

Animal Outlook

Solar PPAs

I. Question Presented

The growth of renewable energy use in the United States has been fueled, through policy incentives like tax credits, in large part by the development of solar Power Purchase Agreements and other third-party developer arrangements. Can former animal farmers use these arrangements to convert their farming sites into solar generation sites, and is this a viable alternative business pursuit for these farmers?

II. Short Answer

Because SPPAs are primarily a mechanism for energy consumers with real property ownership or leases to install renewable energy systems without the associated upfront costs, they do not represent a viable, comprehensive alternative for former animal farmers looking to transform their business. However, solar PPAs may make financial sense as part of a long-term strategy for entering into the renewables field, or simply as a method for cutting costs and increasing property values as these farms undergo transformation.

III. Background and Analysis

A. How Do SPPAs Work?

An SSPA is a financial arrangement which allows a person or entity owning requisite property to become a host for a solar services provider to develop a Photovoltaic system on its site. Under such an arrangement, the solar services provider offers financing for development, installment, and management of the system through capital from outside investors, while the host

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provides the site and installment access.¹ The host agrees to purchase power generated by the system at a specified price², typically lower than the rate charged for blended power provided by the local utility.³

Other participants in a SPPA include the investors providing the financing to the solar services provider, as well as the utility providing interconnectivity to the grid for excess power generated from the system. An alternative to SPPA is a solar lease, which is a similar arrangement under which the host agrees to pay a fixed monthly amount corresponding to a lease of the system, rather than agreeing to purchase the power generated by the system as in a PPA.⁴

The primary advantage of solar PPAs and solar leases for hosts is to provide a predictable price of power over a long period. The arrangement can either provide for a “fixed” elevator model which would set progressive price increases, typically at a lower rate than increases in local utility prices, or the agreement can simply provide one fixed price. In either scenario, the host saves on power at little to no upfront cost.⁵ Another notable if contingent advantage is the projected added property value caused by presence of a PV system at the site. If the host decides to acquire the system down the line, it can make a profit in any future sale, having avoided the cost of the initial installation and given the discounted price at which the acquisition occurs post-PPA.⁶

¹ Solar Power Purchase Agreements, EPA(2017), <https://www.epa.gov/greenpower/solar-power-purchase-agreements> (last visited Jan 24, 2019).

² Solar Leases & PPAs, ENERGY SAGE, <https://www.energysage.com/solar/financing/solar-leases-and-solar-ppas/> (last visited Jan 24, 2019).

³ Solar PPA Financing, SUNPEAK SOLAR PV PROJECT AT CENTRAL STORAGE & WAREHOUSE 741kW MADISON WI | SUNPEAK.COM, <https://www.sunpeakpower.com/solar-ppa-financing> (last visited Jan 24, 2019).

⁴ [See supra Note 2](#)

⁵ Solar Power Purchase Agreements, SEIA, <https://www.seia.org/research-resources/solar-power-purchase-agreements> (last visited Jan 24, 2019).

⁶ Manatt, Phelps & Phillips offers a useful bullet-point list of important provisions hosts should negotiate for when entering into SPPAs at the following: <https://www.manatt.com/Insights/Newsletters/Energy-Law/Getting-the-Best-Solar-PPA>.

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B. Relevancy to Transformation of Animal Farms

Importantly, a host participant under an SPPA acts as a customer, while the solar developer retains ownership of the PV system itself. Thus, the host cannot directly profit from the power generated on its property. Therefore, the initial role of SPPAs in facilitating the transformation of existing animal farms would lie in reducing operation costs of the facility as a whole, rather than providing former animal farmers with a viable new business operation.

