy projects.

Compar, Inc. PS EO
10301 Yellow Circle Drive
Minnetonka, MN
www.comparinc.com
Stephen Bohlig
952-945-0300
stephen@comparinc.com

Since 1996 Compar, Inc. has undertaken solar research and operated research solar facilities. Compar has partnered with the Department of Energy, Environmental Protection Agency, and Xcel Energy.

Ecolibrium3 EO
2304 W. Superior Street Duluth, MN
www.ecolibrium3.org
Bret Pence
218-336-1038
brett@ecolibrium3.org

Ecolibrium3 is a nonprofit organization with a focus on energy and equity in Duluth and northeast Minnesota. We provide fee-for-service residential energy audit services, and have been a Solar Market Pathways grant recipient since 2015. Our primary solar motivation is to create a vibrant local solar market through technical assistance, institutional outreach, and public education.

Green Circuit PS EO
901 4th street #101
Hudson, WI
rhino@green-circuit.com
Brett Robinson
651-343-8477
brett@green-circuit.com

Green Circuit provides engineering, procurement, and construction (EPC) project design, consulting, and construction management financing. • Commercial • Community Solar Garden

IBEW Local Union 292 PS EO
312 Central Ave. SE, Suite 292
Minneapolis, MN
ibew292.org
Chris Kohn
612-617-4240
ckohn@ibew292.org

Our members provide installation, operation, maintenance, and repair of all electrical wiring and electrical equipment used in the construction of photovoltaic solar arrays. • Residential • Commercial • Community Solar Garden

Midwest Solar Expo, LLC EO
147 Prince Street, Brooklyn, NY
www.miwestsolarexpo.com
Sharona Kohn
301-523-5335
sharona@midwestsolarexpo.com

The 2017 Midwest Solar Expo returned to Minneapolis on May 22-24, 2017 for the 4th annual conference and exhibition. The conference brings together hundreds of solar industry leaders to advance the solar conversation in the Midwest. It includes plenary and networking sessions, keynotes, presentations, exhibition, happy hour, and ping pong.

Minnesota Municipal Utilities Association PS EO
3025 Harbor Lane North, Suite 400
Plymouth, MN
mmua.org
Robert C. Jagusch
612-840-9697
rjagusch@mmua.org

MMUA represents Minnesota’s 125 municipally owned, not-for-profit electric utilities. We support our members with safety training, engineering and regulatory assistance as well as support for projects and project funding.

Minnesota Renewable Energy Society (MRES) EO
2928 5th Ave. S
Minneapolis, MN
www.mnrenewables.org
Doug Shoemaker
612-308-4757
Doug@MnRenewables.org

The Minnesota Renewable Energy Society (MRES) is a nonprofit organization dedicated to promoting and advocating for the use of renewable energy in Minnesota through education and the demonstration of practical applications. MRES is involved in education, awareness, and advocacy efforts for all forms of renewable energy, with a particular emphasis on solar technologies.

Minnesota Solar Energy Industries Associations PS EO
2512 33rd Ave S Apt 2
Minneapolis, MN
mnseia.org

The Minnesota Solar Energy Industries Association (MSEIA) is a trade association dedicated to promoting and advocating for the use of solar energy in Minnesota through education and the demonstration of practical applications. MSEIA is involved in education, awareness, and advocacy efforts for all forms of renewable energy, with a particular emphasis on solar technologies.
MnSEIA represents and serves Minnesota energy professionals and solar energy users. Our membership is comprised of over 100 organizations involved in solar photovoltaic energy, solar thermal energy, and energy storage. Membership includes solar installers, vendors, developers, distributors, manufacturers, job trainers, labor unions, law firms, and utilities.

**Minnesota Solar Sales LLC**  
642 Quincy St. NE · Minneapolis, MN  
**Patrick Holt**  
612-388-0505  
pholtmn@gmail.com  
We provide project management, PV design and technical sales, energy storage, and management.

