

SPECIAL PURPOSE ENTITY (SPE) MODELS

To take advantage of the tax incentives available to commercial solar projects, organizers may choose to structure a project as a business. In most states, there is a range of business entities that could be suitable for a participant-owned community shared solar project. (Please see Appendix A for more in-depth descriptions of these business entities.) The main challenges in adapting these commercial solar structures for community shared projects include:

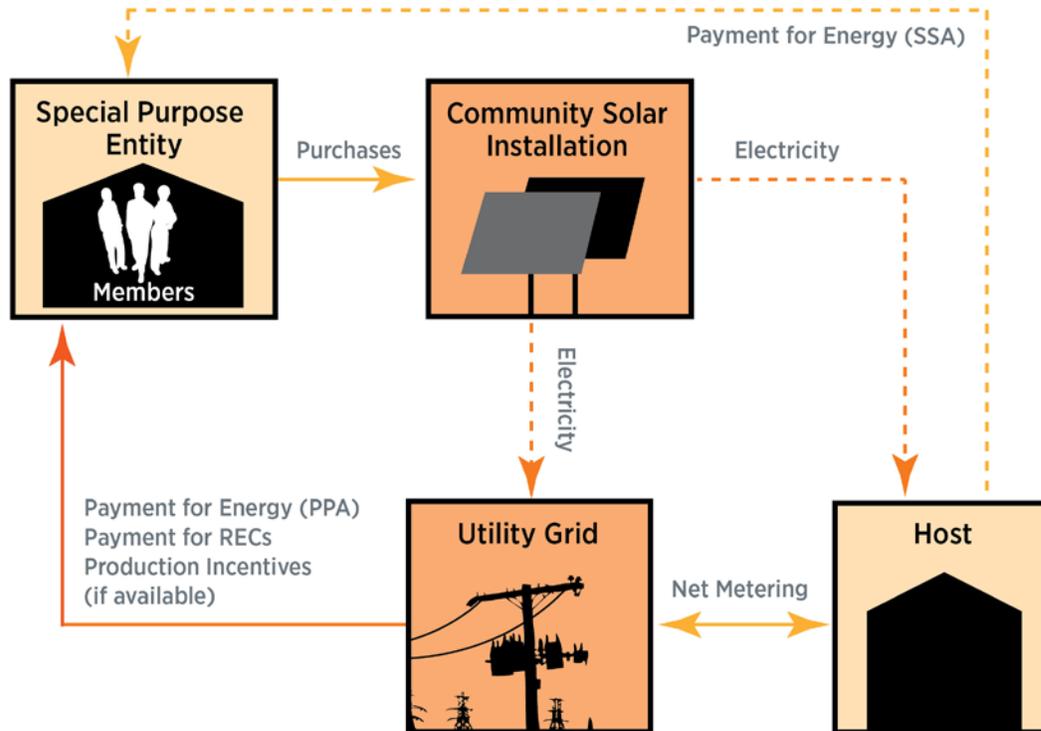
- ▶ Fully using available tax benefits when community investors have a limited tax appetite, including a lack of passive income
- ▶ Maintaining the community project identity when engaging non-community-based tax-motivated investors
- ▶ Working within limits on the number of unaccredited investors if the project is to be exempt under securities laws.

OVERVIEW

When a group chooses to develop a community shared solar project as a special purpose entity, it assumes the significant complexity of forming and running a business. The group must navigate the legal and financial hurdles of setting up a business and raising capital, and comply with securities regulation. In addition, it must negotiate contracts among the participant/owners, the site host and the utility; set up legal and financial processes for sharing benefits; and manage business operations.

Given the complexity of forming a business, it is not surprising that many special purpose entities pursuing community shared solar are organized by other existing business entities with legal and financial savvy. Solar installation companies such as My Generation Energy in Massachusetts have successfully created LLCs to purchase solar installations funded by groups of investors. Although this expands the market for solar, the benefits are limited to a small group of tax-motivated investors. In an alternative model, the Clean Energy Collective in Colorado has created a business structure under which participation is offered to an unlimited number of utility customers.

COMMUNITY SHARED SOLAR INSTALLATION



TAX AND FINANCE ISSUES FOR SPECIAL PURPOSE ENTITY PROJECTS

Federal income tax benefits offer significant value for solar projects, but can be challenging for community shared projects to use effectively. Making use of tax credits or losses (from depreciation) requires significant taxable income. Moreover, passive investors in a community shared solar project (investors who do not take an active role in the company or its management) can only apply the ITC to passive income tax liability. As discussed below, most investors in a community shared solar project will likely be passive investors, and few will have passive income. As a result, most individuals cannot fully use federal tax benefits. In this section, we describe the major limitations on using federal tax benefits and outline potential financing structures that accommodate those limitations. However, the descriptions here do not account for the many nuances that might apply to individual projects.