Once the period of an SPPA (typically 6 years for shorter, up to 25 years for longer-term agreements), hosts have the option to purchase the PV system at a price highly discounted from the original development cost, or to extend the agreement.⁷ Upon purchase, all of the benefits which previously flowed to the solar services developer now flow to the former host, including revenue from Electricity Sales. The new owner of the system can then also benefit from the federal tax incentives and renewable energy credits (RECs) generated by the project, where available, and will in some cases be able to sell the associated RECs to its utility, where a market exists (i.e. where state law provides for renewable portfolio standards).⁸

One possibility for farmers looking to incorporate SPPAs into a transformed business may be to marry their solar installations with a new business in sustainable crop agriculture. Depending on the amount of space on a given farm property, hosts may be able to plant native crops underneath and around the solar installations, and reserve part of their property for other crops which would benefit not only from the presence of an efficient, lower-cost energy source,

⁷ Solar PPA Financing, SUNPEAK SOLAR PV PROJECT AT CENTRAL STORAGE & WAREHOUSE 741kW MADISON WI | SUNPEAK.COM, <https://www.sunpeakpower.com/solar-ppa-financing> (last visited Jan 24, 2019).

⁸ Understanding solar renewable energy certificates (SRECs), ENERGY SAGE, <https://www.energysage.com/solar/cost-benefit/sreCs-solar-renewable-energy-certificates/> (last visited Jan 24, 2019). For more information on Public Claims for Solar Photovoltaic Systems and RECs, the Center for resource solutions offers a helpful (if a bit dated) report: <https://www.green-e.org/docs/energy/Solar%20FAQ%20and%20Claims.pdf>

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but also from native and healthy pollinators attracted to the native plants near the panels. Indeed, agricultural production has been shown to benefit from such arrangements, and pilot programs of such “dual-use” farms have shown early success in the United States and abroad.⁹

C. Regulatory Framework

The Federal Energy Regulatory Commission oversees PPAs initially, but the ultimate regulatory burden associated with engagement in a PPA will vary by state. Fifteen states have specifically enacted Power Purchase Agreement Statutes, which typically place the public utility in charge of oversight and monitoring for PPAs.¹⁰ The solar developers will take on the bulk of any administrative or regulatory charges associated with a PV project. The host will typically only be on the hook for smaller or local ordinance charges, like ensuring roofs are up to local code.¹¹

The statutory framework for Arkansas, for example, authorizes utilities to enter any PPA for a term shorter than five years. Arkansas state law requires approval by the Arkansas Public Service Commission for longer-term agreements. Approval may only be granted, per the statute, provided the commission make certain findings. Among others, the commission must find the cost agreed to under the arrangement is “reasonable and prudent,” and that the agreement is “required by public convenience and necessity.”¹²

D. Infrastructure and Location

⁹ Energy and food together: Under solar panels, crops thrive, PUBLIC RADIO INTERNATIONAL, <https://www.pri.org/stories/2018-06-08/energy-and-food-together-under-solar-panels-crops-thrive> (last visited Jan 24, 2019).

¹⁰ State Policies for Power Purchase Agreements, , <http://www.ncsl.org/research/energy/state-policies-for-purchase-agreements.aspx> (last visited Jan 24, 2019).

¹¹ Solar Power Purchase Agreements, SEIA, <https://www.seia.org/research-resources/solar-power-purchase-agreements> (last visited Jan 24, 2019).

¹² Ark. Stat. Ann. §23-18-108

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The great advantage of such a scheme is that once the upfront costs of developing a solar panel system through this third-party provider arrangement are addressed, the actual infrastructure needed for such systems is such that former farms are likely to be easily adapted. Indeed, the underlying motivation behind encouraging PPAs is their accessibility for homeowners, municipalities and commercial operations of nearly all types. Provided that the farm has standard buildings with large, standard roofs, only minor adjustments will likely be needed to adapt the farm for this purpose, the costs of which will be taken on by the solar services provider party to the PPA.

Beyond the infrastructure required for a PV system, location plays an important role in determining the viability of the project. An ideal location will be (predictably) sunny, unobstructed in terms of vegetation, and will provide plenty of open, flat land. In Arkansas, for example, while plenty of sun reaches the state on average, the flatter lowlands near the Mississippi River are more likely to be amenable to PV projects than the more mountainous areas to the North, and abnormal weather patterns and extreme weather events like tornadoes should further be accounted for.¹³ A related consideration is the environmental impact (including habitat destruction) which accompanies the clearing required to install such systems. Building on existing farm areas minimizes the bulk of these considerations, as most former animal farms are likely to be located in flatter areas that have already been cleared of excess vegetation as part of the initial farm installation process.

