



**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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Application of San Diego Gas and
Electric Company (U902E) For Authority
To Implement Optional Pilot Program To
Increase Customer Access to Solar
Generated Electricity

Application No. 12-01-008
(Filed January 17, 2012)

In the Matter of the Application of Pacific
Gas and Electric Company to Establish a
Green Option Tariff

Application No. 12-04-020

**COMMENTS OF THE SUSTAINABLE ECONOMIES LAW CENTER
ON PACIFIC GAS AND ELECTRIC COMPANY
GREEN OPTION PROGRAM
ENHANCED COMMUNITY RENEWABLES PROGRAM**

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I. Introduction

In accordance with the procedural schedule agreed upon during the A.12-01-008 and A.12-04-020 consolidated evidentiary hearings,¹ the Sustainable Economies Law Center (SELC) respectfully submits these comments on the Pacific Gas and Electric Company's (PG&E) proposed Enhanced Community Renewables Program. Senate Bill (SB) 43 (Public Utilities Code §§ 2831-2833) requires investor-owned utilities with 100,000 or more customers in California to implement programs that allow any utility customer the opportunity to participate directly in locally-based clean energy production — including renters, properties that do not receive enough sunlight, and individuals of all income levels — without the need to install a home-sited or rooftop system.² Pursuant to Public Utilities Code Section 2833(a), PG&E must administer a green tariff shared renewables (GTSR) program in accordance with the directives set forth in SB 43.³ One of these directives is expounded in Public Utilities Code Section 2833(o), which requires that PG&E “provide support for enhanced community renewables programs to facilitate development of eligible renewable energy resource projects located close to the source of demand.”⁴

SELC appreciates the opportunity to comment on Exhibit PG&E-05 Enhanced Local Community Renewables (ECR) program option, which describes how PG&E proposes to comply with Section 2833(o) of the Public Utilities Code. While SELC commends PG&E's recent efforts to provide a renewed proposal that is less vague and ambiguous than in its initial application, SELC believes that PG&E's ECR program option must be revised and expanded in

¹ Tr. Vol. 2, at 113, line 8-18.

² Statutes of 2013, Chapter 413.

³ Cal. Pub. Util. Code, § 2833(a).

⁴ Cal. Pub. Util. Code, § 2833(o).

order to be similar to the *Share the Sun* program option that San Diego Gas & Electric (SDG&E) has proposed to comply with Section 2833(o) of the Public Utilities Code and to meet the goals of SB 43.

As noted in SELC's Reply Comments on PG&E's and SDG&E's Revised Testimony to Support Proposed Programs (Reply Comments), SELC promotes the removal of barriers and the creation of pathways to local control and local ownership of renewable energy.⁵ SELC supports the implementation of GTSR programs that provide utility customers the option to subscribe to a specific offsite renewable energy project with the characteristics they prefer as opposed to generic, bundled clean energy that would not include the attributes SELC promotes. To that end, SELC requests that PG&E, as well as the other investor-owned utilities, solicit and procure energy for the Enhanced Community Renewable Program from projects with true community attributes (hereinafter "Community-Based Renewable Energy Projects").

SELC believes that true community attributes are present in Community-Based Renewable Energy Projects where: (1) the majority of the project is owned by individual residents of the community or by either a non-profit or for-profit organization that is managed or controlled by individual residents of the community, (2) the project's generating capacity does not exceed 1 megawatt (MW) and is located in or near the community, and (3) the majority of the project's economic benefits are distributed locally. As explained in SELC's Reply Comments, SB 43 supports the inclusion of Community-Based Renewable Energy Projects in the implementation of the GTSR programs, and specifically in the design of the Enhanced Community Renewables Program component, which requires that renewable energy resource projects be located close to the source of demand.

⁵ See Reply Comments of The Sustainable Economies Law Center (December 20, 2013), *available at*: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M084/K772/84772597.PDF>.

We note that the Enhanced Community Renewable Program component of the GTSR program reflects healthy customer interest in community type projects. In fact, SDG&E developed its *Share the Sun* program option in response to its own research, which indicated that customers' preferences were almost evenly split between a simple "green tariff" versus a "community solar type program."⁶ For these reasons, SDG&E decided to propose the *Share the Sun* program option, which provides its customers the opportunity to contract directly with participating solar providers to subscribe to a specific, local solar facility.⁷ SDG&E believes that its *Share the Sun* program will foster new local solar development and provide greater direct value to its region.⁸ Thus, SELC recommends that PG&E develop a program that more closely resembles SDG&E's *Share the Sun* program option and that also includes the more specific recommendations made by SELC herein. In addition, we urge PG&E to consider and incorporate key elements of other shared renewable programs adopted around the country, specifically the Colorado Solar Garden Act enacted in June 2010, which outlines Colorado's pioneering and successful approach to developing "solar gardens" in or near communities served by investor-owned utilities in the state.⁹

In the following sections, SELC provides recommendations for modifying PG&E's ECR program proposal. Without these modifications, PG&E will neither be creating adequate opportunities for its customers to subscribe to a specific offsite renewable energy project with the characteristics the customers prefer, nor will PG&E be providing diverse programs that test customer preferences. As currently proposed, PG&E's ECR program risks not having an

⁶ See SDG&E Revised Testimony, Chapter 2, by Witness Aaron Franz, at 7-8.

⁷ See *id.*, at 17.

⁸ See *id.*, at 8.

⁹ Colo. Rev. Stat. Ann. § 40-2-127 (West 2010).

effective launch, let alone achieving success in the time frame established by SB 43. As such, SELC respectfully requests the Commission consider our recommendations.

II. PG&E Should Provide Adequate and Clear Incentives for Developers to Invest in Smaller Projects Located Close to the Source of Demand.

While SELC is encouraged that PG&E's latest proposal has defined some criteria, PG&E's ECR program lacks adequate and clear incentives necessary for developers to invest resources in proposing and developing smaller projects located closer to load. SELC makes the following recommendations to improve PG&E's ECR program proposal so that it includes criteria that provide developers with an effective incentive structure.

A. Project Eligibility Criteria

i) **Size:** PG&E proposes that customers may subscribe to an individual GTSR project, sized 0.5 to 3 MW.

➔ **SELC's Recommendation: Customers should be able to subscribe to an individual ECR project of 3 MW or less in size. Specifically, SELC recommends against imposing a minimum project size limit of 0.5 MW in order to provide groups of individuals and commercial customers the ability to meet their needs with electrical generating facilities that can be placed on the roofs of schools, places of worship, commercial buildings, multifamily residential buildings, parking lots, and on under-utilized public or private spaces.**

SELC's recommendation is consistent with SDG&E's proposed *Share the Sun* program, which provides customers the opportunity to subscribe to a specific, local solar facility that is 3 MW or less in size.¹⁰ We also note that Colorado's Solar Garden Act does not impose a minimum project size limit; under Colorado's Act, any solar electric generation facility with a nameplate rating of 2 MW or less that is located in or near a community would qualify.¹¹ A survey of shared solar programs currently operating in the United States shows that a significant number of these shared renewable projects have an installed capacity below 100 kW (*See*

¹⁰ See SDG&E Revised Testimony, Chapter 4, by Witness Hillary Hebert, at 13.

¹¹ Colo. Rev. Stat. Ann. §40-2-127 (2)(b)(I)(A).

Interstate Renewable Energy Council and Solar Electric Power Association Shared Solar Program Comparison Chart - Appendix A).

