

Third-Party Financing and Power Purchase Agreements for Public Sector PV Projects



TAP Web Seminar

May 27th, 2009

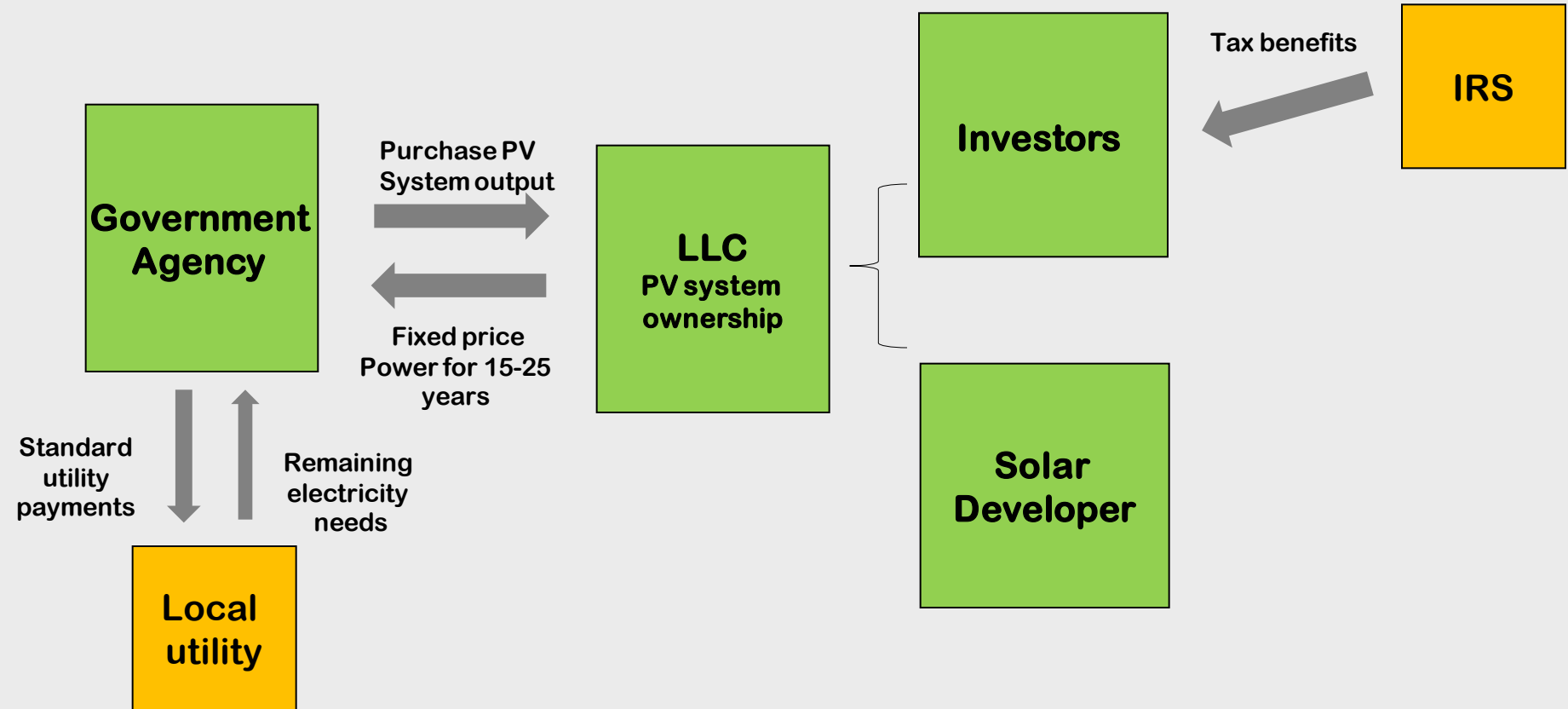
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Disclaimer

- ❑ The PPA is a very legally intensive process.
- ❑ Please consult your own legal counsel
- ❑ Each situation is different

Third Party PPA Structure

Instead of purchasing a PV system, a public entity agrees to host the system and purchase the electricity. The contract to purchase this electricity is often called the Power Purchase Agreement or PPA.



Caveat: This is just an example. Lots of different structures .

Who has signed PPAs?

