CRS center for resource solutions

Solar Energy on Campus

Part I: Renewable Energy Usage Claims

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As centers of innovation and social progress, more colleges, universities, and other higher education institutions are pursuing clean energy solutions—in particular, solar energy.

Before moving forward with solar for your institution, it is important to understand how various solar purchasing options align with the institutional goals you hope to meet. Importantly, your institutional goals might manifest in certain benefits and claims that you and your colleagues plan to make, which could be rendered inaccurate based on the structure of your chosen purchasing option. Failing to understand or consider the relevant purchasing mechanisms involved in transactions of renewable energy could negatively affect the non-financial or environmental value of your investment in solar.

Institutional goals might include:

1. Using renewable electricity to power your institution
2. Reducing your institution's carbon footprint by switching to solar power
3. Meeting commitments under external initiatives and partnerships like the White House's American Campus Act on Climate Pledge, the Climate Leadership Commitment, or the Environmental Protection Agency's (EPA's) Green Power Partnership
4. Protecting against fluctuations in electricity prices
5. Investing in renewable energy generation

Goals one through three represent renewable energy usage claims—meaning they communicate and require use or consumption of renewable energy. In order to make such claims and meet these goals, you must demonstrate that you are using specified solar generation that has not been double counted, delivered to someone else, or claimed by another consumer. Ownership and retirement of renewable energy certificates (RECs) are required for such claims. This document describes renewable energy certificates, why they are important, and what kinds of statements can be made depending on who owns them. A follow-up document will outline how REC ownership is conveyed under various solar purchasing options.

What Is a Renewable Energy Certificate?

A REC represents the environmental benefits and other generation attributes of one megawatt-hour (MWh) of renewable energy generation on the electricity grid. For every MWh of renewable electricity that is produced, two commodities are generated—1 MWh of electricity that goes on the grid, and 1 REC. RECs track and account for delivery and use of renewable energy. The shared electricity grid requires that renewable energy purchases be verified contractually using RECs. Only the entity who owns the REC can legally claim to be using renewable energy.

Renewable Energy Certificate Markets

In the U.S., electricity providers and utilities purchase and retire RECs from renewable energy generators in order to demonstrate delivery of renewable energy to their customers—both to comply with state requirements, such as through a Renewable Portfolio Standard (RPS), and to meet voluntary demand for renewable energy, such as through a voluntary green power option (often called a "green pricing program"). RECs are used by consumers—companies, institutions, and individuals—to substantiate claims to be receiving or using renewable energy. In short, RECs are part of the machinery of electricity markets in the U.S., and they function as the currency for renewable energy in both compliance and voluntary renewable energy markets.

What Is a Renewable Energy Usage Claim?

A renewable energy usage claim is a statement that expresses or implies renewable energy use or consumption. Such as:

Renewable Energy Certificates Explained

When electricity is generated from a renewable energy generator it is indistinguishable from electricity produced by any other resource. Whether the electricity is delivered to the shared electrical grid and mixed with electricity from other resources or it is delivered onsite and stays with the facility, the specific electrons produced cannot be tracked. Renewable energy certificates (REC) allow for tracking and accounting for renewable energy generation. A REC is created for every megawatt hour of renewable electricity generated. This certificate proves that one megawatt hour of renewable energy was generated, and it embodies all the generation attributes, including the environmental benefits, of that megawatt-hour. RECs are the contractual instrument that represent renewable energy use, and give you the right to claim to be using renewable energy. Whoever owns the certificate produced by a generator can claim to be using that megawatt-hour of renewable energy.

In order to use renewable energy or make a public claim about using or being powered by renewable energy, the associated REC must be retired to prevent another party from making a claim on that same megawatt-hour of electricity. When you retire a REC and use it towards your electricity usage, you remove it from the market and prevent it from being sold or traded in the future. This retirement can either be done through a tracking system, or contractually. Either way, the ability to claim use of renewable energy is conferred not through the electrons, but the REC.