Passive Activity Rules

IRS “passive activity” rules are a major challenge for community-based renewable energy investors trying to use federal tax benefits. In most cases, an individual’s investment in a community shared solar project will be considered a passive investment. Passive activity rules allow tax credits or losses generated from passive investment to be used to offset only passive income.⁷

Most individuals primarily have non-passive income, which includes salaries, wages, commissions, self-employment income, taxable social security, and other retirement benefits. Non-passive income also includes portfolio income, such as interest, dividends, annuities, or royalties not derived in the ordinary course of a business. While portfolio income may seem passive, the IRS specifically excludes it from the category of passive income.

Passive income can only be generated by a passive activity. There are only two sources for passive income: a rental activity or a business in which the taxpayer does not materially participate.

“Participation” generally refers to work done in connection with an activity in which the taxpayer owns an interest. To “materially” participate in the trade or business activity (in this case, operation of a solar project) an individual must participate on a regular, continuous, and substantial basis in the operations of the activity. This is a high standard that participants likely will not be able to meet. That means most participants will be passive investors, limited to applying federal tax benefits to passive income. The community shared solar project itself likely will not generate sufficient income to make full use of the ITC or depreciation benefits, at least not in the early years of a project. Therefore, a project intending to rely on federal tax benefits will have to seek participation of an investor with a larger tax appetite.

At-Risk Limitations

In addition to passive activity rules, at-risk rules limit the amount of losses one can claim from most activities. Specifically, one can only claim losses equivalent to one’s amount of risk in the activity. The “at-risk” amount generally is the amount of cash and property one contributes to the activity. In addition, any amount borrowed for use in the activity is at-risk, as long as the borrower is personally liable for repayment of the loan or the loan is secured with property not used for the activity. Money contributed from a non-recourse loan is not considered “at-risk.”

⁷ For a list of IRS material participation tests and other details about passive activity and at-risk rules, see IRS Publication 925, available at: www.irs.gov/pub/irs-pdf/p925.pdf.

Securities Regulation

Securities regulations are a major factor in financing structures for the SPE model. To reduce the burden of securities compliance, many small projects seek a private placement exemption to registration requirements. Qualifying for such an exemption requires limiting who can invest in the project (based on assets or income for individuals) and how such an offering can be conducted. The practical effect is to limit the number of middle-income individuals who can invest in a community shared solar project. If a project is designed to produce electricity proportional to the amount used by the participants, securities issues will effectively limit the size of a project. For example, private placement exemption limits the number of “unaccredited” investors to 35 or fewer.⁸ A 1-MW solar facility, in contrast, could serve far more participants, perhaps 300 to 500. Therefore, project developers must carefully consider how to reconcile their financing mechanism with the size of their project, the number of participants, and type of participants.

Potential Financing Structures

Special purpose entities need to plan their financing structures carefully. Structures that effectively use the ITC can be complex and tend to mimic the structures used by larger commercial solar projects. For a community SPE, potential financing structures that maximize federal tax incentives include:

- ▶ **Self-financing:** This is the simplest option for a community SPE is to finance the project with equity invested by community members. However, in order to fully use federal tax benefits, the SPE needs to have enough community investors that have sufficient tax appetite to use federal tax incentives. Given the passive loss rules and the at-risk limitations discussed above, this is not a realistic goal for community groups consisting of individuals who lack other sources of passive income. That means the project organizers will likely have to make the project economically viable without full use of federal tax incentives (difficult without aid from a state or local incentive of similar value), or will have to use one of the more complex structures such as a flip or a sale/leaseback (described below). This need not take away from the community ownership, if the project can find even one community member with the financial resources and tax appetite to participate as the primary tax investor.
- ▶ **Flip Structure:** In this scenario, the community SPE partners with a tax-motivated investor in a new special purpose entity that owns and operates the project. Initially, most of the equity comes from the tax investor and most of the benefit (as much as 99%) would flow to the tax investor. When the tax investor has fully monetized the tax benefits and achieved an agreed-upon rate of return, the allocation of benefits and majority ownership (95%) would “flip” to the community SPE (but not within the first five years). After the flip, the community SPE has the option to buy out all or most of the tax investor’s interest in the project at the fair market value of the tax investor’s remaining interest. Note that the numbers provided here reflect IRS guidelines on flip structures issued for wind projects claiming the federal production tax credit. Similar rules potentially could apply to solar projects claiming the ITC.