Furthermore, Clean Coalition's analysis of solar potential of the Bayview-Hunters Point area of San Francisco found that the best multifamily rooftops had an average of 250 kW of solar potential and the best parking lots had an average of 350 kW of solar potential.¹² Generally, 1 kW of PV panels will require approximately 100 square feet area. Based on that ratio, a project of 0.5 MW or greater would require upwards of 50,000 square feet. Densely populated, urban towns and cities have a limited number of 50,000 square-foot open spaces for solar projects. SB 43 explicitly states that building eligible renewable energy resource facilities "promotes energy independence,"¹³ which in the context of SB 43's mandate to procure renewable energy resources located close to the source of demand, implies that PG&E should give customers the ability to choose to subscribe to a smaller project located nearby. If smaller projects are not to be included in PG&E's program, there is a risk that larger projects will have to be developed on open space areas or arable land outside of towns and cities, rather than on urban infill and on otherwise unutilized public or private rooftop or unusable ground space within cities and towns. The ability to site systems on rooftops or unusable space will give many community institutions (such as schools, places of worship, etc.) the potential to serve as system hosts and receive revenue in the form of space leasing as well as credit on their utility bill.

In Exhibit PG&E-05, PG&E states that it cannot lower the minimum eligible size below 0.5 MW because that is the California Independent System Operator's (CAISO) minimum allowed size for receiving a generator resource identification and that, below this level, PG&E

¹² See Appendix in Clean Coalition's March 7, 2014 Comments on PG&E's Enhanced Local Communities Renewables Proposal for details about Clean Coalition's analysis on Bayview-Hunters solar potential.

¹³ Cal. Pub. Util. Code, § 2831(e).

would not be able to schedule delivery of the energy with the CAISO.¹⁴ Furthermore, PG&E has intimated that it only wants to procure projects that will contribute to resource adequacy, and therefore reduce the need for more gas-fired generation or transmission investments.¹⁵ However, as noted in the Clean Coalition’s comments on Exhibit PG&E-05, it is not necessary for an ECR project to schedule delivery with CAISO to contribute to resource adequacy.¹⁶ In fact, behind-the-meter distributed resources, such as net metered solar, contribute to resource adequacy by reducing peak load needs. Similar to net metered solar, ECR projects under 0.5 MW can contribute to resource adequacy without scheduling delivery with CAISO.

ii) Location: PG&E proposes that customers may subscribe to an individual GTSR project located within 10 miles of their address or within the boundaries of the city or county in which they reside.

➔ SELC’s Recommendation: SELC supports PG&E’s proposed requirement that customers must be located within 10 miles of the ECR project or within the same city or county as the project location. However, SELC recommends that PG&E give preferential treatment to ECR projects located within 5 miles of the substation service area.

This locational requirement, combined with preferential treatment for projects located within 5 miles, encourages the development of renewable energy facilities located closer to the source of demand, in accordance with Public Utilities Code section 2833(o). We believe that including this specific locational criteria (i.e., within 5 miles) and the project size requirements described above (i.e., 0 to 3 MW) as part of a preferential procurement process will translate into clear signals to developers in a request for offers and will provide them with an incentive to bid against larger projects located in more remote areas. SELC agrees that locational criteria should be different for each investor-owned utility in California given the different size and composition

¹⁴ See Exhibit PG&E-05 – PG&E Green Option Program, Enhanced Community Renewables Program (February 21, 2014) (hereinafter “Exhibit PG&E-05”), at 5.

¹⁵ See Clean Coalition’s Comments on PG&E’s Enhanced Local Communities Renewables Proposal (March 7, 2014), at 6-7.

¹⁶ *Id.* at 7.

of each of the utilities' service territory. SDG&E is proposing that eligible renewable energy resource projects must be located within the service territory of SDG&E to qualify for its *Share the Sun* program.¹⁷ Since PG&E's service territory is much bigger and more populated than SDG&E's service territory, PG&E's proposed more restrictive locational criteria is appropriate.¹⁸

B. Procurement Targets

i) **Carve-Out, Specific Targets, and Preferential Treatment**: PG&E does not propose a specific carve-out for Enhanced Community Renewable Projects and its proposal to set procurement targets is vague and inadequate.

➔ **SELC's Recommendation: PG&E should procure at least 136 MW from projects with a nameplate rated generating capacity of less than 3 MW. Specifically, if PG&E's ECR program launches in January 1, 2015 and ends in January 1, 2019, PG&E should solicit to procure at least 5.7 MW of capacity in each bi-monthly period. In addition, SELC urges PG&E to allow at least two Community-Based Renewable Energy Projects with a nameplate rated generating capacity of less than 1 MW to advance to the front of the queue per bi-monthly period through the end of 2018.**

Unlike SDG&E, which has reserved half of its allocated GTSR program generating capacity cap for its *Share the Sun* program,¹⁹ PG&E continues to be vague in its commitment to set a specific target for capacity it will procure for its ECR program. In Exhibit PG&E-05, PG&E states that "as a procurement feature [...], PG&E will state up front in its GTSR solicitation its intent to preferably procure power from appropriately priced, viable projects that are located in or adjacent to communities that are furthest along in terms of percent of customers and usage enrollments."²⁰ SELC believes that PG&E's proposal is flawed because it does not account for customers who have not yet enrolled (or do not want to enroll) in the generic,

¹⁷ See SDG&E Revised Testimony, Chapter 4, by Witness Hillary Hebert, at 13.

¹⁸ We note that the Colorado Public Utilities Commission adopted a rule that provides that a solar garden must be in either the same municipality or county as the subscribers, unless the county has less than 20,000 residents and the solar garden is located in an adjacent county with less than 20,000 residents. See 4 Colo. Code Regs. § 723-3-3665(a)(I)(C).

¹⁹ See *id.*, at 11.

²⁰ Exhibit PG&E-05, at 3.

bundled GTSR program, but who would instead subscribe to renewable energy projects located in, or in closer proximity to, their community.

In its Reply Comments, PG&E stated that it “will include criteria in its solicitation...that encourage renewable developers and local communities to identify potential local projects that have significant community, customer, and developer support – and then use those responses to guide PG&E’s procurement for the program.”²¹ However, Exhibit PG&E-05 states that “[a]s PG&E cannot know what [customer] indications of interest a developer will present, PG&E will not be issuing procurement targets for specific areas under this aspect of its procurement”²² [emphasis added]. SELC recommends that PG&E be required to set a specific procurement target for its ECR program, instead of maintaining its current vague statement that it will set procurement targets for specific areas sometime in the unknown future without any clear indication of how customer interest will be taken into account.

In Exhibit PG&E-05, PG&E states that it agrees with a modified version of “CC/CEJA/SELC’s request that PG&E include in each RFO an estimate of the new capacity it desires to procure in specific areas.”²³ Specifically, PG&E explains that based on the percentage of usage and percentage of customer enrollment in the GTSR program it “will indicate in its Requests for Proposals the communities in which it is seeking to receive bids from project developers, separate from and in addition to the general solicitation for projects...”²⁴ However, since PG&E’s proposal is flawed, as explained above, in part because it is unclear how it will consider any form of customer interest to set specific procurement targets, SELC believes that PG&E’s proposal lacks sufficient specificity and certainty needed to convince developers

²¹ Second Reply Comments of PG&E on Green Tariff Shared Renewables Programs (January 3, 2014), at 6.

²² Exhibit PG&E-05, at 5.

