

ARE CUSTOMERS OF COMMUNITY SOLAR PROGRAMS ACTUALLY BUYING RENEWABLE ENERGY?

A potential legal challenge to the way renewable energy certificates are being allocated focuses attention on the need for thoughtful design in community solar projects

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Community solar is an increasingly popular solar option for utilities, their customers and the solar industry. As of January 2016 there were 58 utility-managed community solar programs operating nearly 60 megawatts (MW) nationally, and 21 third-party managed ones operating an additional 50 MW — with many more planned to come online this year.

However, recent actions by state regulators in [Vermont](#) and [Illinois](#), and a [potential class action lawsuit in Vermont](#) have raised the importance of renewable energy certificates (RECs) management in program design and marketing. The concern arises from community solar subscribers who were marketed to as “going solar” but not provided with the renewable energy attributes.

How to handle the ownership of renewable energy certificates (RECs) has been a long-standing debate in renewable energy customer programs, such as net metering and green pricing programs. At the heart of the debate is the sentiment held by many consumer and solar advocates that these programs are not providing their participants with renewable energy if the RECs are not conveyed to or retired on behalf of participants. As the lawsuit portends, this debate has now extended to community solar programs.

This issue has not received a lot of attention thus far, though SEPA’s recent report, [“Community Solar: Program Design Models”](#) outlines two options: either the program administrator retains REC ownership or the program customers obtain the RECs through the participation agreement. More than 50% of the community solar programs in

SEPA’s database have language in their subscriber contracts where the program administrator owns the RECs.

This could be an area of concern from two perspectives. First, the customers may feel they are not receiving the full, monetary benefit of their participation. A participating customer, particularly those paying higher than market rates for a share of panels or a solar tariff rate, might define their purchase as including the monetary value of the RECs. Second, many customers participate based on the environmental benefits and want assurances that their participation is above and beyond existing renewable energy or carbon requirements.

Whether the program administrator is a utility or third-party developer, there is no right answer to REC ownership. Indeed, the program administrator can manage the RECs on behalf of the customer, without transferring ownership. However, being intentional about REC management and associated marketing language in program design is critical to creating a successful program that avoids legal, regulatory and public relation problems in the future.

What Are Community Solar Programs Selling?

The Federal Trade Commission (FTC) [Green Guides](#) clearly state that the electricity provided by community solar is not, legally speaking, “renewable” if the RECs are not provided with the electricity. Any claims to the contrary could trigger FTC investigation and fines, or in the case

of Vermont or Illinois, possible legal or regulatory actions. The concerns of “deceptive marketing” and double-counting the RECs to more than one environmental outcome, be it state policy compliance or product marketing, is the incitement of the possible class action lawsuit.

Three examples of actual marketing messages from community solar programs which do not provide the RECs to the participants show nuanced variations on these issues:

“Support an alternative, environmentally-friendly energy option”

– Program A

“Simple and affordable way to participate in and benefit from solar generation”

– Program B

“Take advantage of the sunshine and receive incentives by purchasing units”

– Program C

These three avoid the clear taboo of claiming that the program results in the participants USING solar electricity. Though all also suggest that participation leads to generation of solar electricity [which may be USED by others]. The distinction between generating and using solar electricity and generating and distributing solar electricity is subtle. Making sure participants are equipped to make such a distinction requires clear education and communication.

Adam Capage, vice president at [3Degrees](#), an industry leading provider of renewable energy and carbon offsets, points out, that no matter how the RECs are handled “making sure all customers are clear about what is happening [to the RECs] is prudent, fair, and honest”. Adam goes on that “certainly marketing best practices calls for the customer to be clear about what they are and aren’t buying.”

