

A Community Solar Success Story

Benefitting Local Communities



On the west side of the small town of Cold Spring, Minnesota lies a 4.04 MW community solar garden. The garden is fully subscribed, meaning consumers have contracted to purchase solar electricity for the life of the garden. Subscribers are residences and businesses who choose clean renewable electricity. *This is the story of how the WakeSun Community Solar Garden was sown and grown.*

In 2013, [Minnesota enacted a bill](#) designed to promote the growth of solar energy. The legislature expanded the opportunity for people to participate in solar. Where every rooftop may not be suitable for solar for a variety of reasons (from renters, mobile home owners, condos to tree-shaded residences and leased business buildings), community solar projects make solar power accessible to a far greater market share. In fact, Greentech Media Research says that nationally the addressable market is around 100 million households. *

In 2014, Minnesota had 14 MW of solar installed and ranked 39th in solar states. In December of that year, Xcel Energy, a Minnesota-based utility energy provider, launched its [Solar Rewards Community for Minnesota](#). Today, Xcel has more than 300 MW of solar gardens at 80+ locations across the country, and their national program is on track to become the largest community solar program in the United States.

However, it would take hard work, collaboration and time to become the extensive service it is today. It would also call for solar developers to evolve their service models and pioneer beside the electric utilities to flesh out the necessary processes that would result in today's successful program.

SunShare is one of those pioneers who has played a major role in advancing community solar. The company had a unique beginning as a dedicated community solar developer. They created the first competitive community solar program in the country. Today SunShare is based in Denver, Colorado and has almost 100 MWs of solar projects in its pipeline.

[SunShare](#) understands that community solar is a different animal. The ground-mounted solar gardens are located on land with good solar exposure and near existing power distribution lines that provide electricity to Xcel Energy's power grid. SunShare has a 25-year promise to its subscription customers for energy production and they take that commitment seriously. Quality is foremost. That explains why they selected their partners from design engineering, through construction, and operations and maintenance very carefully.

The community solar garden is owned by WakeSun, LLC,

"It's a no brainer. It saves you money, and you're doing something positive for the environment and the state of Minnesota."

- John Gerlach, Minneapolis, Local Subscriber



“SunShare takes pride in the community solar gardens we develop. We have partnered with leading companies, offering top-tiered components and services, who align with SunShare’s commitment to solar project quality.”

David Amster-Olszewski,
CEO, SunShare

and managed by Real Capital Solutions, an investment firm based out of Colorado. Real Capital Solutions is a nationally-focused investor of work-out and value-add properties. The community solar garden administered by SunShare Management, LLC, was commissioned in January of 2017 and finished in March of 2017. Subscribers will receive credits on their Xcel Energy statements, lowering their electricity bills. The pipeline of community solar gardens will enable thousands of people, businesses, and organizations to make a choice and play a part in creating a cleaner and healthier environment.

“It’s a no brainer. It saves you money, and you’re doing something positive for the environment and the state of Minnesota,” said John Gerlach, of Minneapolis.

The WakeSun Community Solar Project is sited on unused agricultural fields. The fallow land is now leased for the solar project generating an income stream for the property owner and creating a win-win situation for the community.

With a viable parcel of land solidified, SunShare’s project development and engineering teams started the initial design and permitting process. Each solar project’s design and construction is unique.

Construction on the WakeSun project would take 14 weeks. The project was on a strict time line and construction was scheduled for early winter in one of the coldest states in the U.S. Climatic conditions were a concern, as the engineering, procurement and construction (EPC) team selected project components and finalized project plans. Their extensive experience and meticulous planning resulted in a well-executed solar installation. Here’s what happened.

The construction team selected high-powered Trina Solar modules, pre-assembled Solar FlexRack G3P solar racking and Solectria Solar 500 kW Central Inverters. The land site was a clean site with no environmental issues. However, geology tests revealed several boulders ranging from 3 to 4’ buried below the surface. These needed to be removed before trenching and pile driving could be completed.

Solar FlexRack was selected not only for their racking products, but for their services. They have a proven track record of experience installing in cold country. They worked closely with the installation team to provide a driven pile racking solution that would significantly reduce labor time in the field. The pre-assembled G3P allowed the solar garden project to meet the tight construction schedule. The

racking's proprietary design not only accelerated the installation process, but also safeguards the project owner's investment. With a special feature to automatically square the system, Solar FlexRacking allows for easy module alignment during installation without prying or applying pressure on the solar modules that could lead to damage such as frame breakage, microcracking or disconnection of cell string ribbons. The unique design also ensures that all loads flow from the modules down through the racking system and into the ground - without placing secondary stresses into the modules or depending on the modules to brace the system, hence safeguarding the solar project's power generation components.

The installation was self-performed by an expert division of the EPC organization, including the electrical work. The site's rocky soil created some additional concerns for underground cables. The crew devised a cable protection process. To shield the medium voltage cable from the rocky soil, earthmovers prepared the trenches, laid down a thick layer of sand, the industrial cable, and then another layer of sand, before completely backfilling the trench.