²³ *Id.*

²⁴ *Id.*

and community-based organizations to make long-term investments in renewable energy generation located closer to load and it is therefore unlikely to produce a successful Enhanced Community Renewables Program.

Similar to SDG&E's proposed procurement process for its *Share the Sun* program,²⁵ PG&E should procure at least half of its GTSR program capacity cap from projects with a nameplate rated generating capacity of less than 3 MW and meet other associated program criteria. This means that PG&E's should procure 136 MW for its ECR program (half of 272 MW, which is PG&E's share of the 600 MW statewide GTSR limit).²⁶ To achieve this target, PG&E should modify its feed-in-tariff (Fit) process to procure a specific portion of the ECR capacity per bi-monthly period until the cumulative total reaches 136 MW. Specifically, if PG&E's ECR program launches in January 1, 2015 and ends in January 1, 2019 (per SB's 43 repeal date), PG&E should solicit to procure at least 5.7 MW of capacity in each bi-monthly period.

PG&E should select projects for its ECR program in each bi-monthly period until it has fulfilled its capacity requirements for that period and clearly state in its Request for Proposals that it intends to select projects on a first-come first-served basis in each bi-monthly period until it has fulfilled its 136 MW ECR program target. We believe that this approach will more quickly spur development of projects located closer to customers as it will permit a greater number of developers to take advantage of the 30 percent federal investment tax credit (ITC) for projects completed before December 31, 2016.²⁷ In addition, under this recommended approach,

²⁵ See SDG&E Revised Testimony, Chapter 4, by Witness Hillary Hebert, at 11.

²⁶ See PG&E's Green Tariff Renewable Program Revised Testimony, Chapter 1, Prepared by Witness David E. Rubin, at 1-5.

²⁷ See DSIRE Solar, Federal Incentives/Policies for Renewables & Efficiency, Business Energy Investment Tax Credit (ITC) Web site, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US02F.

developers and community-based organizations will be more willing to invest resources in bidding against larger projects in more remote, but less expensive locations.

In addition to the above recommendations, SELC requests that PG&E create a subcategory for Community-Based Renewable Energy Projects as promoted by SELC to give them preferential treatment in the procurement process. Specifically, SELC urges PG&E to allow at least two Community-Based Renewable Energy Projects with a nameplate rated generating capacity of less than 1 MW to advance to the front of the queue per bi-monthly period through the end of 2018. This will give smaller developers and community-based organizations time to adapt to the market environment created by the GTSR program. SELC notes that this request is commensurate with the rule enacted to implement the Colorado's Solar Garden Act which gives preferential treatment to smaller developers by requiring utilities to acquire half of their solar garden capacity through standard offers to projects of 500 kW or less through 2014.²⁸ In sum, we believe that a specific capacity carve out for the ECR program, specific periodic procurement targets, and preferential treatment for Community-Based Renewable Energy Projects will help PG&E successfully launch its ECR program and ensure that it meets the requirements of SB 43 and remains a robust program option throughout the duration of the GTSR program.

ii) **Resource Criteria:** PG&E resources criteria are undefined or vague.

➔ **SELC's Recommendation: PG&E should procure capacity for its ECR program from new eligible renewable resource facilities. Although it is unclear how many ECR eligible projects are in PG&E's existing pool, SELC recommends that no more than 20 percent of the existing general GTSR pool of projects be available for subscription in the ECR program. Since PG&E's resource criteria is undefined, SELC requests that PG&E inform the parties in this proceeding how many ECR eligible projects are in its existing GTSR pool of projects.**

²⁸ See 4 Colo. Code Regs. § 723-3-3665(d)(III).

In Exhibit PG&E-05, PG&E states that “in response to a question from the Sustainable Economies Law Center, PGE&E [sic] welcomes comments on whether to make the original pool of projects that serve the program, in addition to projects obtained through the GTSR solicitation, available for ECR subscription.”²⁹ However, it also states that “[a]s capacity from these projects gets taken out of the general GTSR pool, space is created for new local projects to be developed, which again will be opened up for individual customer enrollment.”³⁰ This last statement suggests that PG&E will begin using its existing pool of projects that already have a Purchase Power Agreement (PPA) available for ECR subscription. SELC is concerned with this proposal because it is unclear how many ECR eligible projects are already in the GTSR pool.

In passing SB 43, the Legislature found that building eligible renewable energy resource facilities “creates jobs, reduces emissions from greenhouse gases, and promotes energy independence.”³¹ This finding, coupled with the requirement that the investor owned utilities facilitate development of eligible renewable energy resource projects located closer to the source of demand, indicates that the Legislature’s objective was to meet the 600 MW statewide objective with new development closer to participating customers, and not to count towards that goal projects that would have been built without the SB 43 regulatory framework.

This is a key criterion that needs to be defined. We note that in its *Share the Sun* program option, SDG&E proposes that eligible renewable resources must be *new* facilities.³² Since PG&E’s resource criteria are undefined, SELC requests that PG&E inform the parties in this proceeding how many ECR eligible projects are in its existing GTSR pool of projects. Given SB 43’s legislative objective to create jobs and to support the development of projects that are closer

²⁹ Exhibit PG&E-05, at 3.

³⁰ *See id.*

³¹ Cal. Pub. Util. Code, § 2831(e).

³² *See* SDG&E Revised Testimony, Chapter 4, by Witness Hillary Hebert, at 13.

to customers, we believe that allowing no more than 20 percent of the existing general GTSR pool of projects to be available for subscription in PG&E's ECR program will promote additional jobs and renewable energy projects located much closer to customers.

C. Solicitations Process: PG&E's proposed solicitations process is ineffective.

➔ **SELC's Recommendation: PG&E's solicitation process should include bi-monthly Requests for Proposals throughout the duration of the program. In addition, PG&E should not wait for data on the percentage of usage and customers enrollment in its the general GTSR program to initiate procurement solicitations for new renewables. SELC also recommends that PG&E move projects that have customers who have committed to subscribe to the majority of the proposed project's output to the front of the queue and provide developers and community-based organizations who have demonstrated customer interest the ability to sign a PPA at the prevailing GTSR rate.**

Exhibit PG&E-05 states that "PG&E will track customer enrollments in the various communities it serves (cities and counties) according to the percentage of customers and of usage. At defined milestones (i.e., either 30 MW of incremental load, or at the end of the calendar year), PG&E will engage in procurement solicitations for new renewables."³³ As explained above, PG&E's proposal is flawed because it does not account for customers who have not yet enrolled (or do not want to enroll) in the generic, bundled GTSR program, but who would subscribe to renewable energy projects located in, or in closer proximity to, their community. Under its existing proposal, it is unclear how PG&E would treat developers or community-based organizations that have identified and committed subscribers in communities that are not the furthest along in the general GTSR program. Given that PG&E's solicitation process is unable to capture actual customer interest in its ECR program, SELC recommends that PG&E not wait for data on the percentage of customers and of usage in the general GTSR program to initiate procurement solicitations for new renewables. Instead, PG&E's solicitation process should include a bi-monthly Request for Proposals throughout the duration of the

³³ Exhibit PG&E-05, at 2.

program to provide ample opportunities for developers and community-based groups to propose projects and participate in the ECR program.

