

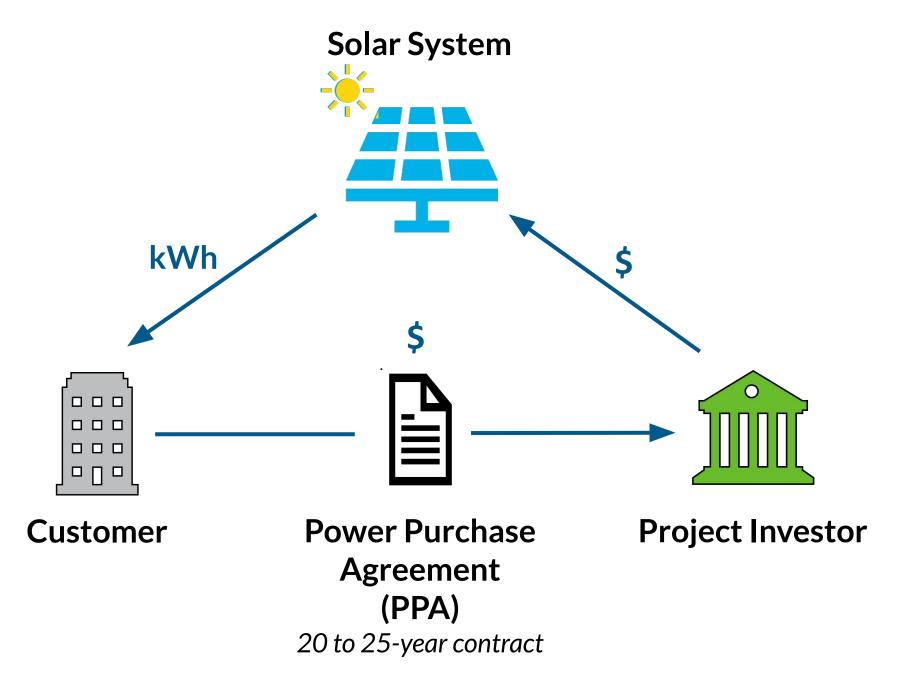
Power Purchase Agreements (PPAs)



# What are Power Purchase Agreements?



### PPAs Enable Third-Party Ownership of Projects



- A solar PPA is similar to how a customer buys electricity from their utility
   Customer pays for electricity generated (kWh); typically invoiced monthly
- Customer pays \$0 upfront for solar and their power rate for solar is lower than their utility bill
- A third party project investor owns the solar PV system and receives all tax and cash incentives associated with the system
- PPAs often work well for commercial projects
   Some organizations lack funds, technical expertise to manage solar, and/or cannot monetize the tax benefits



# When are PPAs the Right Choice for Customers?

Category	PPA	Cash Purchase
Common Deciding Factors	<ul> <li>No upfront costs</li> <li>Off-balance sheet contract</li> <li>Inability to monetize the tax benefits, including the federal Investment Tax Credit (ITC) and depreciation</li> <li>Lack of available internal funding</li> <li>Lack of desire to operate and maintain a PV system</li> <li>Fixes a portion of the power costs for 20-25 years</li> </ul>	<ul> <li>Poor corporate credit (unable to finance via a PPA)</li> <li>Large tax liability</li> <li>Disdain for long-term contracts (20-25 years)</li> <li>Staff on-hand to manage and operate solar systems</li> </ul>
System Owner	Third-party investor	• Customer
Primary Customer Obligations	<ul> <li>Provide access to site(s) for owner</li> <li>Pay monthly invoices for power generated by system</li> </ul>	<ul> <li>Insure, operate, and maintain site(s)</li> <li>Coordinate repairs or warranty claims, as needed</li> <li>Manage SREC reporting and payments</li> </ul>



# PPA Process Walkthrough



# Solar PPA Project Lifecycle

Origination

**Development** 

**Financing** 

Construction

**Operations** 

Variable	1-9 Months	2-4 Months	1-6 Months	20+ Years
<ul> <li>Developer provides preliminary system design</li> <li>Customer agrees to high-level PPA terms</li> </ul>	the project, applies for permitting and interconnection	<ul> <li>Investor reviews         documentation and         works to approve all         diligence items</li> <li>Investor assumes         ownership of the project         (closing) and provides         Notice to Proceed         (NTP)</li> </ul>	<ul> <li>Investor makes         milestone payments to         fund construction</li> <li>EPC procures         equipment and installs         the system</li> </ul>	<ul> <li>Investor operates and maintains the system</li> <li>Customer purchases power produced and delivered by the system</li> <li>In some cases, the developer or EPC will provide operation and maintenance service</li> </ul>



### Origination

Origination

**Development** 

Financing

Construction

**Operations** 

#### Variable

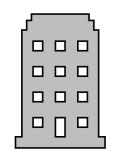
- Developer provides preliminary system design
- Customer agrees to high-level PPA terms



**Key Deliverables:** 

- Preliminary system design
- PPA price estimate or price quote
- PPA term sheet

Solar Customer



**Key Deliverables:** 

Credit history and financial position, ideally including three years of audited

financial statements



### Development

Origination

Development

Financing

Construction

**Operations** 

#### 1-9 Months

- Developer engineers the project, applies for permitting and interconnection
- Developer agrees to project budget and financing terms



**Key Deliverables:** 

- System engineering
- Interconnection application with utility
- Permit applications with municipality / Authority Having Jurisdiction (AHJ)
- Environmental studies as needed, particularly for ground mount projects



## Financing

Origination

**Development** 

Financing

Construction

**Operations** 

#### 1-4 Months

- Investor reviews
   documentation and
   works to approve all
   diligence items
- Investor assumes
   ownership of the project
   (closing) and provides
   Notice to Proceed
   (NTP)



**Key Deliverables:** 

- Customer financials
- Production estimates
- Design and testing / analysis documents
- Interconnection approval
- Permitting approvals
- System engineering



**Key Deliverables:** 

- PPA
- EPC Agreement
- System purchase documents



### Construction

Origination

**Development** 

Financing

Construction

**Operations** 

#### 1-6 Months

- Investor makes
   milestone payments to
   fund construction
- EPC procures
   equipment and installs
   the system

EPC



**Key Deliverables:** 

- System installation
- System performance testing



**Key Deliverables:** 

Milestone payments



### **Operations**

Origination

Development

Financing

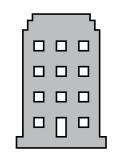
Construction

**Operations** 

#### 20+ Years

- Investor operates and maintains the system
- Customer purchases power produced and delivered by the system
- In some cases, the developer or EPC will provide operation and maintenance service





**Key Deliverables:** 

Payment to investor for power delivered





**Key Deliverables:** 

Warranty support and sometimes ongoing

maintenance

**Project Investor** 



**Key Deliverables:** 

Invoices to customer for power produced