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## Can Community Solar Programs Bring Solar Ownership to the Masses?

[Americans for Energy Leadership](#)

January 27th, 2011

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By McKenna Morigan

Community solar is a concept that has lots of cheerleaders. And what's not to love? At it's best, this market-based deployment strategy can expand access to clean energy, create jobs, spur local investment, and help drive down the cost of solar panels.

But while the concept of community solar has had strong support from policymakers and clean energy advocates for several years, actual community solar projects have been slow to materialize. Now, two statewide community solar programs and a host of other new state and local policies to encourage community solar may be catalyzing a wave of new projects. Will the reality of community solar live up to the ideal?

### Community Solar Spreads the Benefits and Rewards of Clean Energy Investment

Community energy carries all the environmental, economic, and national security benefits of clean energy in any form, but with a distinct advantage. A review of research by Northwest SEED suggests that community energy projects deliver 2-5 times the economic benefits of projects built by out-of-state investors. And, in places that import electricity from outside the area, community energy can also keep utility dollars in the community, with multiplier benefits for the local economy. Community energy provides distributed generation, with associated benefits such as increased system reliability and resilience, lower peak power requirements, minimal transmission requirements and reduced line losses.

Examples of community energy began in rural areas of the Midwest, where farmers joined together to capture some of the benefits of the commercial wind development boom underway at the time. These projects blazed the "community energy" trail, developing novel legal structures and forms of financing, and proving that community energy could be a source of job creation and economic development.

Chris Herman on Can Community Solar Programs Bring Solar Ownership to the Masses?

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But community wind has limited applicability, given the requirements of a strong wind resource, access to transmission capacity, and lots of open space to make a project financially viable. In contrast, solar photovoltaics (PVs) are well suited for modular applications of varying scales and can be placed on existing structures, making them a great fit for urban areas where retail electricity rates and demand loads are often highest.

Community solar is appealing in part because, despite **broad interest among the public in solar energy**, most people don't have the ability to install solar PV on their own property. A **2008 study** by the National Renewable Energy Laboratory found that only 22 to 27% of residential rooftop area is suitable for hosting an on-site PV system after adjusting for structural, shading, or ownership issues. And in places like New York City, where home ownership rates are especially low, **only a small number of people have incentives to invest in solar PV**.

Community solar projects address this barrier by decoupling solar PV investment from on-site generation. Owners of community solar contribute funds to pay for a portion of a project, and reap benefits proportional to their investment. Community solar projects can be installed on the property of one of the project owners, on a separate private site, or on a shared location, such as local or state government property. Owners can include renters, homeowners, local businesses, even utilities.

### Early Projects Suggest Two Different Approaches

Only a handful of community solar projects are complete, with another handful in development, so no definitive model exists. But so far, projects fall into two approaches.

The first and more common is the utility-sponsored approach. These projects are legally owned by a utility, and individuals voluntarily contribute funds to help finance them, either up front or on a monthly basis. In exchange, contributors receive credit on their utility bill equal to the output of electricity from their portion of the investment. Early examples of this approach include the **Sacramento Municipal Utility District (SMUD) SolarShares program** and the **Ellensburg, WA Community Solar Park**. These public utilities have been very successful in using this approach to finance solar installation and the concept is spreading quickly.

Despite its popularity, the utility-sponsored approach has some significant limitations. According to **an analysis by the New Rules Project at the Institute for Local Self-Reliance (ILSR)**, utility-sponsored projects can compare unfavorably to the economics of individual ownership. In some cases, contributors never even achieve full payback of their initial investment, making this approach much like other "green power" programs where utility customers simply pay a premium for clean energy. Only where there is a production incentive that generously rewards community projects (such as in **Washington State**) does this model seem cost-effective for contributors. Still, for those who cannot invest in solar themselves, the utility-sponsored approach is often the only option.

The second approach might be called a true community ownership model, where the risks and benefits of ownership are shared among individual participants, often

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through an ownership structure such as a cooperative or an LLC. This model is much stronger in concept, but it has proven very challenging to get off the ground, despite strong interest in many communities.

As David Brosch, lead developer of University Park Solar Community in Maryland, [one of the first community solar projects in the country](#), said, “It took us over two years to develop our project structure and only two months to find our members.” The [Clean Energy Collective's Mid-Valley Solar Array](#) in Colorado, a 77.7 kW community solar project, is another early and widely touted example of the ownership approach, which its founders hope to replicate around the country. Compared to the utility-developed approach, these projects [have shown to be more attractive investments](#), with paybacks faster than would be possible through individual solar PV ownership.

### Despite Promising Growth, Challenges Remain

While initial projects have shown that it is possible to build solar PV projects through community support, several things make it difficult to put community solar projects—especially those using the community ownership model—together. The specific policy barriers to community solar have been deftly analyzed by [Billy Parish at WattHead](#) and by Northwest SEED in a [new guide for community solar developers](#), but three main issues are worth mentioning:

*Securities Law:* Existing securities law prohibits community projects from recruiting participants except by word-of-mouth, and caps the number of “unsophisticated” (i.e. not wealthy) investors that can be included. These limitations are in direct conflict with the concept of community solar, which is intended to allow many ordinary individuals to contribute relatively small sums of money that add up to fund a sizeable project.

