

What is a Renewable Energy Credit?

*Published June, 2013
Updated February 2014*

The essentials

- In the U.S., when electricity is generated by a renewable energy source, two products are created: electricity and a Renewable Energy Credit (REC).
- A Renewable Energy Credit (REC) represents the non-power attributes of a kilowatt hour of electricity from renewable energy. These attributes include renewable benefits (such as hedging against fossil fuel price increases) and environmental benefits (such as avoided pollutants).
- The Arizona Corporation Commission requires regulated utilities to demonstrate their compliance with the Renewable Energy Standard and Tariff (REST) by obtaining RECs.
- RECs can be bundled or unbundled, and traded, bought or sold in markets such as the Western Renewable Energy Generation Information System (WREGIS).

Policy

When electricity is generated by a renewable energy source, two products are created. One is the physical electricity created, while the other is the Renewable Energy Credit (REC). One REC is produced for every one kilowatt hour of renewable energy.¹ A REC is not a unit of power, but rather a representation of property rights to the attributes listed in Fig. 1:

Primary REC Attributes	Secondary REC Attributes
<ul style="list-style-type: none"> • Renewable fuel source • Emissions of the renewable generation • Geographic location of the generator • Vintage of the generator • Eligibility for certification or RPS 	<ul style="list-style-type: none"> • Avoided emissions • Price stability

Fig. 1 What a REC represents.

Source: <http://www.epa.gov/greenpower/gpmarket/rec.htm>

Electrons generated from coal plants are indistinguishable from electrons generated by photovoltaic solar panels, so RECs allow the holder to verify that they purchased all the additional benefits of electricity from renewable sources.

¹ [REST § R-14-2-1803\(A\)](#)

RECs and the REST

Through its Renewable Energy Standard and Tariff (REST), Arizona (and 28 other states with renewable portfolio standards) requires utilities to own RECs to show compliance. RECs obtained during the previous year are reported on a utility's yearly compliance report, which is reviewed by the Arizona Corporation Commission.

In Arizona, RECs are expressly the property of the owner of the renewable energy system that created that REC,² and the owner is free to sell or trade their RECs. The distributed generation (DG) carve-out within the REST requires regulated utilities to obtain 30% of their retail sales of renewable energy from DG systems, such as rooftop solar installations.³ Utilities currently obtain DG-related RECs from solar installation owners by offering up-front cash incentives in exchange for the generated RECs.

REC markets

A REC can be sold or traded in a compliance trading market. Generally, they are purchased by a utility from an independent renewable energy producer to meet their renewable energy standard target.

RECs are also purchased in voluntary markets by other commercial enterprises to support renewable energy generation. The [Western Renewable Energy Generation Information System](#) (WREGIS) is a database of renewable energy generated within the Western Interconnection (the electrical grid throughout the western U.S.), and one such platform for REC trading in the west.

Learn more:

Arizona's REST, R14-2-1801 et. seq.:

http://www.azsos.gov/public_services/Title_14/14-02.htm#ARTICLE_18

EPA, "Renewable Energy Certificates"

<http://www.epa.gov/greenpower/gpmarket/rec.htm>

AND http://www.epa.gov/greenpower/documents/gpp_basics-recs.pdf

WREGIS

http://www.epa.gov/greenpower/documents/gpp_basics-recs.pdf

² [REST § R-14-2-1803\(C\)](#): "A Renewable Energy Credit is owned by the owner of the Eligible Renewable Energy Resource from which it was derived unless specifically transferred."

³ [REST § R-14-2-1805\(B\)](#)