SELC supports PG&E's proposal to "provide an opportunity in its web portal for customers – whether they are enrolled or not – to state interest in having a project built in their area."³⁴ PG&E has also stated that "[a] key selection criterion in PG&E's GTSR solicitation is whether the proposed project is located close to load as referenced in customer interest and/or GTSR enrollment."³⁵ In order to incentivize developers, community-based groups, and customers interested in smaller, local renewable energy projects to devote time and resources in bidding against larger projects, SELC recommends that PG&E give preferential treatment to prospective developers of ECR projects that have demonstrated customer interest in the majority of their proposed project's output. Specifically, SELC recommends that PG&E move projects that have customers who have committed to subscribe to the majority of the proposed project's output to the front of the queue. In addition, and similar to the comments of Interstate Renewable Energy Council (IREC), the Solar Energy Industries Association (SEIA), and the Vote Solar Initiative (VSI), SELC recommends that developers and community-based organizations that have demonstrated customer interest in their projects be able to sign PPAs at the prevailing GTSR rate.³⁶ We believe that this proposed program feature will boost a developer's incentive to seek customers that want to subscribe to their projects and will increase customer interest in subscribing to an ECR project.

³⁴ See Exhibit PG&E-05, at 3.

³⁵ *Id.*

³⁶ See Reply Comments of the Interstate Renewable Energy Council, Inc., the Solar Energy Industries Association, and the Vote Solar Initiative on the Proposed Green Tariff Renewables Program of PG&E and SDG&E (December 20, 2013), at 19.

III. PG&E Should Create a Level Playing Field for Smaller Developers Such As Community-Based Organizations Interested in Participating in the Enhanced Community Renewables Program.

PG&E's ECR program proposal does not create a level playing field for smaller developers, such as community-based groups organized as cooperatives or nonprofits, interested in developing shared renewable energy projects in their community.

➔ **SELC's Recommendation: PG&E should create a subcategory for Community-Based Renewable Energy Projects in order to streamline the procurement process for these projects. SELC requests that PG&E promptly communicate the developer qualification criteria it plans to impose on ECR program developers, and urges PG&E to relax developer experience requirements and minimize any collateral and escrow requirements for community-based groups proposing ECR projects with a nameplate rated generating capacity of less 0.5 MW. If PG&E proposes to require that a community-based organization demonstrate that its proposed business model does not violate federal or state securities law, PG&E should permit a legal opinion from an attorney in good standing who specializes in securities and tax law**

PG&E should procure capacity from projects with true community attributes. To accomplish this goal, as noted above, SELC is urging PG&E to allow at least two Community-Based Renewable Energy Projects with a nameplate rated generating capacity of less than 1 MW to advance to the front of the queue per bi-monthly period through the end of 2018. SELC also requests that PG&E create a subcategory for Community-Based Renewable Energy Projects in order to streamline the procurement process for these projects. This subcategory is necessary to level the playing field so that community-based organizations interested in implementing small-scale, locally sited projects are able to compete.

Unlike SDG&E, which has provide detailed eligibility requirements and qualification criteria for *Share the Sun* developers,³⁷ PG&E's Exhibit PG&E-05 does not explain what qualification criteria developers must meet to participate in its proposed ECR program. SELC is concerned about the unknowns in PG&E's proposal and that it may impose developer

³⁷ See SDG&E Revised Testimony, Chapter 2, by Witness Aaron Franz, at 27-29.

qualification criteria that are too burdensome and too expensive for community-based organizations to bid for and implement community renewable projects in or near their communities. SELC therefore recommends that PG&E promptly communicate the qualification criteria it plans to impose on ECR program developers.

SELC acknowledges that the success of PG&E's ECR program will depend on financial soundness of groups applying to build community renewable projects. We understand that PG&E will be responsible for investigating whether the owners of proposed ECR projects have resources and funding to complete the proposed projects. However, to foster new local renewable energy on a community-by-community basis and ensure that the majority of the project's economic benefits are distributed locally, PG&E must make sure that smaller developers and community-based organizations are able to compete with larger developers. Given that PG&E has not defined what developer qualification criteria it will impose, SELC requests that PG&E relax developer experience requirements and minimize any collateral and escrow requirements for community-based organizations proposing ECR projects with a nameplate rated generating capacity of less than 0.5 MW. If the owners of a proposed ECR project are able to meet the escrow and collateral requirements, PG&E should not deny their proposal based on lack of resources. Furthermore, if PG&E proposes to require that a community-based organization demonstrate that its proposed business model does not violate federal or state securities law, PG&E should permit a legal opinion from an attorney in good standing who specializes in securities law.

IV. PG&E Should Provide Customers the Ability to Contract Directly with Developers and Community-Based Organizations To Implement Community-Owned Projects Under the Enhanced Community Renewables Program.

PG&E's ECR proposal does not allow individual customers, who subscribe to a local renewable energy project they prefer, the ability to own a portion of their selected project.

➔ **SELC's Recommendation: Similar to SDG&E, PG&E should implement an ECR program that provides customers the opportunity to contract directly with participating developers and community-based organizations to subscribe to a specific, local shared renewable energy facility. SELC recommends that PG&E implement an ECR program that allows customers to subscribe to a local project by which they can receive credit or benefit for the power produced from their ownership portion of the project.**

Under PG&E's proposed ECR program, local ownership of community shared renewable energy projects would be difficult to achieve. SELC believes that two features of PG&E's proposal are obstacles to developers and community-based organizations that would like to implement Community-Based Renewable Energy Projects that provide utility customers who subscribe to the project the ability to own a portion of the project. The first obstacle to community-owned renewable energy projects is PG&E's decision not to permit direct developer/customer agreements, and the second obstacle is PG&E's decision to require that participating customers pay the price for a "local renewable portfolio," even though they have selected to subscribe to a specific project.

In response to comments from Shell Energy and City of Davis recommending that direct developer/customer agreements for the purchase and sale of renewable energy be included in PG&E's ECR program, PG&E states that it has considered whether to include direct developer/customer agreements for the purchase and sale of renewable energy in PG&E's ECR program, similar to SDG&E's *Share the Sun* proposal, and "has concluded that such [an] approach is unnecessary as well as likely unlawful."³⁸ In addition, PG&E states that Section 365.1 of the Public Utilities Code has indefinitely suspended the ability of retail end-use electricity customers to acquire electricity from non-utility electric service providers.³⁹ PG&E has further reasoned that such agreements were not necessary because "under PG&E's ECR

³⁸ Exhibit PG&E-05, at 7.

³⁹ *Id.*

program, local renewable projects that are preferred by communities and local subscribing customers will be supported by a standard PPA between PG&E and the developer and by direct customer subscriptions for the purchase of power under PG&E's GTSR tariff."⁴⁰

Contrary to PG&E's intimation, there is nothing in section 2833 of the Public Utilities Code or any other provision of the Public Utilities Code that prohibits an investor-owned utility from billing customers for electricity based on an agreement between a developer and a retail customer for the sale and purchase of that electricity. Furthermore, section 365.1 of the Public Utilities Code, which PG&E relies on to state that such agreements are prohibited, does not apply in this instance because PG&E and the developer would be executing a power purchase agreement where PG&E would be acquiring all the electricity from the developer's project. In fact, SDG&E's *Share the Sun* program proposal states that SDG&E is purchasing generational output from the developer. Specifically, SDG&E's proposal states:

*"Share the Sun provides the customer the opportunity to contract directly with participating solar providers to subscribe to a specific, local solar facility... Under the proposed Share the Sun pilot: SDG&E and the solar provider will execute a power purchase agreement where SDG&E agrees to buy all generation output of a participating solar facility for a specific term and the solar provider agrees to assign its energy payment to subscribed customers. SDG&E will purchase the solar energy generated by the customer's subscribed portion of the solar project and provide a monthly bill credit to participating customers based on their assigned facility's actual generation."*⁴¹

Given that SDG&E will be purchasing the generational output from the developer, and that no provision of the Public Utilities Code prohibits such purchase agreements, developer/customer agreements under this approach are not unlawful.