**Novel Energy Solutions**  
23913 Co Rd 39 · St. Charles, MN  
www.novelseasons.com  
**Cliff Kaehler, CEO**  
507-272-5401  
cliff.kaehler@novelseasons.com  
Novel Energy Solutions (NES) offers a turnkey solar installation service with 100% financing to qualified businesses. NES also develops community solar gardens and has over 70 MW in queue in the MN solar rewards program.  
- Residential  
- Commercial  
- Community Solar Garden

**Nu Energy Tech Solutions**  
49 Hwy 613 · Devlin, Ontario  
netscanada.ca  
**Jeremy Nussbaumer**  
807-276-3245  
Jeremy@netscanada.ca  
We provide renewable energy installations and consultations and energy conservation services.  
- Residential  
- Commercial  
- Community Solar Garden

**Red Rock Energy**  
12181 375th St. · North Branch, MN  
www.redrok.com/main.htm  
**Duane C. Johnson**  
651-583-2265  
redrok@redrok.com  
We are an all-around solar tracking expert, providing solar trackers and electronic parts.

**Renewable Energy Services**  
448 Morgan Avenue South, Suite 300 · Minneapolis, MN  
**John Dunlop**  
612-377-3270  
JDunlop@RESMinn.com  
Renewable Energy Services (RES) provides technical and policy support for renewable energy. RES was established to represent over 35 years of active support for renewable energy programs, first with the Minnesota State Energy Office and then with the American Wind Energy Association.

**Simple Solar Designs**  
2610 119th St NW · Rice, MN  
facebook- Simple Solar Designs  
**Gary Court**  
320-493-9775  
SimpleSolarDesigns@aol.com  
We provide solar hot water thermal heat systems.  
- Residential  
- Commercial  
- Community Solar Garden

**The Great Plains Institute for Sustainable Development**  
2801 21st Street S. Suite 220 · Minneapolis, MN  
www.betterenergy.org  
**Brian Ross**  
612-767-7296  
bross@gpisd.net  
The Great Plains Institute works with diverse interests to transform the way we produce, distribute, and consume energy to be environmentally and economically sustainable. The Sustainable Communities Team works with local governments and stakeholders to turn local policy into action. GPI helps communities on planning, regulation, permitting, and technical analysis to realize renewable energy goals.

**The Sun’s Warmth**  
28609 Walnut Run Way · Red Wing, MN  
www.sunswarmth.com  
**Rich Huelskamp**  
651-301-3271  
rich@sunswarmth.com  
We educate, advise, and conduct engineering analysis of potential projects and successfully complete project management of projects/programs. We are an energy efficiency and renewable energy consulting company.

**Wagner Zaun Architecture Inc**  
17 N Lake Ave · Duluth, MN  
www.wagnerzaun.com  
**Rachel Wagner**  
218-733-0690  
rwagner@wagnerzaun.com  
Wagner Zaun is an architectural design firm with broad experience and expertise in passive solar design, zero net energy design, and active "solar ready" design.

**Writing for the Workplace, LLC**  
PO Box 40472 · Saint Paul, MN  
greengrantwriter.com  
**Cass Erickson**  
612-723-9904  
cve.grants@gmail.com  
We provide grant writing services to nonprofit organizations and small businesses. Deliverables include prospect research, annual grants calendars, letters of inquiry, and grant proposals. We specialize in the environment and education.
Several key components of the solar installation process include:

- **Qualifications.** Verify your installer’s qualifications. A hired installation crew must include a licensed Minnesota electrician; make sure the installer is in good standing with the Minnesota Department of Labor and Industry (dli.mn.gov). Ask about installer credentials; for example, many installers are certified by the North American Board of Certified Energy Practitioners (NABCEP). Request customer and business references. To find a current list of installers, check out the Clean Energy Project Builder, Minnesota Solar Energy Industries Association, NABCEP, or this guide.

- **Site Assessment.** As part of your installation, be sure that the installer provides a detailed assessment of your site, including a shading analysis, examination of the roof and other structures to determine feasibility of a solar installation, and estimated annual production of the system, along with the estimated energy offset.

- **Permits and agreements.** Confirm that the installer is applying for all necessary building permits, interconnection agreements, and documentation for incentives and manufacturer/installer warranties.

- **Manufacturer and installation warranties.** Review all warranties. Most solar panels and collectors will have a manufacturer’s warranty that guarantees a minimum of 80% output of the name plate capacity for 25 years. The warranty for workmanship by the installer is usually two to five years.

- **Costs.** Be sure that the installer provides a detailed bid contract that describes all the work to be done and who is doing it (including any subcontractors), all the equipment and materials to be installed, timeframes for completion, payment specifics, and process for any change orders.