*Access to Tax Credits:* Even though the [cost of solar panels has declined significantly in the last year](#), solar PV projects still require tax credits, grants or other incentives to achieve price parity with conventional electricity sources. Since 2009, the biggest source of support has come from Federal Renewable Energy Tax Credits. But most community solar projects don't qualify, because eligibility for the credits requires either that the system be located on the taxpayer's dwelling, or that the owner be owned by a commercial, tax-paying entity. Utility-sponsored projects owned by public utilities don't qualify either, because those entities don't pay federal taxes. Unless a community solar project has access to other incentives, it is difficult to make the economics pencil out without the federal credits.

*Net Metering Policies:* Outside of tax credits and other government incentives, solar projects generate revenue by selling electricity to the grid. For residential and small commercial on-site projects, this is usually done through a net metering arrangement, where a utility provides a credit (either in kWh or in dollars) on the project owner's utility bill for the energy produced. Community solar requires revising the program rules, so that multiple owners can receive credit.

## State Support for Community Solar on the Rise

According to the [Interstate Renewable Energy Council \(IREC\)](#), California, Nevada, Arizona, Washington, Colorado, Illinois, Vermont, Rhode Island, Massachusetts, and Maine are just a few states where efforts are underway to address these barriers and spur community solar in some form.

Most state support comes in the form of a community net metering (CNM) program. Whereas traditional net metering provides credit on the utility bills of individual customers with on-site solar panels, community net metering allocates credit for energy production to multiple owners of a shared system. Community net metering addresses some of the obstacles to community solar, but as the [ILSR Report](#) notes, by itself it does not make community solar more affordable.

Two states have gone further to encourage community solar. In June 2010, Colorado passed a law creating “community solar gardens” owned by ten or more subscribers and smaller than 2 MW. Instead of allocating credits through net metering, utilities are required to purchase the output and renewable energy credits (RECs) at rates comparable to those offered producers with on-site generation, and each subscriber can receive payments valuing up to 120% of their electricity consumption. In addition, investor-owned utilities in the state must purchase at least 6 MW from community solar gardens by 2013, and make a good faith effort to get participation in solar gardens from low-income ratepayers and renters.

Washington State’s Community Solar Enabling Act also chose to eschew net metering in favor of providing direct production incentives to owners of community solar projects up to 75 kW. The law grants community solar projects \$0.30 for every kWh produced (twice the incentive for individual on-site production). Projects are eligible for incentive multipliers for using modules and inverters manufactured in Washington, encouraging local manufacturing as well as local ownership. To qualify for these community solar incentives, projects must be located on local government property, requiring innovative partnerships between governments, solar developers and community members interested in support solar power.

## For Widespread Deployment, Policymakers Must Address Remaining Barriers

These state programs help to address some of the policy barriers to community solar, but action at the federal level is still needed to modify securities regulations and to ensure that community solar project owners can benefit from federal incentives, making it easier for anyone who wants to invest in community solar to do so.

And more work must be done at the state and local level to improve the investment environment for community solar. According to the National Renewable Energy Laboratory, homeowners who have installed on-site PV systems, report [their primary motivation is to reduce their electricity bills](#). Thus, it is only logical that, in order to attract investments from similar people (i.e. those who might have interest in installing PV but who lack proper site characteristics, ownership, or sufficient up-front capital for an individual on-site system), community solar projects must provide

a cost-effective investment opportunity: providing a return on investment over the project's life.

So far, only a few community solar projects, using the ownership model, have achieved this objective. Policymakers interested in supporting community solar on a large scale should not lose sight of the fact that making these projects a good investment for potential contributors is a critical requirement for bringing more community projects online.

Community solar may have a lot of cheerleaders, but unless the public believes that it's an investment worth cheering about, it's going to be hard to sell tickets for the game.

**Additional Resources:**

Building on state experience with community solar to date, the Interstate Renewable Energy Council (IREC) published [model program rules for community renewable energy programs](#) in November 2010. This document provides guidance to state policymakers wanting to create the most supportive environment for community solar.

In conjunction, "[A Guide to Community Solar](#)," mentioned above, was published to assist community solar development. The guide includes case studies, resources, and step-by-step details on what it takes to move a community solar project from concept to completion.

And, on January 26, the U.S. DOE is hosting a [webinar](#) for state and local officials on the model program rules for those interested in community renewables.

*This story originally appeared on [Americans for Energy Leadership](#) and was reprinted with consent from the author.*



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**One Response to "Can Community Solar Programs Bring Solar Ownership to the Masses?"**



*Chris Herman* says:

May 19, 2011 at 2:07 am

Very well written article that covers all the basics of community solar. Speaking as the Interim President of the Edmonds Community Solar Co-op, I can say that we have found a legal way around the securities issue w/o being limited to rich investors or word of mouth only advertising. We are in active promotional phase now and have 75% of our first phase sales goal met. Engineering is being done for the historic public building that we have a lease agreement for and the utility is reviewing their contracts to allow for 3rd party ownership. I believe we will have a successful model that can be replicated, at least in WA. Getting through the City Council had its challenges but we should be ready to put up panels in time for the best production months of our year.

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