

Solar Purchase Power Agreements Brief Sheet

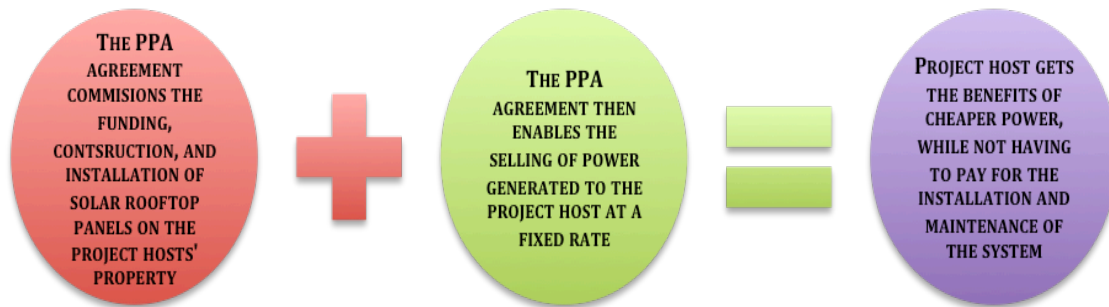
The Essentials

- A Power Purchase Agreement is a contract between multiple parties, one who generates electricity for the purpose of sale (the seller) and one who is looking to purchase electricity (the buyer).
- The PPA defines all of the commercial terms for the sale of electricity between the two parties, including when the project will begin commercial operation, schedule for delivery of electricity, penalties for under delivery, payment terms, and termination.
- A PPA is the principal agreement that defines the revenue and credit quality of a generating project and is thus a key instrument of project finance.
- There are many forms of PPA in use today. PPA's vary according to the needs of buyer, seller, and financing counterparties.
- PPA's have grown popular because the installation, operation, and maintenance costs associated with rooftop solar systems can be overly expensive for individual property owners.

Policy details

Rooftop solar systems can be expensive to construct, implement, and maintain. With a Solar Purchase Power Agreement ("PPA")¹ a third party owns, constructs, and maintains the panels, while the property owner ("the Host") buys the power generated from the panels. The Host will enter into a contract in which they buy the power generated from the solar system. PPA's spread out the costs and benefits of solar installation to both users and owners. Generally the purchase price of the power is at a flat rate, set lower than conventional retail energy rates; this benefits the Host. The other parties in the PPA contract get tax benefits and a guaranteed power purchaser over the life of the contract. These benefits lower costs for the other parties over the lifespan of the contract. Generally a contract between the PPA and the Host is executed for 10 or more years to guarantee the delivery of the power from the solar panels.

¹ Sometimes a PPA will be called an "SPPA" which stands for Solar Purchase Power Agreement, the terms may be used interchangeably.