In Exhibit PG&E-05, PG&E states that "under the ECR program, customers will have an opportunity to financially support local projects, which will provide an additional signal of local

⁴⁰ *Id.*

⁴¹ SDG&E Revised Testimony, Chapter 2, by Witness Aaron Franz, at 17-18.

interest.”⁴² This statement suggests that PG&E acknowledges that community shared renewable energy projects can be promoted and developed if individual customers financially support their local projects. In fact, PG&E has pointed to “crowd funding” as an option for supporting its ECR program.⁴³ SELC is concerned that PG&E’s decision to design a program that does not permit customers to contract directly with a developer or community-based organization will not allow customers to contract with developers to financially support, receive a benefit, and own a portion of their local project. As such, SELC recommends that PG&E implement an ECR program that, similar to SDG&E’s program proposal, provides customers the opportunity to contract directly with participating developers and community-based organizations to subscribe to a specific, local shared renewable energy facility.

We also note that, in response to a question from the Office of Ratepayer Advocates, “PG&E clarifies that the renewable energy rate paid by ECR customers will be the price of the local project portfolio, which will be different from the GTSR portfolio price.”⁴⁴ In addition, Molly Hoyt informed us by email on March 6, 2014, that “[c]ustomers will still select to support a specific project, but will pay the price of the local portfolio of 0.5 to 3 MW projects.”⁴⁵ SELC acknowledges that creating a pool of ECR projects can lower costs and make the program more affordable and competitive with more generic, bundled GTSR projects. However, SELC is concerned that requiring that customers pay the price for a “local project portfolio” will eliminate the ability of developers and community-based organizations to propose projects where utility customers are able to receive direct economic benefit from their ownership of the project. In essence, this element of PG&E’s ECR program proposal is simply a bundled green energy tariff. To provide customers more options, SELC recommends that PG&E implement an ECR program

⁴² Exhibit PG&E-05, at 6.

⁴³ See Second Reply Comments of PG&E on Green Tariff Shared Renewables Programs (January 3, 2014), at 6.

⁴⁴ Exhibit PG&E-05, at 6.

⁴⁵ E-mail from Molly Hoyt, PG&E, to Stephanie Wang, Clean Coalition (March 6, 2014) in response to a Clean Coalition question (“We have some questions about the new provision that has customers pay the ‘local PPA portfolio executed price between PG&E and local developers.’ 1) Does this mean that customers won’t select a specific project, but rather will opt to participate in a local portfolio?”).

that allows customers to subscribe to a local project by which they can receive credit or benefit for the power produced from their ownership of the project.

As discussed in our Reply Comments, many communities across the country have developed community-owned renewable projects in collaboration with their local utilities.⁴⁶ In fact, a trend has developed for community-owned solar, and new and existing business models are flourishing to support community-owned renewable energy projects. For instance, throughout this proceeding, SELC has sought the input of the Energy Solidarity Cooperative (ESC), a multi-stakeholder cooperative comprised of workers, consumers and community investors in the San Francisco Bay Area.⁴⁷ One of ESC's objectives is to develop local renewable energy projects that are owned, managed, and/or controlled by communities. ESC would like to be able to participate in PG&E's proposed ECR program; however, under PG&E's current proposal, ESC's objective would be difficult to realize.

The Clean Energy Collective (CEC) is another type of business model developed to fund community-owned solar projects.⁴⁸ Under this model, utility customers can buy a panel or panels in a community shared solar plant. CEC partners with the utility to set up the program whereby it sells all of the power from a community-owned solar project directly to the utility via a PPA and the utility credits participating customers' utility bills for the output of the panels they

⁴⁶ See Island Community Solar LLC Web site, <http://islandcommunitysolar.com/>; see also Brewster Community Solar Garden Cooperative Web site, <http://www.brewstercommunitysolargarden.com/>; see also Acorn Energy Solar One, LLC, Acorn Renewable Energy Cooperative Web site, <https://www.acornenergycoop.com/offering/group-net-metering>; see also University Park LLC Web site, <http://www.universityparksolar.com/>; see also Clean Energy Collective, Xcel Community Solar Web site, <http://www.coloradocommunitysolar.com/> (includes community-owned solar garden program for Xcel customers in Boulder, Denver, Jefferson and Summit Counties).

⁴⁷ See Energy Solidarity Cooperative Web site, <http://energy-coop.com/>.

⁴⁸ See Clean Energy Collective Web site, <http://www.easycleanenergy.com/>.

purchased in the solar plant.⁴⁹ CEC has developed community-owned solar projects in states with utilities that have implemented community shared renewables programs similar to SDG&E's *Share the Sun* program (See Appendix A for a list of CEC's community-owned solar projects).⁵⁰ We note that CEC has been able to implement its business model in states that have not enacted community shared solar legislation. Thus, while a specific community shared renewables statute, as opposed to a green tariff shared renewables statute, has not been signed into law in California, CEC could participate in and supply new SB 43 procurement through an ECR program offering by PG&E if customers have an opportunity to select a program option similar to the SDG&E's *Share the Sun* program proposal.

V. PG&E Should Set Specific Targets to Procure Energy from Projects Located in the Most Impacted and Disadvantaged Communities.

PG&E has failed to explain how it will procure its proportional share of capacity from projects located in the most impacted and disadvantaged communities (hereinafter "EJ communities").

➔ **SELC's Recommendation: PG&E should allow up to 1/6 of the capacity procured in each bi-monthly period to move to the front of the queue if the capacity is located in an EJ community. We support the California Environmental Justice Alliance's request that CARE customers enrolled in the ECR program option receive the same discount they would receive if they were not enrolled in the program.**

⁴⁹ See Jason Coughlin, et al., *A Guide to Community Shared Solar: Utility, Private, and Nonprofit Project Development* (National Renewable Energy Laboratory 2012), at 22-24, available at <http://www.nrel.gov/docs/fy12osti/54570.pdf>.

⁵⁰ See list of Share Renewables Programs in Appendix A. CEC has developed 8 of the 27 programs operating under state community shared renewable programs. If you look at the programs where customers have asset ownership, as opposed to a subscription or a lease, then CEC had developed the majority of the community-owned renewable projects. The list does not yet reflect the 2 new states where CEC has publicly announced contracts with utilities since last fall: MA (legislation) and WI (bilaterally negotiated).

SB 43 requires that 100 MW of the 600 MW statewide capacity cap procured under the GTSR programs be reserved for facilities located in EJ communities,⁵¹ and provides that eligible renewable energy projects located in EJ communities shall not exceed 1 MW.⁵² Since only projects that are 3 MW or less in size qualify for PG&E's ECR program, PG&E needs to procure prospective projects located in EJ communities under its ECR program procurement process. However, PG&E has not explained how it will procure its proportional share of capacity from projects located in EJ communities.

