INFORMATION PAPER

Solar Power Purchase Agreements: the good, the bad, and the ugly

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Founded in 1980, the Alternative Technology Association (ATA) is a national, not-for-profit organisation whose 6,000 members are (mostly residential) energy consumers. About 2,500 of our members are Victorian.

Our extensive experience in energy policy and markets and in the real-world application of a range of energy technologies gives us a solid knowledge base from which to develop a diversity of information resources on energy issues Australia-wide.

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Overview

Solar Power Purchase Agreements (SPPAs) are a relatively new energy product that can make home solar generation more accessible to people of modest financial means. However there are a few potential pitfalls, especially where SPPAs are used to help households in hardship.

What is a Solar Power Purchase Agreement?

An SPPA is a financing arrangement to provide solar energy to a home or business at no (or minimal) upfront cost. The provider installs and maintains a solar generation system on the roof of the property, and the customer purchases the electricity generated by the system at a significantly lower per-kWh price than typical retail tariffs. The contract may last anything between seven or 20 years, and the per-kWh price may be fixed or it may periodically increase by a predetermined amount. The solar system remains the property of the provider for the length of the contract, after which (depending on the contract) ownership may pass over to the customer or it may remain with the provider – who may sell it to the customer or remove it.

Why choose an SPPA rather than the alternatives?

A household may choose an SPPA instead of purchasing a system because they can't afford the upfront cost (or don't qualify for a loan); or because they are unwilling to commit to that capital outlay. Some energy retailers give SPPAs to households in entrenched energy hardship to help lower their energy costs. An advantage of an SPPA over an owned or leased system is that the 'volume risk' lies with the provider: if it generates below expectation, the customer pays

proportionately less and is not stuck having paid full cost for an underperforming system. Of course, an appropriately financed solar system is cheaper all up than an SPPA, and good pre-purchase advice and correct scaling and siting should ensure generation within expectations. Nevertheless, SPPAs are an achievable and affordable way for a low-income household to get the benefits of solar when they can't afford the upfront cost.

Consumer risks with SPPAs

The risk with any solar generation system is that the financial payback period may be unduly extended due to low generation or low *usage* of generated electricity. Any generated electricity not used on site is fed into the electricity grid, and a feed-in tariff (FiT) is paid to the solar household for that energy. When FiTs were high, this was no problem (and in fact was a benefit where FiTs were higher than retail tariffs). But now that FiTs are much lower than retail rates, excess generation is worth much less than generation used on site (which is worth the retail rate that it is offsetting).

This raises the prospect of a truly perverse outcome for households in hardship that have been given SPPAs to help lower their costs. If they can't use all the electricity they generate, they may be paying the SPPA rate (perhaps 15¢) for each kWh of excess generation, and reselling it back to the grid for the FiT (perhaps 5¢/kWh) –effectively paying 10¢ for every kWh they generate but can't use. If their system is poorly matched to their usage profile, this could be a financial disaster.

What can be done?

Some SPPA providers discount the cost of unused generation to the FiT rate, ensuring that customers only end up paying for the energy they use.[1] This shows that this approach can work without disrupting the SPPA business model. Obviously the best approach is for providers to scale systems appropriately (accounting for household size and usage patterns), as well as to ensure customers understand the time-sensitive nature of solar generation and household energy usage.

In our view, a requirement that SPPA providers discount unused generation to the FiT rate (at least for concession households, and perhaps with an agreed minimum purchase amount) provides appropriate protection for vulnerable households and provides a good incentive for SPPA providers to scale systems appropriately, and educate their customers about living with solar.

[1] For example, Express Power (see http://www.expresssolar.com.au/power-purchase-agreement)