⁸ To be considered an accredited investor, an individual must have either: 1) a net worth of more than \$1 million or 2) an annual income of \$200,000 (\$300,000 jointly with a spouse) in each of the most recent two years and a reasonable expectation of having the same income level in the current year.

- ▶ **Sale/Leaseback:** In this scenario, the community SPE (as the developer of the project, the site host, or both) installs the PV system, sells it to a tax investor and then leases it back. As the lessee, the community SPE is responsible for operating and maintaining the solar system and has the right to sell or use the power. In exchange for use of the solar system, the community lessee makes lease payments to the tax investor (the lessor). The tax investor has rights to federal tax benefits generated by the project and the lease payments. The community SPE may have the option to buy back the project at 100% fair market value after the tax benefits are exhausted.

There are numerous complex legal, financial, and tax issues associated with all of these financing structures. These descriptions do not cover these issues completely. For more information on financing structures, see Section 7, Resources.

EXAMPLES OF SPECIAL PURPOSE ENTITY PROJECTS

The following examples represent two possible approaches: a volunteer-led LLC and a business enterprise that partners with utilities to deliver solar to customers. These special purpose entities are structured as LLCs. Although there has been much interest in the possibility of structuring a community shared solar enterprise as a cooperative (co-op), in fact, co-ops are not exempt from the complex securities issues and project organizers have tended to choose to do business as LLCs.⁹ Several rural electric co-ops that deliver electricity to customer/members have started community shared solar programs, but the programs are peripheral to the function as consumer co-ops for the distribution of electricity. As in the previous edition of this guide, the descriptions of the programs in the following pages have been provided by the program sponsors or developers and have not been independently verified by the authors or by DOE.

⁹ Tangerine Power, LLC, based in Washington State has created a business model for a solar power co-op and has launched the Edmonds Community Solar Cooperative.

University Park Community Solar LLC, Maryland



Photo from David Brosch, University Park Community Solar, LLC

The volunteer founders of University Park Community Solar spent more than two years crafting the legal and financial aspects of their business model. With expert consultation, including help from a state senator to change the Maryland net metering law, the volunteers formed a member-managed LLC that will return their investment in five to six years. Within the group, there are both active and passive investors.

A 22-kW system was installed on the roof of a local church in May 2010. The LLC will pass benefits to its members based on revenue from several sources: electricity

sold to the church and grid, the auction of RECs, federal tax incentives, and depreciation. The LLC and the Church signed a 20-year agreement detailing the provision of electricity, access to the solar array, maintenance, insurance, and other issues. The host has an option to purchase the system before the 20-year term is up.

To assist in establishing the LLC, the group received pro bono help from the Maryland Intellectual Property Legal Resource Center and paid approximately \$12,000 for other legal and accounting expertise. The founders note that initial accounting and legal fees could overwhelm any return to members. Going forward, they plan to handle the accounting and tax paperwork in house as much as possible.

The LLC organizers were careful to obtain legal advice on how to gain an exemption from state and federal SEC filing requirements. The organizers are not all “accredited” investors. In addition, the organizers were required to create lengthy disclosure documents to ensure that investors were fully informed of the risks. Their attorneys advised them to pursue an exemption that restricted them in several aspects, including having fewer than 35 unaccredited investors, keeping the offering private, and limiting membership within the state of Maryland. See Section 5, Securities Compliance, for information about securities compliance and private placement exemptions.

Project founders are looking to expand the model beyond the first site. Additional host sites in Maryland and other states are being explored, including schools, nonprofits, and places of worship. Furthermore, the LLC has offered to share legal and accounting documents with groups around the nation to facilitate the model's replication. The first successful replication was completed in December 2011 by Greenbelt Community Solar, LLC in Greenbelt, Maryland.

