



CRS

center for
resource
solutions

Additionality and Renewable Energy Certificates

Understanding the value of REC claims

Updated March 7, 2016

Additionality is a term used in markets for tradable greenhouse gas (GHG) emissions reductions (carbon offsets). It means that a project or activity that reduces GHGs would not have happened without the offset buyer or collective buyers in the market. In a business-as-usual scenario—where the market for offsets didn't exist—the project would not have taken place. So, additionality enables offset buyers to claim to be reducing emissions.

While it is one of the most important qualities for carbon offset projects, additionality is not required for renewable electricity generators to create Renewable Energy Certificates (RECs), which embody the generation attributes of one megawatt-hour of renewable energy generation. Additionality is not required in order for REC buyers to claim use of renewable electricity, or the reduced carbon footprint that comes from switching to renewable electricity. Even without additionality, REC buyers are still impacting the development of new renewable resources.

Why Isn't Additionality Required To Claim Use Of Renewable Energy Using RECs?

A consumer can purchase and use renewable energy without having to demonstrate that their purchase caused that renewable energy to be created. The consumer gets the benefits of using that clean energy. Their choice still affects their own usage and may still have an impact in the electricity market by increasing demand for renewable energy. This is how consumers affect demand-side change in any market for any product.

Because all electricity is identical and electrons can't be tracked, use of renewable electricity generation on a shared distribution grid is determined contractually. In the U.S., RECs are the legally enforceable contractual instrument for verifying use and delivery of renewable electricity on the grid. RECs demonstrate the use of a clean electricity product.

They enable suppliers and utilities to deliver renewable electricity to specific customers (both through state programs and in response to voluntary demand) and they allow grid customers to claim use of renewable electricity.

RECs and renewable electricity may be sourced from new or existing renewable energy generators that were built for a variety of reasons without affecting a consumer's claim to be using that generation or to the benefits of that generation, which is nevertheless proved with RECs. An individual renewable energy purchase may not result in the creation of new renewable generation or a new renewable plant to supply that renewable electricity. Nonetheless, the purchaser may legitimately claim to have changed their usage and reduced their environmental impact, regardless of additionality.

In 2015, The Greenhouse Gas Protocol, a joint initiative of the World Resources Institute (WRI) and World Business Council on Sustainable Development (WBCSD), released new guidance on how companies should calculate and report their GHG emissions from purchased electricity—Scope 2 GHG emissions.¹ The guidance “does not require that contract instruments claimed [...] fulfill criteria such as offset ‘additionality’ or prove the overall market impact of individual purchases or supplier programs result in direct and immediate changes in overall supply” in order for RECs to be used to reduce a consumer's Scope 2 emissions (p. 90). It says: “[a]ll energy has a direct emissions factor associated with generation, and the use of that emissions factor does not depend on whether the generation facility is existing or new, or why the generation has occurred. [...] [R]egardless of what causes the project to be built, the energy attribute certificate still serves as the instrument conveying claims about the attributes of the underlying energy generation for consumers purchasing that generation” (p. 91).

Since RECs are the way to purchase and use renewable energy, they are also the way for consumers to affect

demand-side change in the market for electricity and send market signals to producers. Consumer choice, in aggregate, can affect what gets produced and how. Demand for renewable energy can affect dispatch order and drive new development of renewables over time. But also, there are ways to increase the impact of a purchase, in the market and on the grid, and the fact sheet *How RECs Make a Difference* explains and explores some of these.

The Importance Of Regulatory Surplus

Renewable energy generation that is not used to meet governmental targets, laws, or legal mandates is called “surplus to regulation.” The market refers to this as “regulatory surplus” (sometimes called “regulatory additionality”). It is not required that renewable energy meets this standard to establish exclusive ownership, but two important points should be noted:

1. For certain policies, regulatory surplus is required to avoid double counting.

Regulatory surplus is required to demonstrate exclusive consumption of renewable energy by voluntary buyers where the law or goal in question requires delivery of renewable energy to grid consumers, such as in the case of a state Renewable Portfolio Standard (RPS),² where a state requires utilities and other electricity providers to provide all their customers with a minimum percentage of clean energy. RECs are for delivery and consumption claims. A REC used to deliver renewable energy for state RPS compliance cannot also be claimed by a voluntary consumer, since a single megawatt-hour of renewable electricity cannot be delivered twice or to more than one party.

2. Without regulatory surplus, voluntary renewable energy consumption will have a reduced demand-side impact on renewable energy development.

Without regulatory surplus, voluntary actions to purchase and develop renewable energy may not go beyond what is required by law, and will only support compliance with state laws or help meet state targets rather than go beyond them. As such, regulatory surplus is important to sustain clear voluntary claims and help drive the development of renewable energy beyond what is already required.

Carbon offsets reduce GHG emissions, and additionality is necessary to ensure the reductions can be attributed to the offset buyer. RECs, on the other hand, deliver renewable energy generation and the associated emissions, and in doing so, reduce GHG footprints. Project additionality is not necessary to convey use of renewable generation or to assign emissions to particular consumers. Neither is additionality necessary for RECs to provide a market signal for more renewable and zero-emitting energy. The purpose of the voluntary renewable energy market and of the REC instrument is to allow grid customers to demand and access output from new and existing renewable facilities so that demand can be aggregated and consumer preference can drive the development of renewable energy across the market. Since the late 1990s, REC markets have made a significant impact on the development of new renewable energy. See the fact sheet *How RECs Make a Difference* to learn more about how the voluntary market can help encourage the development of new renewable energy, and how consumers can increase their support of markets for renewable energy and maximize the impact of their purchases. ●

NOTES

1. For full guidance and executive summary, see: www.ghgprotocol.org/scope_2_guidance, or www.wri.org/publication/ghg-protocol-scope-2-guidance.
2. The United States currently has RPSs in place in 29 states, Washington, D.C., and three territories.



CRS

center for
resource
solutions

Center for Resource Solutions 1012 Torney Ave. 2nd Floor; San Francisco, CA 94129 | 415-561-2100 | www.resource-solutions.org