

Onsite Power Purchase Agreements (PPA)

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Onsite Power Purchase Agreements (PPAs) are a contract between a project developer (and likely backed by a financial counterparty) and a retailer. The project developer owns, operates, and maintains the renewable system for a term of typically 15-25 years. The retailer agrees to pay for all the system production at a fixed price for the life of the agreement. PPAs provide retailers the ability to: offset on-site electricity consumption, potentially reduce Scope 2 carbon emissions, and provide a long-term hedge and/or savings opportunity against future electricity prices. PPAs offer a unique method for retailers to install onsite solar or other alternative distributed generation technologies as compared to capital purchases because there are no up-front cash outlay and capital expenditures (CAPEX) considerations.

Why should you use it?

- Your company prefers financing renewable energy projects externally over allocating company CAPEX
- Your company wants a long-term fixed price solution to help manage against future uncertainties in grid electricity prices
- Your company would prefer that a third party operate and maintain installations, rather than developing the necessary internal expertise and having operational expenditures (OPEX)
- Your company wants the reputational benefits of supporting renewable energy and the visual impact that an onsite installation can make on customers
- Your company has rooftop, parking lot, or open ground space at its premises and wants to take advantage of its potential to make and save money

Who else is using it?

A large variety of commercial businesses have executed onsite PPAs, with retail at the forefront. [Walmart](#) finds PPAs to be a highly effective model to leverage the company's scale and buying power to accelerate renewables. [Target](#) entered a PPA to install solar arrays on the roofs of 180 of their U.S. stores and distribution centers. Most of [Macy's](#) solar projects were negotiated as PPAs, with little

to no upfront investment. [Whole Foods](#) used PPAs for a roll-out of solar rooftop installations, and they are a major part of The Home Depot's energy strategy. Given the inherent challenges in securing internal capital and scaling up, the company was drawn to the relative ease of third-party ownership through PPAs.

While onsite solar PPAs are the most common form of clean onsite generation, there may also be opportunities for retailers to enter into PPAs for fuel cells and battery storage. These other technologies have limited economic viability that depends on state/utility incentives, geography, and utility rate structures. Additionally, fuel cells are a baseload generation source meaning they produce roughly the same amount of power each hour of the year. If retailers shut down at nights and weekends/holidays, then there could be a significant amount of sellback to the grid likely resulting in financial losses. The main value of onsite battery storage is to reduce a retailer's peak demand charges. Typically, the costs of a battery solution only make sense in very select utility territories that have excessively high demand-based charges. In the future, however, battery storage costs are expected to decrease dramatically which could make this solution more feasible in a larger pool of markets.

What are the advantages?

- **Requires no CAPEX or OPEX** - Your company can invest more in its core operations because a third party finances and maintains the system

- **Provides long-term electricity price stability -** Agreeing to a competitive buy-back price provides cost certainty for internal planning and the potential for future savings in a market where rates can fluctuate greatly
- **Guaranteed system optimization -** Because the developer only gets paid for the kWh that is produced (i.e. developer and retailer incentives align in the PPA contract), the developer is fully incentivized to ensure the system operates as efficiently as possible and is well-maintained and there is no operations and maintenance responsibility for the retailer
- **Positions company as a sustainability leader -** Offers good PR, marketing, and community relations opportunities
- **Provides potential to reduce facility emissions -** So long as renewable energy certificates (RECs) generated by the project are retained by the retailer, it can use the project to make environmental impact claims. Alternately, project RECs may be arbitrated and replacement RECs purchased, which can be more cost-effective

What are the downsides?

- **Regulations -** Varying state regulations may limit a retailer's ability to use onsite generation in all locations
- **Contracted PPA electricity rate may be more expensive the utility's price -** While price certainty benefits are maintained, an opportunity cost could be incurred if the PPA rate agreed to is, on the whole, higher than the sites utility provider's
- **Renewables onsite does not mean 100% renewable energy -** Installation capacities are very dependent on available space. On-site distributed generation (DG) installations may only offset 5-25% of the site's electric consumption, which may not have a big impact on overall site spending and/or emissions reduction
- **Long contract term length -** PPAs are typically long-term agreements (15-25 years) that may exceed retail facility occupancy. Potential real estate changes/portfolio turnover may lead to early termination fees if not anticipated in the initial agreement
- **Unique contract structure -** Contract type and length are different from most other energy contract. Typical energy contracts that retailers sign are for 1-3 years compared to the 15-25-year term commitment of a PPA. Onsite solar PPAs require retailers to buy as-generated power, whereas most retail supply contracts are matched with the retailer's consumption profile. Additionally, there are certain concepts covered in a PPA that are not typically mentioned in a retail power contract including environmental attributes, tax credits, system installation and removal policies, and system optimization requirements
- **Net metering policies -** Onsite systems will need to comply with and consider utility or state-specific net metering policies. Net metering policy may change the optimal size of an onsite installation and can materially change project economics
- **Varying environmental claims rules -** In PJM, New England markets and California, retailers may need to transfer the project RECs to the developer or sell the project RECs into the market to make the project economical. In these cases, if the business does not purchase replacement RECs, they cannot claim that they are using renewable energy or claim any emission reductions

- **Administrative complexity** - Contract negotiations, ongoing contract management, additional invoices, generation and/or REC tracking/strategy may be burdensome for retailers who do not plan seek project management help from a third party

Who should you talk to next?

- Engage a broad group of company stakeholders early on to ensure there is a thorough understanding of the deal structure, benefits, risks, and implementation. Stakeholder groups that should be involved include Facilities, Procurement/Energy, Finance/Accounting, and Risk Management
- Post-deal, the Procurement/Energy teams should be involved because having on-site distributed generation will likely impact the organization’s electricity purchasing strategy, supply contracts, and potentially utility tariff rates. Engage with an independent consultant (e.g. [Schneider Electric](#), [Edison Energy](#)) who is familiar with helping retailers understand PPA product structures, the end-user opportunities, and the financial impact of entering a potentially long-term PPA. There are some markets that are much more suitable for on-site PPAs than others, and a consultant can help retailers identify the optimal markets to focus on
- Refer to guidance resources such as Schneider Electric’s [Accelerate Your Energy Strategy with PPAs](#), DOE and EPA’s [Guide to Purchasing Green Power Renewable Electricity, Renewable Energy Certificates, and On-Site Renewable Generation](#), Solar Energy Industries Association (SEIA) [resources](#), and [The rise of corporate PPAs: A new driver for renewables](#)

The Process

