How Community Solar Supports American Farmers

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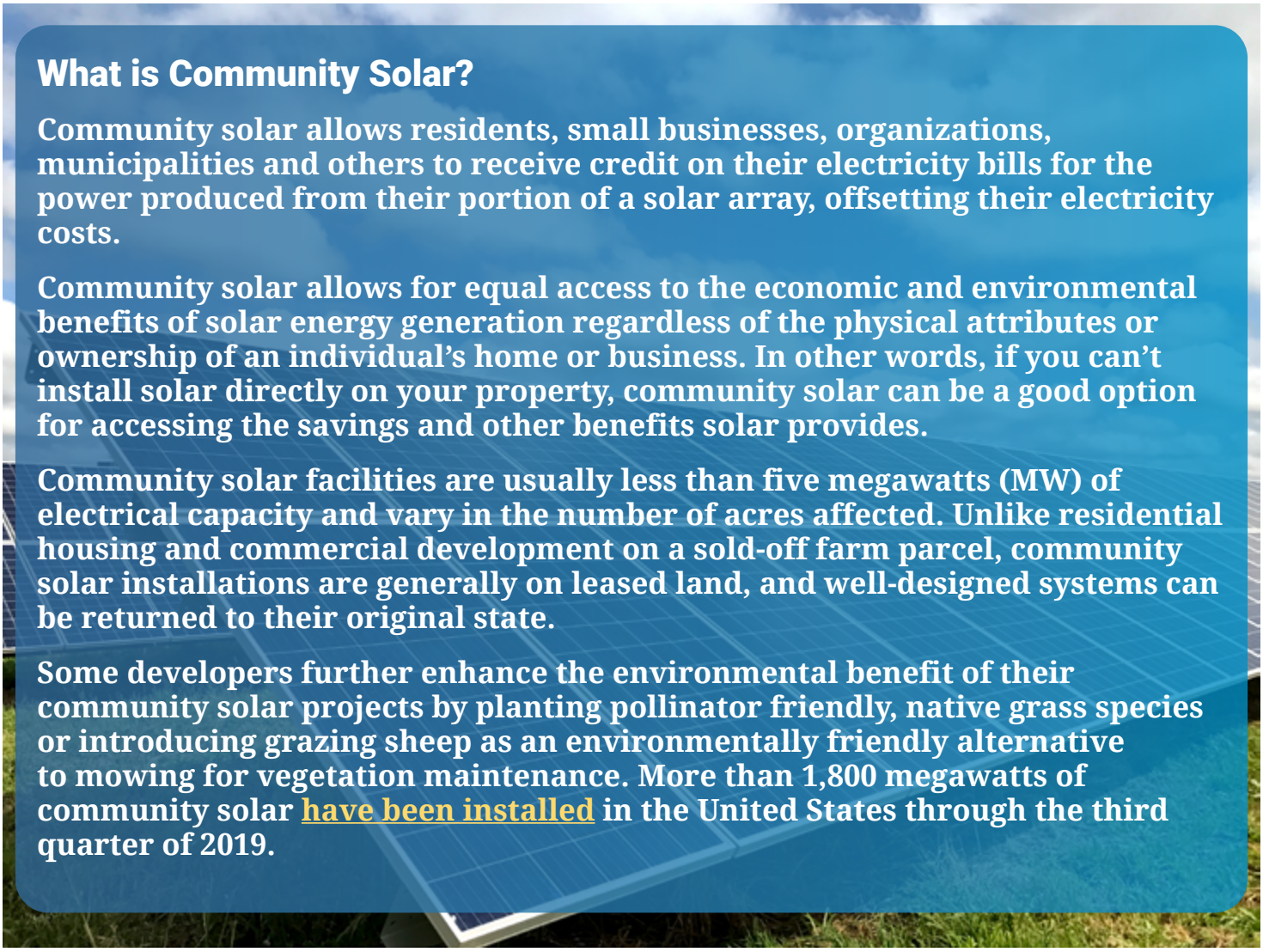
Introduction

As family farms are increasingly squeezed to make ends meet, farmers all over the country have found a new revenue stream that helps support their bottom line: community solar projects.

This fast-growing segment of the solar industry is now authorized in 19 states and Washington D.C. Companies specializing in community solar are increasingly negotiating deals with farmers to lease portions of their land to build these projects. As more and more states continue encouraging the growth of community solar, farmers – and landowners more generally – should be aware of the benefits of this potential new revenue stream.

Community solar lease payments can provide an economic lifeline to farmers, allowing farm operations to stay within families. In addition to generating local revenue, these projects help states make progress toward meeting their clean energy and climate goals.

This short paper explains the community solar model, describes the typical arrangements farmers enter into with companies that build these projects, presents five case studies from different states showing the ways in which agricultural operations have benefited from community solar on their property, and offers resources to help landowners and solar firms. SEIA intends to update this document periodically and add new case studies from across the country.



What is Community Solar?

Community solar allows residents, small businesses, organizations, municipalities and others to receive credit on their electricity bills for the power produced from their portion of a solar array, offsetting their electricity costs.