Another time-saving component was incorporated in the project. Above ground CAB solar cable management for all dc collection was installed to minimize risk. This external support for wiring is more reliable and durable than conventional products. By utilizing the tray wiring system, they reduced trenching by 50% and shaved significant costs off the project.

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WakeSun Solar Garden

Plant Size: 4.04 MW DC
Location: Cold Spring, Minnesota
EPC: Mortenson Construction
Owner: Real Capital Solutions
Racking: Solar FlexRack
G3P Pre-Assembled Fixed Tilt
Modules: Trina Solar
12,816 TallMax-PD14, 315 W
Inverters: Yaskawa - Solectria Solar
500 kW Central Inverters SGI 500XT
Project
Completed: January 2017

community solar gardens will enable thousands of people, businesses, and organizations to make a choice and play a part in creating a cleaner and healthier environment.

Community solar is paving the way to the next generation of solar energy by extending the accessibility of clean, affordable solar electricity.



Quality is foremost.”

- Garrett Peterson, Director,
Construction & Program Execution,
SunShare

About Solar FlexRack G3P

EASE AND SPEED IN INSTALLATION

The Series G3P pre-assembled ground rack is designed to be ready when you are. With built-in adjustability, the racking can be engineered to accommodate any module and multiple array configurations. It dramatically reduces installation time translating to lower project costs.

SEAMLESS FLEXIBILITY

A flexible and adaptable model, G3P can accommodate uneven terrain and up to 20% slope in the E/W direction.

INTELLIGENT DESIGN

The series G3P is value engineered by our world-class team to optimize materials, limit components and create a cost effective solution. The proprietary design stabilizes and squares the racks creating both a durable system and one that actually accelerates the module installation process by preventing spacing issues during installation. The design also allows the horizontal rails to be set in place with no hardware during initial placement and be easily adjusted in the field. G3P safeguards owners' investments by protecting the power generating components (modules) of your system during installation for long term performance and reliability.

Learn more about Solar FlexRack at www.solarflexrack.com



About Real Capital Solutions



Real Capital Solutions is an active investment manager that provides smart capital and practical solutions for real estate opportunities. For over 30 years, RCS has achieved great success investing in entrepreneurial real estate ventures. During that time, the company has purchased and managed more than 365 real estate investments totaling approximately \$3.5 billion dollars.

Real Capital Solutions has expertise in buying distressed real estate where they can add value. Marcel Arsenault, CEO and Founder, approaches the real estate business from an academic perspective, constantly reading and analyzing the industry to better understand the story behind real estate cycles.

RCS has consistently delivered best-in-class returns to investors by pairing opportunistic acquisitions with determined execution. Real Capital Solutions' investment performance is a result of a solutions-oriented approach to property acquisition, development, management and divestiture. RCS will continue to produce exceptional returns for its investors by working with operating partners that share the same entrepreneurial drive and operational precision in order to achieve extraordinary performance.

For more information about this topic or to discuss future investments, please contact Dominic Lopez at dlopez@realcapitalsolutions.com, 303-533-1684.

About SunShare



SunShare is one of the nation's first and largest community solar companies. In 2011, SunShare helped redefine how people access solar energy by installing panels in nearby fields rather than on rooftops. Subscribers commit to a portion of the energy produced by the solar gardens, which in turn supplements their utility provider's grid with clean, renewable energy. The utility company continues to deliver power to SunShare subscribers. As a result, everyone from homeowners to renters can make smart but simple decisions about their energy, while lowering their electricity bill and creating a healthier environment for the community. Learn more at mysunshare.com.

About Trina Solar TallMax-PD 14

[TALLMAX](#) modules are recognized by industry professionals for their proven historical performance in the field and their high manufactured quality. Their industry leading quality and reliability is assured by Trina's rigorous in-house testing program that includes over 30 tests, and goes well beyond the requirements of reputed industry standard certification bodies.

Key features:

- 72 Cell Multicrystalline
- 320-335 W Power Range
- 17.3% Maximum Efficiency
- 0 + 5W Power Tolerance
- Available in 1500V
- 25-year linear performance warranty



About Trina Solar

Founded in 1997, Trina Solar is the world's leading comprehensive solutions provider for solar energy. We believe close cooperation with our partners is critical to success. Trina Solar now distributes its PV products to over 60 countries all over the world. Trina is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners.

<http://www.house.leg.state.mn.us/hrd/pubs/ss/ssolarleg.pdf>

* <https://www.greentechmedia.com/articles/read/Im-ready-to-fall-in-love-with-community-solar>

https://www.xcelenergy.com/programs_and_rebates/residential_programs_and_rebates/renewable_energy_options_residential/solar/available_solar_options/community-based_solar

<http://solarflexrack.com/>

http://static.trinasolar.com/sites/default/files/PS-M-0328%20E%20Datasheet_Tallmax_US_Feb_2017_A.pdf

<https://www.mysunshare.com/>