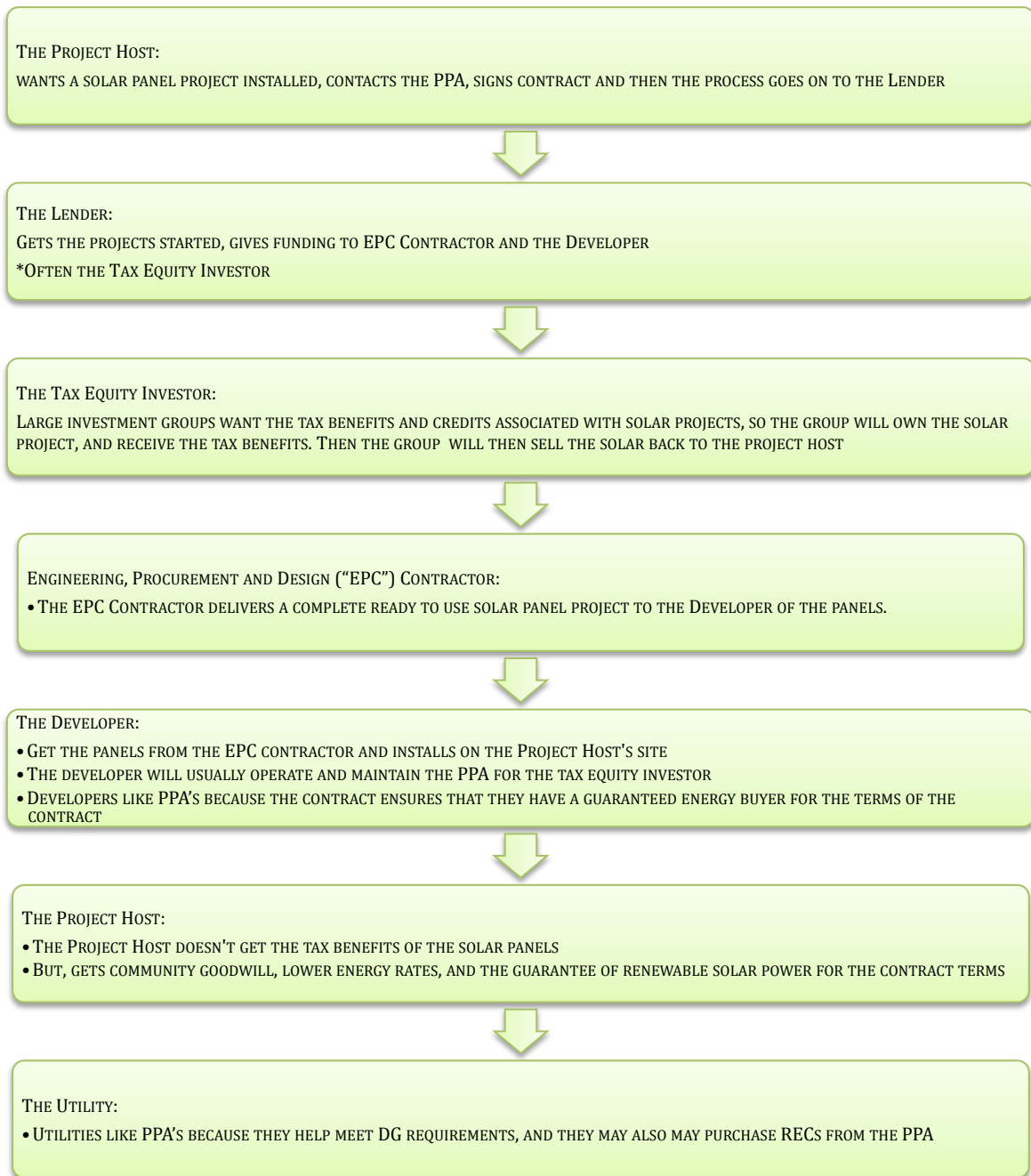
Arizona utilities regulated by the Arizona Corporation Commission (“affected utilities”)² use PPA’s to meet their distributed energy requirements (“DG”) under the Renewable Energy Standard and Tariff (“REST”).³ In 2011 the REST rule required all affected utilities were to have 25 percent of their RECs come from DG sources. And, per the REST rules, half of the required 25 percent of DG sources must come from residential systems and the other half must come from non-residential systems. The DG requirement increases in an upward ladder-like function until 2025, where the REST goal is met, and 4.5 percent of total retail sales must come from DG’s. Affected utilities can also buy Renewable Energy Credits (RECs) from major PPA projects to help meet their REST DG requirements. A REC represents the property rights to the environmental, social, and other non-power qualities of renewable electricity generation. A REC and its associated attributes and benefits can be sold separately from the actual physical electricity associated with a renewable-based generation source.⁴

The basic “players” of a PPA and their involvement in the PPA implementation process are listed on the next page:

² "Affected Utility" means a public service corporation serving retail electric load in Arizona, but excluding any Utility Distribution Company with more than half of its customers located outside of Arizona" Source: A.C.C. R14-2-1801(A). Affected Utility is defined by the Arizona Constitution, Article 15, Section 2: *All corporations other than a municipal engaged in furnishing gas, oil, or electricity for light, fuel, or power . . . shall be deemed public service corporation.*

³ The REST requires all regulated electrical utilities to obtain 15 percent of their retail generated energy from renewable resources by 2025. Starting in 2007, utilities must follow a compliance schedule to meet reduction goals. Source: A.A.C. R14-2-1801 through A.A.C. R14-2-1816. Pursuant to A.A.C. R14-2-1805, the REST’s Distributed Renewable Requirement mandates that a certain percentage of the renewable energy come from Distributed Renewables, which are residential installations (like roof-top solar panels) and nonresidential, non-utility applications (like roof-top solar panels on a car dealership); basically, a power generating renewable energy source that is not owned by the utility. Sometimes a “DR” is called a “DE” or “DG”(for Distributed Energy or Generation).

⁴ Source: A.A.C. R14-2-1803 and <http://www.epa.gov/greenpower/gpmarket/rec.htm>



Additional Policy Details

A PPA is not regulated by the Arizona Corporation Commission (“ACC”) because it was deemed to not be an “affected utility” in a 2010 ACC decision, *In the Matter of the Application of SolarCity Corporation*.⁵ Only “affected utilities” may be governed

⁵ The case, *In the Matter of the Application of SolarCity Corporation*, held that a PPA was not a public service corporation when it provided services to schools, governmental entities or non-profits and when it only provided energy to a single customer, upon whose property the energy system was located. ACC Docket No. E-20690A-09-0346

Case available at: <http://images.edocket.azcc.gov/docketpdf/0000114068.pdf>

by the ACC.⁶ Regulations regarding PPA's in other states also face legislative challenges due to the difficulty in defining PPA's as something different from a utility company.⁷

In Arizona, PPA's are allowed to Net-Meter, which provides an additional financial incentive to PPA's.⁸ Net-Metering laws, allow customers to offset the energy produced by PV solar panels sited on their property against regular energy use with monthly electric bill credits, encourage solar installations and PPA development. Arizona has had a net metering law in place since 2008, and made legally effective in 2009.⁹