Community solar allows for equal access to the economic and environmental benefits of solar energy generation regardless of the physical attributes or ownership of an individual's home or business. In other words, if you can't install solar directly on your property, community solar can be a good option for accessing the savings and other benefits solar provides.

Community solar facilities are usually less than five megawatts (MW) of electrical capacity and vary in the number of acres affected. Unlike residential housing and commercial development on a sold-off farm parcel, community solar installations are generally on leased land, and well-designed systems can be returned to their original state.

Some developers further enhance the environmental benefit of their community solar projects by planting pollinator friendly, native grass species or introducing grazing sheep as an environmentally friendly alternative to mowing for vegetation maintenance. More than 1,800 megawatts of community solar have been installed in the United States through the third quarter of 2019.

Solar Grazing

During the past several years, many solar firms have been using sheep to maintain vegetation on project sites. For example, 150 sheep browse the grounds at a Nexamp site in Newfield, NY. Sheep eat grasses and keep other plants from interfering with or shading solar equipment. The fencing around a solar project also protects the sheep from predators, while the panels themselves provide shelter from the elements. Renting the sheep from local farmers means the solar project owner doesn't need gas-powered equipment on site, all while supporting local sheep farmers. More information can be found at: https://solargrazing.org/

Community Solar Arrangements With Farms

As shown in the case studies below, farms will often lease portions of their land to community solar companies for a fixed term at a fixed price, although other lease or purchase arrangements are also used. Solar lease payments tend to be higher than leasing for traditional agricultural operations. This constant stream of revenue benefits the farmer by providing higher flexible income than can be obtained than by cultivating certain agricultural products such as hay or by leaving the land vacant. Lease payments vary considerably based on the state in which the project is located.

Partnerships between community solar and farmers have resulted in benefits to both parties, to subscribers accessing the bill credits, and more broadly to the residents where these projects reside by providing pollution-free electricity, supporting a clean energy economy, and a ensuring a greener, more resilient electric grid.

Community solar partnerships with farmers are mutually beneficial, providing pollution-free electricity to local residents while allowing subscribers to access bill credits. The partnerships help ensure a greener, more resilient electric grid and support a clean energy economy.

Want to Learn More or Tell Your Story?

SEIA's website has more information about community solar business models, our ongoing state regulatory work to support community solar across the country, and more information about the number of community solar projects installed nationwide.

SEIA is also looking for your help. If you have a story you want to tell about how a community solar operation helped your family farm or larger farm operations, please contact Dave Gahl at dgahl@seia.org.

SEIA has a series of fact sheets about the compatibility of solar and agricultural lands, and the ways in which grazing, farming and larger solar projects can work together. More information can be found using our Factsheet Archive.

Allard's Farm:
Hadley, Massachusetts

QUICK FACTS

State: Massachusetts

Solar Company: Nexamp

Landowner: Allard's Farm

Electrical Capacity: 2.4 MW

Acreage: 12

Allard's Farm

Located in central Massachusetts, not far from Springfield, this 2.4 MW solar project on Allard's Farm serves more than 100 community solar subscribers. The "Hadley II Solar" project was the first community solar project completed in the Western Massachusetts Electric Company service territory (formerly WMECO, now known as Eversource West). With neighboring local governments, including the Towns of Hadley and Southwick, also benefiting from the solar project's output, the farm not only provides electricity cost savings to those who are subscribed to the farm, but to all residents by lowering Town taxes.

Established in 1935, Allard's farm is a multigenerational family farm that is run by a small staff of less than ten. The solar installation was built on marginally productive farmland to augment other farm income. In 2009, Allard's was recognized as an Outstanding Massachusetts Dairy Farm by the UMass Amherst Center for Agriculture Food & the Environment. This is the second solar installation on Allard's farm.

Massachusetts, an early leader in promoting community solar, now has nearly 330 MW installed across the Commonwealth. The Solar Massachusetts Renewable Target (SMART) program provides incentives for solar project development and will likely be expanded in 2020.

Sources: Nexamp, UMassAmherst, SEIA/Wood Mackenzie Power & Renewables Solar Market Insight Report

Eichtens Hidden Acres Cheese Farm:

Center City, Minnesota

QUICK FACTS

State: Minnesota

Solar Company: IPS Solar

Landowner: Eichtens Hidden Acres Cheese Farm

Electrical Capacity: 5 MW

Acreage: 21

Eichtens Hidden Acres Cheese Farm

Located Northeast of Minneapolis in Center City, Minnesota, this 5 MW solar project supplies clean power to a local school district, an elderly care facility and a variety of smaller subscribers. The facility can produce enough electricity to power approximately 650 homes.

The Eichtens Farm makes artisan cheeses and sells bison meat. With the solar project located on marginal farmland, the farm owner has a guaranteed income stream of between $800 and $1,000 per acre for 25 years, nearly doubling the income that would have resulted from regular operations on the property. The Eichtens Farm has also planted certain grasses and flowers around the solar arrays, providing critical habitat for pollinators such as bees and butterflies that in turn support local orchards and other local agriculture.