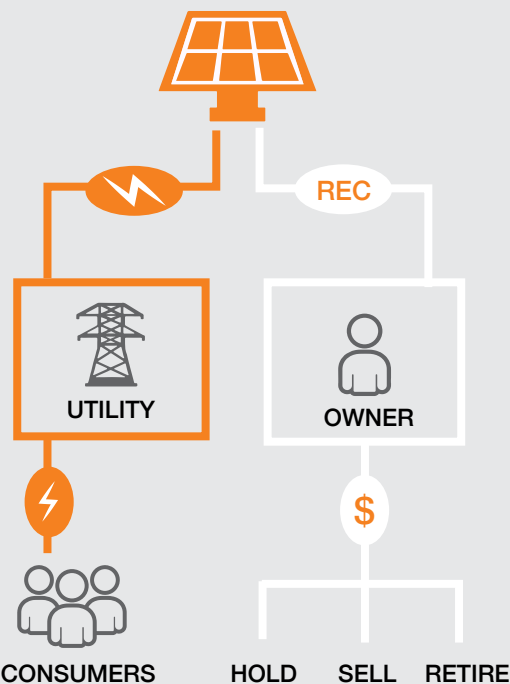
Business customers may actually have an equal or greater interest than residential consumers when it comes to REC ownership in community solar programs. They are similarly governed by FTC marketing practice requirements when advertising or labeling products as being manufactured by renewable energy. Without the RECs, they cannot legally do so. Further, businesses would be unable to count renewable energy use from those systems to federal, state or corporate climate goals or requirements.

What Are Renewable Energy Certificates?

Whenever renewable energy installations create electricity, two things are actually created — one physical and one virtual — the electrons and Renewable Energy Certificates (RECs). The electrons are the physical output of the installation that flow into the grid and mix with electricity from other generation sources. RECs are the virtual accounting mechanism, usually managed by a state- or regional-level organization, used to convey property rights to the environmental attributes associated with the electricity, such as the avoided emissions. One REC is produced for every megawatt-hour (MWh) of qualified renewable electricity generation — the amount produced in a year by less than 1 kilowatt of solar in most locations in the US.

REC ownership always starts with the project owner. The owner can sell them directly to a buyer or in a REC trading market, apply them to comply with a federal, state or corporate renewable energy or carbon policy requirements, or hold them for the future. Some states have solar specific RECs and policies, where they are known as SRECs.

RENEWABLE ENERGY CREDIT FUNDAMENTALS



How Are RECs Currently Handled?

Some community solar programs, such as California’s [Green Tariff Shared Renewable program](#), are legislatively required to retire the RECs on behalf of the subscriber. One program by [Consumer’ Energy](#) in Michigan, gives its subscribers the option to either have the REC retired on their behalf or to allow the utility to monetize the REC. Though, generally speaking, in most programs — including some of the largest programs like Salt River Project’s 20MW and City Utilities’ 5MW programs — the utility or community solar marketers retain the RECs. SEPA has found that this latter scenario plays out in approximately 66% of the community solar programs we track.

The Sacramento Municipal Utility District (SMUD) has an interesting history of REC management in their SolarShares program, which began in 2008. In the first phase, SMUD retained the RECs and applied them to their state renewable requirements because the project was being subsidized by a bill surcharge from all customers. The reasoning was that if all ratepayers bought down the price of the project, then all ratepayers should benefit from lower compliance costs. However, the next expansion was not subsidized and they are now retiring RECs

on behalf of their customers, neither counting them toward compliance, nor passing them on to customers. “RECs are increasingly important,” says Stephen Frantz, Project Manager at SMUD. “We are getting principles in place to prepare for the future, not just for community solar, but company wide so we have consistent policies across customer programs and compliance needs. It is not a frivolous issue.”

For context, the table below shows how RECs are most commonly treated across a variety of different types of utility and industry consumer renewable energy programs. REC ownership consistently stays with the project owner or program manager, no matter the program type.

There are contrasting economic and policy arguments for and against the program administrator retaining, and retiring or selling renewable energy certificates. In theory, REC ownership by the program administrator helps keeps program costs down as they monetize the RECs through sales or compliance offsets. Customers might logically support this approach, particularly in instances where the customer has limited or no ability to sell the RECs. Xcel Energy’s legislatively-required program in Minnesota, which has hundreds of megawatts of projects in their development queue, gives project developers the option to sell the RECs in the PPA. If sold, the utility in-turn pays those

RENEWABLE ENERGY CREDIT OWNERSHIP ACROSS COMMON CONSUMER SOLAR PROGRAMS

Entity	Most Common REC Ownership	What Happens to the RECs?
Utility-run Community Solar	Utilities own the RECs in most programs	Used for policy compliance, resold to other utilities or in REC markets, retired on behalf of customers, or held for future use.
Developer Community Solar	Solar developers own the RECs in most programs	Sold to utility in the PPA or REC market
Third-party solar lease or PPA on a home or business with net metering	Third-parties developers own the RECs	Sold in utilities, REC marketers* or REC market
Customer-owned solar installation with net metering	Consumer retains the RECs	Retired, held or sold to REC marketers
Utility Green Pricing Program	Utility retains RECs but...	...RECs most commonly remain separate from those used in policy compliance.
Green Marketer REC Program	Marketer retains RECs but...	...RECs are retired on customer behalf.