As explained above, PG&E's proposal to engage in procurement solicitations for new renewables energy projects based on usage and customer enrollment in its GTSR program is flawed. For this reason, SELC believes that PG&E cannot meet its proportion of the EJ carve out using this approach. As noted by PG&E, it must reserve 45 MW for projects located in the EJ communities.⁵³ To meet its proportionate share of the EJ carve out, PGE should provide incentives and clear signals to developers and community-based organizations interested in participating in the ECR program. In addition, similar to SDG&E's procurement proposal to meet its proportionate share of the EJ carve out, PG&E should give preferential treatment to projects located in EJ communities. We note that facilities located in EJ communities may be far smaller than 1 MW. As such, allowing only one such facility to move to the front of the queue per bi-monthly procurement period may not contribute significantly towards the utility's procurement obligations under Section 2833(d)(1). SELC recommends that PG&E allow up to 1/6 of the capacity procured in each bi-monthly period to "move to the front of the queue" if the

⁵¹ Cal. Pub. Util. Code, § 2833(d)(1)(A).

⁵² Cal. Pub. Util. Code, § 2833(b).

⁵³ Ex. PGE-01, p. 1-5, lines 7-3; Ex. PGE-02, p. 1-7, lines 6-11 (explaining that PG&E's share of the carve-out will be allocated according to PG&E's proportional share of the statewide program cap of 600 MW); *see also* Ex. PGE-01 p. 1-5 (identifying PG&E's share of the statewide limit as 45.25%).

capacity is located in an EJ community. SELC believes that this will help PG&E ensure that it procures adequate capacity from facilities in EJ communities.

PG&E's ECR program should be accessible to low-income customers. Community renewable programs should be designed in a manner that allows all customers, including minority and low-income customers, the ability to participate in the programs, as contemplated by Section 2833(j) of the Public Utilities Code. In fact, customers enrolled in the California Alternate Rates for Energy ("CARE") program are precisely the customers that Section 2833(j) was intended to benefit. Similar to the California Environmental Justice Alliance (CEJA), SELC requests that CARE customers enrolled in the ECR program option continue to receive the same discount they normally receive under the CARE program.

VI. Conclusion

SELC appreciates the opportunity to comment on PG&E's Enhanced Community Renewables Program proposal and respectfully request that the Commission adopt the above recommendations for the reasons discussed herein.

Respectfully submitted,

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APPENDIX A

State	Start Date	Utility or Project Sponsor Name	Type	Program Name	Participant Information/Eligibility	Participation Mechanism
AZ	2011	Salt River Project	Muni	Community Solar Program—Copper Farm Solar Farm	Commercial/industrial customers of SRP (10 MW), residential customers (2 MW) and schools (8 MW)	Pilot program energy sold in blocks equivalent to about 2,500 kWh/year, up to half of customer's annual usage.
AZ	2011	Trico Electric Cooperative	Co-op	Sunwatts Sun Farm Program	No specific exclusions but a member's purchase of panel output cannot exceed their average monthly kWh energy usage in the last twelve month period up to a maximum of 10,000 watts per member.	Customer can purchase upfront full, ½ and ¼ PV panel output of a 270-watt PV panel
AZ	2011	Tucson Electric Power	IOU	TEP Bright Tucson Community Solar Program	All customers except those who are currently enrolled in net metering	Customer can purchase output in 150-kWh monthly blocks
AZ	2012	UniSource Energy Services	IOU	Bright Arizona Buildout/Bright Arizona Community Solar Program	Available to customers on tariffs: Residential Service, Small General Service, and Large General Service	Customers can purchase the output in 150-kWh blocks
CA	TBD	Pacific Gas and Electric**	IOU	Green Tariff Shared Renewables Program	Customers of PG&E	
CA	2008	Sacramento Municipal Utility District	Muni	SolarShares Program	Customers of SMUD. SMUD's goal is to keep the system subscribed up to 95% of its full output, with the additional 5% used as a safety margin. Approximately 700 customers were sufficient to fully subscribe the system, and there is a persistent waiting list of approximately 60 customers. The current mix by customer size is about 27% small, 51% medium, and 22% large.	Customers can meet 20-40% of their energy use by purchasing 0.5-kW shares.
CA	TBD	San Diego Gas & Electric**	IOU	Share the Sun and Sun Rate	Developers sign up participants; can meet up to 200% of load	Customers acquire a portion of the power produced by a solar-energy system in SDG&E's service area to cover all or part of their electricity use and receive a bill credit for the value of the solar power their portion generates. The "green attributes" of the solar power would belong to the customer and would not be applied toward SDG&E's renewable portfolio goals.

State	Start Date	Utility or Project Sponsor Name	Participation Benefit/Valuation	Supply Size	Webpage
AZ	2011	Salt River Project	Schools, businesses: 9.9 cents/kWh fixed for 10 years	20 MW	http://www.srpnet.com/environment/communitysolar/home.aspx
AZ	2011	Trico Electric Cooperative	Customer receives fixed kWh credits on monthly bill by panel shares owned @ 36 kWh per full panel, 18 kWh per ½ panel and 9 kWh per ¼ panel	227 kW	http://www.trico.coop/index.php?option=com_content&view=section&layout=blog&id=9&Itemid=116
AZ	2011	Tucson Electric Power	Customer purchases 150 kWh blocks for \$3 each, no additional benefit beyond purchasing solar power in a shared system.	As of July 2012, the TEP Bright Tucson program included 777 customers, which were subscribed to a total of 4.13 MW in TEP or third-party-owned solar installations	https://tep.com/Renewable/Home/Bright/
AZ	2012	UniSource Energy Services	Customers purchase for \$0.02/kWh over regular tariff rate and their solar capacity component of the bill is fixed for 20 years. Purchases are exempt from Renewable Energy Standard Tariff and the Purchased Power and Fuel Adjustment Clause, surcharges that are adjusted annually.	1.7 MW	https://uesaz.com/renewable/home/bright/
CA	TBD	Pacific Gas and Electric**	Participating customers will receive credits for avoided PG&E generation costs	600 MW (for the entire statewide program)	http://www.pge.com/myhome/environment/pge/greenoption/
CA	2008	Sacramento Municipal Utility District	Customers receive kWh credit on monthly bill in relation to the quantity of output they subscribed for and the fixed energy rate they qualify for. Blended incentive is \$1.50/W.	1 MW	https://smud.org/en/residential/environment/solar-for-your-home/solarshares/
CA	TBD	San Diego Gas & Electric**	Participants receive bill credit from SDG&E. Proposal is to credit participants for their share of system at FIT rate plus an "energy payment" based on the DA PCIA + adjustments, which is intended to reflect the incremental cost of delivery. SDG&E retires RECS for subscribed energy	10 MW available	http://delaps1.cpuc.ca.gov/CPUCProceedingLookup/?p=401:56:3288237296858501::NO:RP,57,RIR:P5PROCEEDING_SELECT:A1201008