► **Program Highlights**

- *System Owner:* University Park Community Solar, LLC
- *System Host:* Church of the Brethren, University Park, MD
- *Installed Capacity:* 22 kW
- *Participant Agreement:* LLC passes net revenues (after expenses) and tax credits to members
- *Electricity:* LLC sells power to the church below retail rate; rate escalates approximately 3.5%/year; church net meters and annual net excess generation is compensated by the utility
- *RECs:* LLC is working to auction RECs independently
- *Number of Participants:* 35 LLC Members

► **Financial Details**

- *Installed Cost:* \$5.90/watt
- *Capital Financing:* Project financed with member investments
- *Tax Credits:* \$39,000 ITC (taken as the 1603 Treasury Grant in lieu of a tax credit)
- *Grants:* \$10,000 from state of MD
- *MACRS:* Will depreciate 85% of cost over six years
- *Annual Income from Power Sales:* \$3,300 in the first year, rising 3.5%/year
- *Estimated Annual Income from REC Sales:* \$7,000 (28 RECs at \$250 per MWh)

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Clean Energy Collective, LLC, Colorado



Photo from Lauren Suhrbier, The Clean Energy Collective, LLC

The Clean Energy Collective (CEC) provides a member-owned model that enables individuals to directly own panels in a community shared solar farm. The CEC works closely with local utilities to create community-scale solar projects that combine the on-bill credits of a utility-owned project with the equivalent tax benefits and rebates of an individually owned solar project. While the 30% investment tax credit is not directly available to individuals who participate in the project, the cost to participate is adjusted to reflect the value of the tax credits. For projects initiated in 2011 or earlier, the CEC took the 1603 Treasury Grant, instead of the ITC, as the initial owner of the array. Portions of the array were then sold to customers at discounted costs (reducing the cost by the proportioned Treasury Grant amount). Customers could not take a tax credit on their purchase because the grant had been taken by the CEC. Both parties are subject to recapture over the first five years if the resulting system is then sold to a disqualified or non-taxpaying entity. Creating this proprietary project model, with ownership, tax and legal considerations, proved challenging.

When individuals purchase panels in the solar farm, the utility credits them for the electricity produced at or above the retail rate using the CEC's RemoteMeter™ software system. The purchase price is as low as \$535, depending on location, available rebates, and RECs. For example, in the first project, CEC sold the rights to all future RECs up front on a per-watt basis, offsetting a portion of the installed cost. The benefits of ownership are transferable. If an owner moves within the service territory, the bill credits follow them; if an owner moves out of the territory, the owner can resell ownership to another utility customer or back to the CEC at fair market value, or donate the property to a nonprofit.

The owners must be customers of the electric utility in which the community array is located and their purchase is limited to the number of panels they need to offset 120% of their yearly electric use. These rules ensure that benefits directly accrue to the local utility customers rather than outside investors. The CEC is the management company representing the community owners and maintaining the solar arrays. In order to provide “utility-grade” long-term power to the utility, a percentage of the monthly power credit value and the initial sale price goes toward funding insurance, operations, and maintenance escrows.

The first CEC project is a 78-kW array in the Holy Cross Energy service territory. The CEC leased the land, sold the project to customers, and negotiated a PPA with Holy Cross Energy. The PPA rate paid by Holy Cross will escalate as regular utility rates increase. CEC’s RemoteMeter™ system automatically calculates monthly bill credits for customer accounts and integrates directly with the utility’s billing system to apply the credits.

In 2011, the CEC completed three more projects, bringing its installed project portfolio to 2.5 MW.

► **Project Highlights – First Project: Mid Valley Metro Solar Array**

- *System Owner:* Individuals and businesses in Holy Cross Energy utility territory
- *System Host:* CEC leases site from the Mid Valley Metropolitan District
- *Installed Capacity:* 78 kW
- *Participant Agreement:* Minimum \$725 purchase (a single panel after rebates and incentives). Panel owners receive monthly credits for the value of the electricity produced for 50 years.
- *Electricity:* CEC, as agent for its customers, has a PPA with Holy Cross Energy to purchase the power produced. Customers receive the resulting monetary credit on their monthly electric bill.
- *RECs:* Holy Cross Energy purchased rights to RECs for \$500/kW installed (paid up front).
- *Number of Participants:* 18 customers

► **Financial Details – First Project**

- *Installed Cost:* \$466,000 or \$6/watt (Cost to customers: \$3.15/watt, includes all rebates, RECs and credits taken by the CEC)
- *Capital Financing:* Project built with internal CEC private capital, which is paid back as individuals buy in to the project
- *Federal Tax Credit:* CEC takes the 1603 Treasury Grant and passes the savings to the customer
- *Rebates:* \$1/watt plus \$0.50/watt for rights to the RECs from Holy Cross Energy
- *Estimated Annual Income from Power Sales:* \$15,444 (\$198/kW), rising as regular rates rise
- *Simple Payback:* 13.1 years