* A REC marketer or aggregator purchases and bundles RECs from various sources for resale.

garden participants 2-3 cents/kWh more for the use of the RECs, who cannot then claim to be ‘solar-powered.’

However, nationally there is little transparency or research into what degree prices reflect this REC management approach. Customers whose main interest is maximizing the full environmental benefit of their participation might have objections to RECs being applied to a state policy requirement and thus reducing the amount of renewable energy that otherwise would have been procured by the utility.

The issues can elicit passionate concern from industry advocates, as has been seen in REC ownership approaches in net metering in the past. At this point in community solar REC management, a program’s approach applies to all customers. However, as community solar programs grow, there may be merit to segmenting REC management by customer types or offering RECs as an option, with pricing differentials to reflect the underlying cost and project structures.

RENEWABLE ENERGY CREDIT VALUE ESTIMATES (AS OF Q4 2015 AND Q1 2016)*

1 REC = 1 MWh	Medium	High
Voluntary REC markets	< \$1	\$1
Compliance REC markets	\$15-20 (NJ, PA, MD)	\$45-50 (CT, NH, MA, RI)
Compliance SREC markets	\$15 (DE, OH, PA)	\$200-500 (NJ, MA, DC, MD)
Carbon equivalent value	\$4.55-\$4.61 (current)	\$8.75-\$15.38 (future)
Net Metering annual bill savings (comparison)	\$120	\$180

* Zero and low values are not shown, but are not uncommon depending on the REC owner type and the state.

Sources: REC price data [EERE \(via Marex Spectron\)](#); Carbon data a) Medium scenario: \$7.50/CO2 ton in [MA RGGI](#), \$13/CO2 ton in [CA Climate Policy Initiative](#), 0.7 lbs/kWh CO2 in CA & 1.23 lbs/kWh in MA; b) High scenario: \$25/CO2 ton w/ same emissions rates. NEM calculations based on 12 and 18 cents/kWh retail rates respectively.

How much is a REC worth?

REC ownership may be theoretically important, but how much money is involved, i.e., does it affect the participant’s wallet? REC values vary and are currently contingent on state renewable energy and

carbon policies and/or the liquidity of RECs in state or regional trading markets. The table below outlines approximate current REC monetary values in the United States in various markets and applications. These numbers assume the participant subscribed to enough solar panels or energy to produce a REC each year, i.e., 1 MWh. Many may not.

In some northeastern states RECs are worth more than the associated electricity. This is due to state policies that specifically value SRECs and the presence of regional trading markets that provide liquidity. In most other states, the REC value is less than 15% additional benefits above the bill savings value, if anything at all.

In the future, the price of carbon will likely begin to gain importance for REC valuation. The conversion of a REC to a carbon equivalent will vary due to the residual mix of generating assets within a given state. For example one REC (1 MWh) represents about 700 pounds of carbon offsets in California but 1,200 pounds in Massachusetts. As of December 2015, carbon was trading at \$7.50/ton of carbon dioxide equivalent gas in Massachusetts and \$13/ton in California, which would make a REC’s carbon value worth only about \$4.50 in both states. However, even at \$25 per ton, a REC converted to a carbon value would be no more than 12% of the electricity’s value.

The Takeaway

The combination of regulatory interest, potential lawsuit and stakeholder interviews all point toward the growing importance of REC management and program marketing as community solar programs expand. The questions of how to manage RECs and what marketing language to use would be ideally considered in the program design phase. However, for utilities and developers with existing community solar programs, it is not too late to review marketing language and adjust if necessary. The approach to managing RECs is going to vary among community solar providers based on the organizational program goals, consumer preferences, federal and state policies, and regional REC market specific factors. The approach to marketing should be more straightforward; use direct language clearly stating how the RECs are handled. Certainly, being prepared for the issue is better than reacting to it when regulators, lawyers, or the media inquire.