Launched in 2014 after the passage of the Solar Energy Jobs Act, Minnesota's Solar Rewards Community Program required Xcel Energy, the state's largest utility, to submit a plan to create community solar facilities in their territory. The state's other utilities can participate voluntarily. To date, more than 700 MW of community solar have been installed in Minnesota.

Sources: Solar United Neighbors, IPS Solar, SEIA/Wood Mackenzie Power & Renewables Solar Market Insight Report

Leach Farm:
Colorado

QUICK FACTS

State: Colorado

Solar Company: Clean Energy Collective

Landowner: Leach Farm

Electrical Capacity: 631 kW

Acreage: ~5

Located in north central Colorado along the Rocky Mountain's front range, the expansive Leach Farm is the site of Clean Energy Collective's (CEC) 631 (kW) "Poudre Valley REA Community Solar Farm 2". The project was one of the early community solar projects interconnected in the state and is located in the Poudre Valley REA Utility Service territory, interconnected since 2015. The family farm has a long history of utilizing renewable energy as much as possible, which made their decision to host CEC's community solar array and easy decision — plus, they benefit from also being one of the array's subscribers.

For more than two decades, the Leach Farm has operated horse stables and related hay operations — earning income from the stabling of the horses and the sale of hay harvests. This type of farm operation and solar array arrangement has worked well for both the Leach Farm and CEC: the farm harvests the hay growing within the solar array and resells the yield as part of their larger hay harvest, and CEC's Operations & Maintenance costs benefit by the farmer's harvesting of hay — it keeps the growth under the solar panels groomed. In addition to the hay harvesting income, the Leach Farm uses their solar array land lease payments to pay their farm's property taxes — an important part of supplementing the operating expense of the farm. Approximately 150 local residential customers participate in this community solar array, earning energy savings via their on-bill credits. Colorado is the pioneering home state for Community Solar — developing and interconnecting the country's first community solar projects.

Source: SEIA/Wood Mackenzie Power & Renewables Solar Market Insight Report

Photo courtesy of the U.S. Department of Energy "Hit Me with Your SunShot" photo archive

Magnan Brothers Dairy Farm:

Fairfield, Vermont

QUICK FACTS

State: Vermont

Solar Company: Suncommon

Landowner: Magnan Brothers Dairy Farm

Electrical Capacity: 150 kW

Acreage: 2

Photo courtesy of the Solar Grazing Association photo repository

Not far from the Canadian border, the Magnan Brothers Dairy Farm was established in 1924 and remains a family-run operation to this day. With a herd of roughly 700 cows, the farm supplies milk for Cabot Cheese among other Vermont cheesemaking operations.

Completed in 2015, the solar array on the Magnan Brothers Farm was constructed on marginal land that was overgrown and not suitable for grazing. Molly Magnan, one of the farm owners, said that the solar array helps balance their income with the year-to-year variability of milk prices. Leasing land to community solar will allow the farm to stay in operation for years to come. The Magnans also benefit from the output of the array, receiving bill savings from the facility on their property.

Vermont's community solar is supported by its "group net metering law" which allows groups of customers to tie their account to one source of solar production. Vermont has installed 10 MW of community solar through the third quarter 2019.

Sources: Suncommon, SEIA/Wood Mackenzie Power & Renewables Solar Market Insight Report

Pierson's Farm:
Mount Hope, New York

QUICK FACTS

State: New York

Solar Company: Clearway

Landowner: Pierson Farm

Electrical Capacity: 5.6 MW

Acreage: 30

Pierson's Farm

Located in New York's scenic Hudson Valley north of New York City, this 5.6 MW facility supplies power to more than 800 small residential customers in the Orange and Rockland utility service territory. The solar farm also serves several small commercial customers, including the New City Jewish Center.

Solar arrays were constructed on marginal land that was used for growing hay but is rocky and prevented other uses. This multigenerational farm signed a 20-year lease agreement with Clearway Energy, with the option for additional lease extensions. According to a report in the Times Herald Record, Orrin Pierson, the farm's owner, said the lease income will sustain the farm and prevent him from having to sell off parcels for development, which they have had to do in the past.

This phenomenon is not unique to the Pierson family — community solar farms often can mean the difference between being forced to sell a farm that has been in a family for generations or not. By leasing out a parcel of land for community solar, families can continue to farm more fertile parcels of their land while benefiting from a reliable revenue stream from the leased land.

New York has encouraged the growth of community solar by stabilizing and improving the Value of Distributed Energy Resources tariff, as well as by supporting projects through the New York declining block incentive program run by NYSERDA. Almost 90 MW of community solar has been installed in New York to date.

Sources: Clearway, Times Herald Record, SEIA/Wood Mackenzie Power & Renewables Solar Market Insight Report

About SEIA

The Solar Energy Industries Association (SEIA®) is the driving force behind solar energy and is building a strong solar industry to power America through advocacy and education. As the national trade association of the U.S. solar energy industry, which now employs more than 260,000 Americans, we represent all organizations that promote, manufacture, install and support the development of solar energy. SEIA works with its 1,000 member companies to build jobs and diversity, champion the use of cost-competitive solar in America, remove market barriers and educate the public on the benefits of solar energy.

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