- "This institution is powered by clean energy."
- "We are powered by solar energy."
- "By installing solar panels we have reduced our carbon footprint."
- "We purchase our electricity from a solar facility."
- "We went solar and reduced our carbon footprint!"

Making Renewable Energy Usage Claims

The Federal Trade Commission (FTC) has published multiple resources providing guidance on renewable energy claims, including the Green Guides, which outline criteria for accurate environmental marketing. In addition to the FTC, many states have similar guidance requiring that RECs accompany renewable energy claims. Organizations like the EPA and Center for Resource Solutions (CRS) have also produced guidance for voluntary certification and recognition programs.

In order to make legitimate solar energy usage claims:

1. **You must be the exclusive owner of, or have exclusive right to, the REC for the renewable generation you're claiming.**

Your contract or purchase agreement for solar power should clearly indicate who owns the RECs. Look out for language that prohibits you from making renewable energy usage claims or that states that the RECs or environmental attributes are retained by your supplier.

Your local electricity provider might offer to purchase your RECs either directly or indirectly through an incentive which, if you accept, conveys REC ownership and the right to claim use of renewable generation to your electricity provider. If this happens, your electricity provider may sell the RECs to a different party or use the RECs to meet obligations associated with an RPS. If this is the case, it means you cannot claim to be using renewable energy from the facility. You may be able to make other claims related to generating solar power, supporting solar development, or helping your state or region meet its renewable energy goals, so long as you are clear that you are not using renewable energy.

2. **The RECs must be tracked and transferred in an electronic tracking system or through a legally enforceable contract.**

Ask how the RECs are tracked and accounted for. Ask if the solar facility has been registered in a tracking system. If it has not, ask how RECs are calculated and retired. If the facility is registered in a tracking system, ask how you know that the RECs are being retired in your name and that no other claims are being made on the electricity. A REC is "retired" when it is used by its owner, either in association with a renewable portfolio standard or a voluntary claim on the renewable energy. Once a REC is retired it can no longer be sold or transferred to another party. If a REC is in a tracking system, REC retirement involves the placement of the REC in a "retirement account" from which it can never be removed.

3. **The REC has to be fully aggregated, so individual environmental attributes of renewable energy, like carbon attributes, cannot have been sold off, used to create other instruments like carbon offsets, or used by another party or policy/regulation.**

This may be specified in the operating rules of the tracking system, if the facility is registered in one. If not, make sure the contract is clear that all environmental attributes are fully aggregated and delivered to you.

4. **RECs should be applied to consumption that occurs within close temporal proximity to the time of REC generation.**

When making claims about your solar energy use, the solar RECs you own (or that have been retired on your behalf) must be associated with generation that occurred recently, as opposed to RECs that were generated many years ago or that will not be generated for many years.

5. **Specify: resource type, quantity (e.g. in kWh), time period of consumption, and consumption covered.**

Transparency is important. The more details you can provide about the solar energy you use and what you are using it for, the more robust your claim will be. At a minimum, it is important to indicate the type of renewable energy, the amount (as a percent-of-use or total kWh), and the timeframe the purchase is associated with. If the renewable energy purchase only covers a portion of your operations, be specific on which portion it covers.

Third-party certification for renewable energy is available that will provide many of these assurances. Green-e® Energy, for example, verifies exclusive ownership of fully aggregated RECs and protects against double counting and false claims, along with other assurances. Look for certified utility programs, electricity products, and REC products. You can also request third-party certification for direct power purchase agreements and onsite consumption or self-generation. Other purchaser recognition and claim verification programs, such as EPA's Green Power Partnership and Green-e Marketplace, are available to verify specific claims and provide guidance for public statements

See the CRS website at www.resource-solutions.org/learn/rec-claims-and-ownership for a full list of additional resources about RECs and renewable energy usage claims.

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