State	Start Date	Utility or Project Sponsor Name	Type	Program Name	Participant Information/Eligibility	Participation Mechanism
CO	2012	Colorado Springs Utilities	Muni	Community Solar Gardens	A customer must have a solar garden interest of at least 0.4 kW	Springs Utilities customers may purchase or lease panels from one of two community solar project developers, Sunshare (lease) or Clean Energy Collective (CEC - purchase).
CO	2011	Delta Montrose Electric Association	Co-op	The Community Solar Array Program	Co-op members may lease any portion of the array they wish - provided adequate capacity remains - in lease increments of \$10.	DMEA leases portions of a solar array to members in 2.7-watt blocks. DMEA had a goal to divide up the array into small enough components that anyone can afford to participate.
CO	2011	Empire Electric Association	Co-op	Solar Assist Cooperative Garden	Participation is open to Empire Electric members	Members may lease one or more panels for 20 years at \$1,250 each. There are 24 panels available.
CO	2012	Grand Valley Power	Co-op	Solar Farm	Participation is open to Grand Valley Power members	The Solar Farm allows customers to lease solar panels for 24 kW for a one-time payment.
CO	2010	Holy Cross Energy	Co-op	El Jebel, Garfield County Airport (near Rifle, CO) (CEC)	Anyone with a Holy Cross electric bill is eligible to purchase solar panels, including homeowners, businesses, renters, lessees, community organizations, etc.	Customers can purchase shares (watts) of the solar array upfront at a cost of \$3.15 per watt (\$3,150 per kilowatt)
CO	2012	Poudre Valley Rural Electric Association	Co-op	Poudre Valley REA Community Solar Farm (CEC)	The panels are purchased and are owned by individual consumers who receive electricity from PVREA.	PVREA consumers are able to purchase panels for \$618 per panel phase 1, \$729 phase 2
CO	2012	San Miguel Power Association	Co-op	SMPA Community Solar - Paradox Valley (CEC)	Open to members of San Miguel Power Association (SMPA)	SMPA customers purchase 240-watt panel(s)
CO	2009	United Power	Co-op	Sol Partners Cooperative Solar Farm	Open to all members of United Power, including those who net meter.	Customers lease 210-watt PV panels within the system, for \$1,050 each, for 25 years

State	Start Date	Utility or Project Sponsor Name	Participation Benefit/Valuation	Supply Size	Webpage
CO	2012	Colorado Springs Utilities	Subscribing customers will receive a fixed credit of \$0.09/kWh on their electric bill for their share of the power generated at the community solar garden. In 2012, Colorado Springs Utilities will provide subscribers a one-time, \$1.80 per watt incentive up to 30% of their solar garden investment.	2 MW (pilot)	http://www.csu.org/residential/customer/Pages/Community-Solar-Gardens.aspx
CO	2011	Delta Montrose Electric Association	The customer is credited at the full retail rate for the amount his share produces.	20 kW	http://www.dmea.com/index.php?option=com_content&view=article&id=149&Itemid=101
CO	2011	Empire Electric Association	Participants receive the value of the energy produced from their panels on their energy bill, at a rate of \$0.11/kWh. Empire Electric will pay for the operations and maintenance of the system.	10 kW	http://www.coloradocountylife.org/files/Local%20Community%20Pages/2011/06/Empire%20June.pdf
CO	2012	Grand Valley Power	The customer receives a monthly credit on their bill for the Panel Production Credits (PPC) generated by their leased panels. The PPC is calculated by dividing the total generation from the system by the number of panels and providing a kWh credit to a participant's monthly bill.	20.68 kW	http://www.gvp.org/Solar/SolarFarmApp.pdf
CO	2010	Holy Cross Energy	Monthly bill credit of 11 cents/kWh, or 37% more than the \$0.08/kWh for traditional solar systems. As rates increase, power credits will remain 37% greater than the standard credit rate.	938 kW 78 kW	http://www.easycleanenergy.com/faq.aspx
CO	2012	Poudre Valley Rural Electric Association	Credits from the electricity generated are applied directly to the electric bills of each participating consumer in proportion to the number of panels purchased. Phase 2 has a \$0.04 PBI	116 kW phase 1 577 kW phase 2	http://www.pvrea.com/solar/index.html
CO	2012	San Miguel Power Association	Monthly monetary credit for the energy each panel(s) produces. Each panel will produce approximately \$45 worth of electricity per year.	1.1 MW	http://www.smpa.com/Service/SMPACommunitySolar.cfm
CO	2009	United Power	Customers receive a monthly bill credit for the value of their panel's production at a solar rate slightly above the retail credit rate. During the 1st year, the original 48 panels produced 17,504 kWh. Energy credits totaled \$40.12 per panel, equal to a 3.8% return.	21 kW	http://www.unitedpower.com/mainNav/greenPower/solPartners.aspx

State	Start Date	Utility or Project Sponsor Name	Type	Program Name	Participant Information/Eligibility	Participation Mechanism
CO	2013	Xcel Energy*	IOU	Solar*Rewards Community (CEC)	All customers within Xcel service territory. Must have at least 10 subscribers per CSG.	Subscription to particular Community Solar program
DE	2011	Delmarva Power & Light*	IOU	Community Energy Facility (CEF)	All customers within Delmarva's service territory; all subscribers must share "a unique set of interests"	Subscription to particular Community Solar program
FL	2010	Florida Keys Electric Co-op	Co-op	Simple Solar Program	Open to FKEC members.	Customers lease 175-watt panels

State	Start Date	Utility or Project Sponsor Name	Participation Benefit/Valuation	Supply Size	Webpage
CO	2013	Xcel Energy*	Total aggregate retail rate less T&D costs("reasonable charge") less RESA charge less TCA charge. Range from about \$0.055 to \$0.07, depending on customer class plus an \$0.09 - \$0.11 / kWh PBI	Boulder County #1 497 kW (CEC) Jefferson County #1 108 kW (CEC) Jefferson County #2 571 kW (\$0.04 PBI) (CEC) Denver County #1 388 kW (CEC) Denver County #2 500 kW (CEC) Adams County #1 500 kW (CEC) Summit County #1 500 kW (CEC) Summit County #2 500 kW (CEC)Breckenridge 1MW (CEC)	http://www.xcelenergy.com/Save_Money_&_Energy/For_Your_Home/Renewable_Energy_Programs/Solar*Rewards_Community_-_CO
DE	2011	Delmarva Power & Light*	If "host customer" for CEF or if on same distribution feeder as CEF: "valued at an amount per kWh equal to the sum of volumetric energy (kWh) components of the delivery service charges and supply service charges for residential Customers and the sum of the volumetric energy (kWh) components of the delivery service charges and supply service charges for non-residential Customers..." [essentially full retail rate] If not on same distribution feeder: "valued at an amount per kWh equal to supply service charges according to each account's rate schedule..." [essentially gen-only/avoided cost] Subscribers retain REC ownership. Delmarva has elected to pay (instead of credit) customers at these rates.	Sum total of capacity limits of each subscriber (25 kW res., 100 kW farm, 2 MW non-res.)	http://dep.sc.delaware.gov/electric/reg49%207984%20compliance%20filing.pdf
FL	2010	Florida Keys Electric Co-op	Members receive monthly bill credits for full retail value of the electricity generated by their leased panel(s). Anticipate approximately \$36 in credits per year per panel and \$1280 in credits total (assuming 3% annual increase in retail price of electricity).	97 kW	http://www.fkec.com/Green/simplesolar.cfm