► **Project Highlights – Subsequent Three Projects**

- *System Owner:* Individuals, businesses, and educational institutions in various Colorado utility territories
- *System Host:* CEC leases sites from government and private entities
- *Installed Capacity:* 858 kW, 1.1 MW, and 498 kW
- *Participant Agreement:* Minimum purchase ranges from \$535 to \$756 (a single panel after rebates and incentives). Panel owners receive monthly credits for the value of the electricity produced.
- *Electricity:* CEC, as agent for its customers, has a PPA with the utility to purchase the power produced, or has an established rate tariff. Customers receive the resulting monetary credit on their monthly electric bill.
- *RECs:* Utilities purchased rights to RECs for \$500/kW installed (paid up front).
- *Number of Participants:* 400, 500, and 200

► **Financing Details – Subsequent Three Projects**

- *Installed Cost:* \$6/watt, \$6/watt, \$5.30/watt (cost to customers as low as \$3/W includes all rebates, RECs and credits taken by the CEC)
- *Capital Financing:* Projects built with bridge loan financing from JP Morgan Chase and internal CEC private capital
- *Federal Tax Credit:* CEC takes the 1603 Treasury Grant and passes the savings to the customer
- *Rebates:* \$1.25/watt to \$1.58/watt, including up-front sale of RECs
- *Estimated Annual Income from Power Sales:* \$172,000, \$220,000 and \$78,300. Rising as regular rates rise
- *Simple Payback:* 12.5 to 15.5 years

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Island Community Solar, LLC, Washington

Inspired by the passage of Washington State's generous production incentive for community shared solar projects (WAC 458-20-273), a group of solar enthusiasts developed a project in their community on Whidbey Island, Washington. Working closely with the local Port District and the utility, Puget Sound Energy, they developed a one-acre "P-Patch" for solar farmers on Port property at Greenbank Farm. The P-Patch consists of six separately metered plots, each capable of hosting approximately 25 kW of ground mounted solar panels. The solar farmers pay rent to the Port and sell power directly to the grid. When the acre is fully built out, it will generate almost enough to match the on-site annual consumption.



Photo from Linda Irvine, Island Community Solar LLC

In order to capture the investment tax credit, the Whidbey Island group chose to form an LLC, Island Community Solar (ICS). ICS obtained exemption from securities filing requirements under the Federal Intrastate Offering Exemption (Rule 147) and a Washington Small Offering Exemption (WAC 460-44A-504), which prohibits advertising and limits the number of unaccredited investors. After preparing extensive disclosure documents, ICS raised \$430,000 from 36 local members. ICS built 50 kW in two phases, completing the installation in January 2012.

ICS projects a positive return on investment over the ten year lease period. The 1603 Treasury Grant enabled the LLC to monetize the investment tax credit. Although most members do not have sufficient tax appetite to use the passive losses from depreciation, they will earn a return from the state production incentive and power sales to the utility.

It may be difficult to replicate or expand this project without policy changes. The expiration of the 1603 Treasury Grant makes it unlikely that the members will be able to monetize future tax credits, because most lack the tax appetite. The sunset of the Washington State production incentive in June 2020 means that every subsequent project has a shorter window of opportunity to earn incentives. Finally, the avoided cost of the power generated is dropping. The utility's PPA rates for 2012 are lower than in 2011, due to many factors including downward pressure on electric prices from an abundance of natural gas, and the discarding of an assumed future cost for carbon.

► **Project Highlights**

- *System Owner:* Island Community Solar, LLC
- *System Host:* Port of Coupeville's Greenbank Farm
- *Installed Capacity:* 50 kW; estimated Production: 52,930 kWh/year
- *Participant Agreement:* Members receive distributions, profits, and losses in proportion to capital contributions; passive loss limitations apply.
- *Electricity:* Sold to the utility through a 10 year PPA, escalating 2.5% annually
- *RECs:* Retained by the owner; no market for solar RECs in WA
- *Number of Participants:* 36

► **Financial Details**

- *Installed Cost:* \$410,000 installation; \$8,000 legal; \$5,400/year insurance
- *Capital Financing:* 100% owner equity
- *Federal Tax Credit:* \$123,000 1603 Treasury Grant
- *Incentives:* Production Incentive of \$1.08/kWh until June 30, 2020
- *Estimated Annual Income:* \$56,840 (production incentive); \$4,128 (power sales)
- *Estimated Annual Expenses:* \$10,000
- *Simple Payback:* 7.2 years

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