IV. Experts and Other Resources

¹³ Peak Sun Hours for Solar Panels in Arkansas, TURBINEGENERATOR, <https://www.turbinegenerator.org/solar/arkansas/> (last visited Jan 24, 2019).

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In deciding first to solicit and to negotiate an SPPA, participants will need to consult with financial, regulatory, and legal experts to ensure their short-and long-term objectives are incorporated into the agreement and that any costs incurred by the potential host are minimized at the outset. The host will also want to negotiate for flexibility in determining the best outcome for itself come the end of the term of the agreement. It is therefore crucial to make an informed decision as to the best solar services provider to select for the project. Below is a list of likely consultants and experts to help in this area.

V. Conclusion

Farmers interested in transforming their business should seriously consider entering into a solar Power Purchase Agreement as a supplementary cost-cutting mechanism potentially offering long-term opportunity for revenue from the underlying project. Further steps should be taken, in consultation with experts, to research the possibility of merging such agreements with other projects, like a conversion to crop agriculture as suggested above.

If successfully merged with another project, an SPPA has the potential to provide several benefits to transformed animal farms: low-cost, reliably priced energy, increased property value, as well as diversification and long-term transition opportunities. PPAs importantly avoid the costs of developing and installing a new PV system, traditionally prohibitive for new commercial outlets.

Based on this initial foray, the downsides of PPAs seem limited, especially since the host has an opportunity to negotiate an advantageous position for itself. However, note that incentives and regulatory burdens associated with PPAs vary pretty significantly by state, so the upside

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might be limited, and in some cases PPAs may not be workable whatsoever.¹⁴ Notwithstanding state limitations, SPPAs are worth serious consideration if transforming farmers are willing to use them as supplements in a wholistic business transition.

¹⁴ State Policies for Power Purchase Agreements, ,
<http://www.ncsl.org/research/energy/state-policies-for-purchase-agreements.aspx> (last visited Jan 24, 2019).

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Name/Organization	Type	Contact	Notes
Smart Electric Power Alliance	Special Interest [Non-profit providing advisory services for renewables industry players]	Mailing: 1220 19th Street NW Suite 800 Washington, DC 20036-2405 Website: https://sepapower.org/	Hosting: Grid Evolution Summit (July 29-Aug. 1) Washington, D.C.
Solar Energy Industries Association	Special Interest [National trade association of the U.S. solar energy industry]	Mailing: 1425 K Street, N.W. Suite 1000 Washington, D.C. 20005 Website: https://www.seia.org/about	
Federal Energy Regulatory Commission	Government	Mailing: 888 First Street, NE Washington, D.C. 20426 Phone: (202) 502-6088 Website: https://www.ferc.gov/contact-us/contact-us.asp?csrt=9476347101358909854	
Arkansas Public Service Commission	Government	Mailing: Arkansas Public Service Commission P.O. Box 400 Little Rock, Arkansas 72203-0400 Phone: (501) 682-1718	
Green Evolution	Private Firm	Contact page: https://greenevolutionconsulting.com/contact/	

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	[“sustainability consultancy with a mission to guide individuals and organization along the path to sustainability”]		
Greengate Power Corporation	Private Firm [Solar services provider offering PPAs]	Head Office: Suite 350, 237 8th Ave SE Calgary, Alberta T2G 5C3 1.403.930.1300 Website	
Norris McLaughlin P.A. – Solar Energy Group	Law Firm	Website: https://norrismclaughlin.com/practice-areas/solar-energy/	Represents Hosts and Developers in PPAs
Center for Sustaining Agriculture and Natural Resources at Washington State University	Academic	Website: http://csanr.wsu.edu/program-areas/climate-friendly-farming/ Professors and others associated with the center: http://csanr.wsu.edu/about-csanr/people/	