Remaining questions, concerns or points

- ***Solar Leases:***

Solar Panel Leases are different from PPA's: With a third party lease, instead of purchasing a system, a Project Host will lease the system from the third party owner of the solar system, pursuant to a contract lease agreement. The Project host pays a set rate (generally monthly) to use the system and consume the power generated by the system. The solar lease-holder will, ideally, save money by locking in an energy rate to avoid an eventual rate increase. The net-metering rules allow the customer to still receive monthly bill credits with a solar lease system. The combination of the monthly lease payment and a lower monthly utility bill, because of the credit, is generally lower than a traditional energy bill.¹⁰

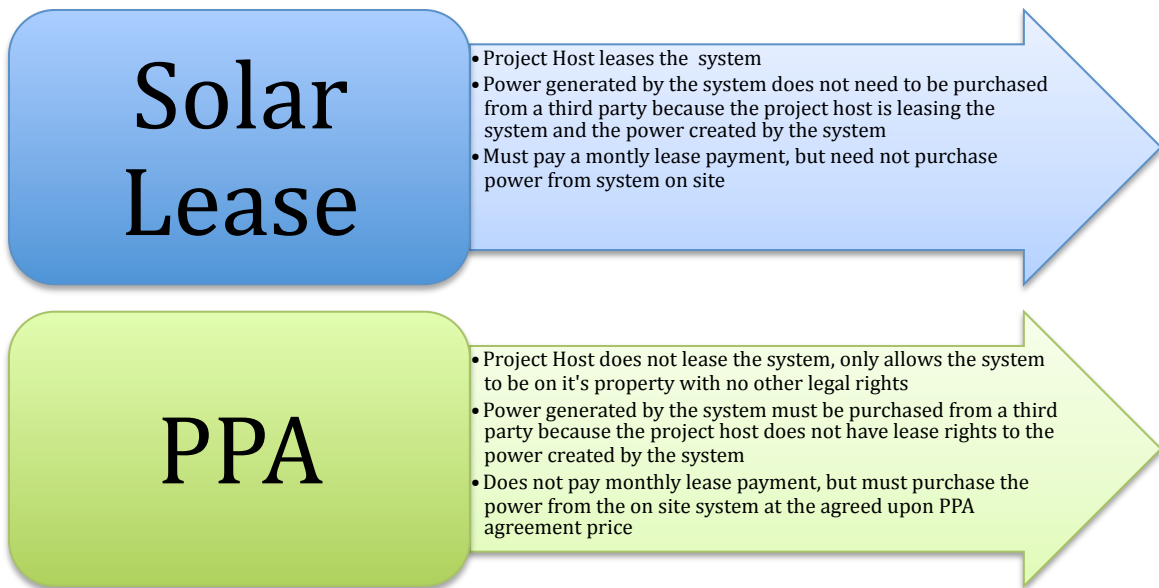
⁶ see note 3.

⁷ Source: NREL, Solar PV Project Financing: Regulatory and Legislative Challenges for the Third-Party PPA System Owners. <http://www.nrel.gov/docs/fy10osti/46723.pdf>

⁸ Net-Metering explained: The Arizona Net Metering Rule allows customers to receive credit for excess electricity they generate from renewable energy installations at their home or business. It is measured with a bi-directional meter. Both electricity purchased from the utility and electricity generated by the customer is measured with a bi-directional meter. The meter is installed on the property of the customer. Any net excess electricity generated in one month is carried over as a kilowatt-hour credit onto the customer's next bill. See A.A.C. R14-2-2301 *et seq.* and A.A.C. R14-2-1811.

⁹ Source: http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=AZ24R

¹⁰ Source: NREL, Solar Leasing for Residential Photovoltaic Systems (October 2009) <http://www.nrel.gov/docs/fy09osti/43572.pdf>



• **Expiring Tax Credits:**

An important incentive for PPA's is the Federal Investment Tax Credit ("ITC") and the Residential Solar Investment Tax Credit ("RITC"). Both credits were extended in 2008 when the President signed the Emergency Economic Stabilization Act.¹¹ The ITC and RITC reduce federal income taxes by crediting the investor in the project for 30 percent of his investment costs.¹² The Tax Equity Investor in a PPA is the qualified tax-paying owner because of his capital investment in the solar panel project. Thus, the credits are where the Tax Equity Investor garners his or her profit.¹³ As noted above, there is fear that the solar industry may face a market contraction soon due to pending incentive expirations in 2016.¹⁴

Read more

See the U.S. Environmental Protection Agency's Explanation of PPA's:
<http://www.epa.gov/greenpower/buygp/solarpower.htm>

¹¹ Source: <http://www.azsolarcenter.org/images/docs/economics/SEIA-ITC-Frequently-Asked-Questions-10-24-08.pdf> and

¹² Source: 26 USC § 48 and

http://dsireusa.org/incentives/incentive.cfm?Incentive_Code=US02F&re=1&ee=1 and see note 11

¹³ *Id.*

¹⁴ Source: Thompson, Valerie. U.S. Solar Market Threatened by Sharp Fall in Subsidies by 2014. PV Markets & Tech Magazine (April 25, 2012) http://www.pv-magazine.com/news/details/beitrag/us-solar-market-threatened-by-sharp-fall-in-subsidies-by-2014_100006535/#axzz1wxL7khuK