- **Rebates and incentives.** Review with your installer all financial incentives available to your installation. Make sure that the installer provides documentation for all applicable rebates and incentives and ensures timely filing. Check out the Database of State Incentives for Renewables & Efficiency (dsireusa.org) for a list of incentives that may apply to you.

- **Inspections.** Agree that all required project inspections will be arranged by the installer.

**Common Expectations of a Solar Installation**

Before installing a solar energy system, consumers are urged to make some basic home improvements that will save energy: get an energy audit; seal air leaks and add insulation; repair or replace old appliances; replace old lighting with LEDs; and use a programmable thermostat. Making homes or businesses energy efficient first will reduce energy consumption, which will reduce the investment needed for a solar energy system.

After making cost-effective home energy improvements, consumers can educate themselves about solar energy options. They can take a class on solar basics and talk to friends and neighbors who have installed solar. The Clean Energy Resource Teams offers “Solar Electricity for the Home, Farm, and Business,” a series of fact sheets to help determine if solar is a good option. The education process will help determine the goals behind installing a solar system, and highlight the need for a pre-

**Solar Resources**

- **Clean Energy Project Builder** (cleanenergyprojectbuilder.org): A resource that connects people and businesses with companies that can help plan, implement, and manage clean energy projects. The online directory features companies that provide products and services for all kinds of solar and wind energy projects.

- **Clean Energy Resource Teams** (cleanenergyresourceteams.org): Offers fact sheets to determine if solar is right for homes, businesses, and farms; information about community solar gardens; special solar guidance for rural Minnesotans; and more.

- **Database of State Incentives for Renewables and Efficiency** (dsireusa.org): Provides a list of rebates, incentives, tax credits, and loan programs to support renewable and energy efficiency projects.

- **Midwest Renewable Energy Association (MREA)** (midwestrenew.org): Works to expand renewable energy adoption through innovative programs, renewable energy training, and educational events.

- **Minnesota Department of Commerce, Energy Information Center** (mn.gov/commerce): Provides unbiased general information about solar energy in Minnesota (800-657-3710); includes a solar-help resource (solar.help@state.mn.us) to answer solar questions.

- **Minnesota Department of Employment and Economic Development** (mn.gov/deed): Promotes business recruitment, expansion, and retention; international trade; workforce development; and community development for solar job seekers and solar businesses.

- **Minnesota Department of Labor and Industry** (dli.mn.gov): Oversees the state’s programs for apprenticeships, construction codes and licensing, occupational safety and health, wage and hour standards, and workers’ compensation. Licenses electricians.

- **Minnesota Renewable Energy Society** (mnrenewables.org): Promotes the use of and advocates for renewable energy in Minnesota through education and the demonstration of practical applications. Provides solar education and training and independent solar site suitability assessments.

- **Minnesota Solar Energy Industries Association** (mnsiea.org): MnSEIA represents and serves Minnesota energy professionals and solar energy users. Work primarily focuses on state legislative lobbying efforts and administrative implementation work at the state agency level.

- **Minnesota Solar Suitability App** (mn.gov/solarapp): A public online tool created by the University of Minnesota that determines solar site suitability for locations throughout Minnesota.


- **North American Board of Certified Energy Practitioners** (nabcep.org): A certifying body for solar installers; provides list of certified solar installers.

- **Solar Energy Industries Association** (seia.org): Supports the solar industry nationwide.

- **U.S. Department of Energy** (energy.gov): Provides a wide range of solar information. The DOE SunShot Initiative supports research and development efforts to leverage America’s abundant solar energy resources.

This material is based upon work supported by the U.S. Department of Energy’s Office of Energy Efficiency and Renewable Energy (EERE) under the Weatherization and Intergovernmental Programs Office, Award Number DE-EE0007479.
Minnesota Solar Facts

Average price of solar is 60% lower than in 2010

Annual Solar Capacity (Megawatts)

Minnesota Department of Commerce

Minnesota’s three largest solar power plants in operation:
Aurora Distributed Solar, 105MW
North Star Solar, 100MW
Marshall Solar, 62MW

Minnesota Department of Commerce

There is enough solar energy installed in Minnesota to power 25,200 households*

* assumes 10 kW/household

2016 solar industry economic activity $1 Billion

Community solar programs 26 in Minnesota

Clean Energy Resource Teams