State	Start Date	Utility or Project Sponsor Name	Type	Program Name	Participant Information/Eligibility	Participation Mechanism
FL	2013	Orlando Utilities Commission**	Muni	Share the Sun	Residential and Non-demand Commercial	Energy sold in 1-kW blocks as production (kWh's/kW)
GA	2010	Coastal Electric Cooperative**	Co-op	Cooperative Solar Farm (pilot program)	Open to members of Coastal Electric Cooperative	Customers can lease one 230-watt panel for \$1,295, for 25 years
KY	2011	Berea Municipal Utilities	Muni	Berea Solar Farm	Open to anyone, including people who don't live in Berea, KY.	Customers can purchase a minimum of two 235-watt solar panels for \$750 each, for 25 years.
MA	2012	Brewster Community Solar Garden Cooperative, Inc.*	non-profit	Brewster Community Solar Garden	Brewster, MA residents	Participants purchase a SunShare for \$5000, and the value of the energy transfers as a "net metering credit" on participants electric bill each month
MI	TBD	City of Ann Arbor**	City	Pilot Program	Working to develop a pilot program for DTE and the state	TBD
MI	2013	Cherryland Electric Cooperative	Co-op	Solar Up North Community Solar Project	Eligible to members of Cherryland Electric Cooperative or Traverse City Light and Power	Individuals will sign a 25-year lease agreement for a one-time fee of \$470 per solar panel. Participants can also apply for an energy optimization rebate of \$75 and a capital credit rebate of \$75.
MN	2013	Wright-Hennepin Cooperative	Co-op	WH Solar Community project (CEC)	Open to members of Wright-Hennepin Co-op	WH members may purchase panels for \$869 each, system includes battery storage
NM	2012	Kit Carson Electric Cooperative	Co-op	Taos Charter School project (CEC)	Open to members of Kit Carson Co-op	Customers purchase 235-watt panels for \$845 each
OR	2007	City of Ashland	Muni	Solar Pioneers II	City of Ashland residents	Customers can purchase the output of panels for 18 years: A full panel for \$743, a 1/2 panel for \$371.50 or a 1/4 panel for \$185.70.
TN	TBD	Tennessee Valley Authority**	Federal Utility	Solar Aggregated Value and Education (SAVE)	TVA will collaborate with selected participants to fund and build a solar energy project at one or more sites in local communities across the TVA service area.	TBD

State	Start Date	Utility or Project Sponsor Name	Participation Benefit/Valuation	Supply Size	Webpage
FL	2013	Orlando Utilities Commission**	Current premium is \$.025/KWH above residential rate	400 kW	http://www1.eere.energy.gov/solar/pdfs/51055_orlando.pdf
GA	2010	Coastal Electric Cooperative**	kilowatt--hour credit for the energy generated by the panel	2 kW	http://www.coastalemc.com/CoastalElectricRenewables.aspx
KY	2011	Berea Municipal Utilities	In return, customers will receive Panel Production Credit (PPC) every billing period for the electricity generated by their panels. The PPC is calculated by dividing the total generation from the system by the number of panels and providing a kWh credit at the customer's rate, on the participant's monthly bill.	14.1 kW	http://bereautilities.com/?page_id=348
MA	2012	Brewster Community Solar Garden Cooperative, Inc.*	A SunShare entitles participants to the value of energy created by 28 solar panels. Each SunShare will transfer at least \$6,400 of credit (or possibly more) over the next 5 years, as an anticipated average monthly credit of over \$100 to participants' electric bills.	345.6 kW	http://www.brewstercommunitysolargarden.com/
MI	TBD	City of Ann Arbor**	TBD	TBD	https://a2gov.legistar.com/LegislationDetail.aspx?ID=1469373&GUID=B0B937F9-30B-406-961-0936E769ADE2
MI	2013	Cherryland Electric Cooperative	CEC members that commit to a lease will receive a monthly billing credit for the solar electricity produced in that particular month. One solar panel is estimated to produce 25 kWh per month on average.	Planned in installments based on demand (56 kW by summer 2013)	http://www.cecelec.com/content/community-solar
MN	2013	Wright--Hennepin Cooperative	Customers will receive monthly bill credits for the power produced by their panels.	32 kW	http://www.whsolarcommunity.com/
NM	2012	Kit Carson Electric Cooperative	Credit on monthly bills for proportion of energy produced	98.7 kW	http://www.kitcarson.com/
OR	2007	City of Ashland	Customer receives monthly kWh credit at retail rates based on power produced by each member's share of project. One panel is estimated to produce \$480 of savings over 20 years (below program goal of equivalent return to on-site systems).	63.5 kW	http://www.ashland.or.us/Page.asp?NavID=13368
TN	TBD	Tennessee Valley Authority**	TBD	500 kW	http://www.tva.com/news/releases/julsep13/solar.html

State	Start Date	Utility or Project Sponsor Name	Type	Program Name	Participant Information/Eligibility	Participation Mechanism
TN	2013	Duck River EMC	Co-op	Duck River EMC Generation Partners Program	Duck River EMC members	For \$600, members may purchase a unit of limited partnership interest, equivalent to the production of a half panel, with a total of 216 units available.
UT	2008	City of St. George	Muni	SunSmart Program	The Purchaser must be the owner or in lawful possession of residential property located within the geographical boundaries of the City of St. George, Utah.	Customers may purchase 'units' in 0.5 and 1 kW increments.
VT	2008	Green Mountain Power (GMPSolar)*	IOU	Multiple programs operating	Participants must reside in the service territory of GMP	Group net metering arrangement
WA	2006	City of Ellensburg	Muni	Community Renewable Park	Participant must own, rent or lease a business or residence that has an electrical service with the City of Ellensburg if they want to receive the periodic renewable credit toward their utility bill.	Customer's pay an initial up-front investment (minimum of \$250) to co-own a share of the system
WA	2011	Seattle City Light	Muni	Seattle Community Solar	Customers of Seattle City Light may participate	City Light customers can buy a portion of the output from the project at \$150 per 24-watt unit.

* = Program operating under state community solar/renewables law

**=Pending, planned or announced

Color coding

	Investor-Owned Utility program
	Municipal Utility Program
	Electric Cooperative Program
	Other program

State	Start Date	Utility or Project Sponsor Name	Participation	Benefit/Valuation	Supply Size	Webpage
TN	2013	Duck River EMC		Participants will receive the \$.12 + retail pricing (~\$.22/kWh) offered by TVA's Generation Partners program.	25.92kW	http://www.linkedin.com/company/duck-river-emc/duck-river-electric-membership-solar-farm-1074265/product
UT	2008	City of St. George		Customers receive a monthly credit on their electric bill based on the monthly kWh derived from % of system investment and retail rate. A minimum output of 800 kWh is guaranteed.	100 kW Phase 1 150 kW Phase 2 100 kW each Phase 3+ 2 MW max (currently at 250 kW)	http://www.sgsunsmart.com/index.htm
VT	2008	Green Mountain Power (GMPsolar)*		SolarGMP provides owners of solar net metering systems in the GMP service area with a \$0.06 payment adder on top of the retail rate.	150 kW cap per system	http://www.greenmountainpower.com/innovative/solar/
WA	2006	City of Ellensburg		Customers receive quarterly credit on their electric bill at the BPA wholesale energy rate based on kWh's derived from % of system investment.	36 kW Phase 1 21.6 kW Phase 2 24 kW Phase 3 82 kW Total	http://www.ci.ellensburg.wa.us/index.aspx?NID=310
WA	2011	Seattle City Light		Credit of \$0.07/kWh and incentive of \$1.08/kWh. Credit rises with electricity rates. Customers receive annual on-bill credit of 7 cents/kWh (approx. 50 kWh's/yr/solar unit)	24 kW 49 kW	http://www.seattle.gov/light/solar/community.asp

* = Program operating under state community solar law

**=Pending, planned or announced

Color coding

	Investor-Owned Utility program
	Municipal Utility Program
	Electric Cooperative Program
	Other program