- City of San Diego
- Denver International Airport
- Port of Oakland
- Fresno State University
- Fresno Yosemite Airport
- City of Tucson
- Boulder County
- City of Boulder, CO
- Various California School Districts
- City of San Francisco
- CalTrans
- City of Arvada, CO
- County of Broomfield, CO
- City of Rifle, CO
- Various California State University Campuses
- Chuckawalla Valley State Prison, CA
- Various California water districts
- Los Angeles MTA
- NREL
- Nellis Air Force Base
- Others....

Sources: websites of various solar developers, including; SunEdison, SolarPower Partners, Chevron Energy Services, Recurrent Energy Renewable Ventures, and SunPower.

Why enter into a PPA?

Eliminate
upfront capital
cost

Allows public
entities to
benefit from the
tax credits

Lock in long
term,
predictable
electricity prices

Transfers O&M
to a third party

Path to
Ownership

Various end of
term options

500 kW system @ \$3.5 to 4 million
Federal tax benefits ~ 55%

Some key elements of a PPA

Price per kWh of electricity

Annual escalation factor (2-5%)

Length of the agreement (20-25 years)

Purchase Options (starting in year 7)

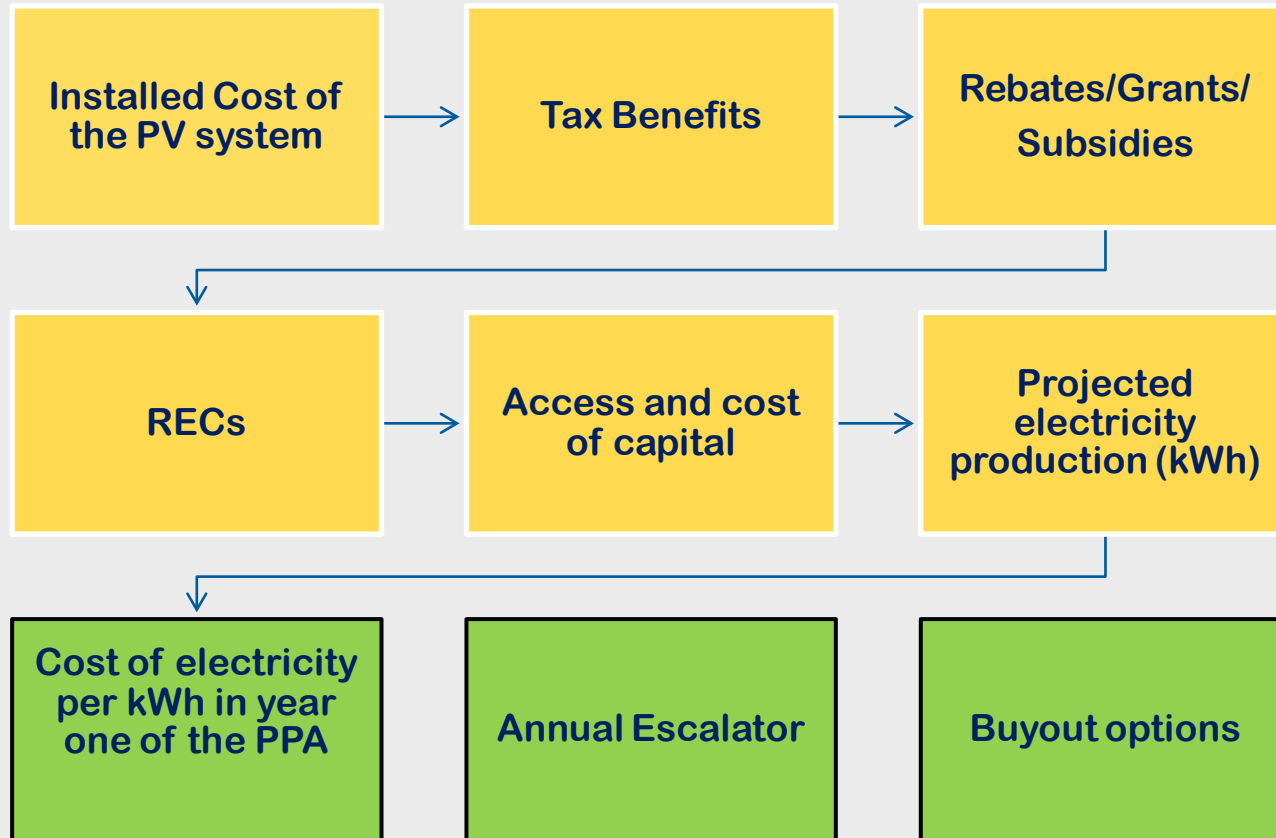
Termination options

Many legal issues

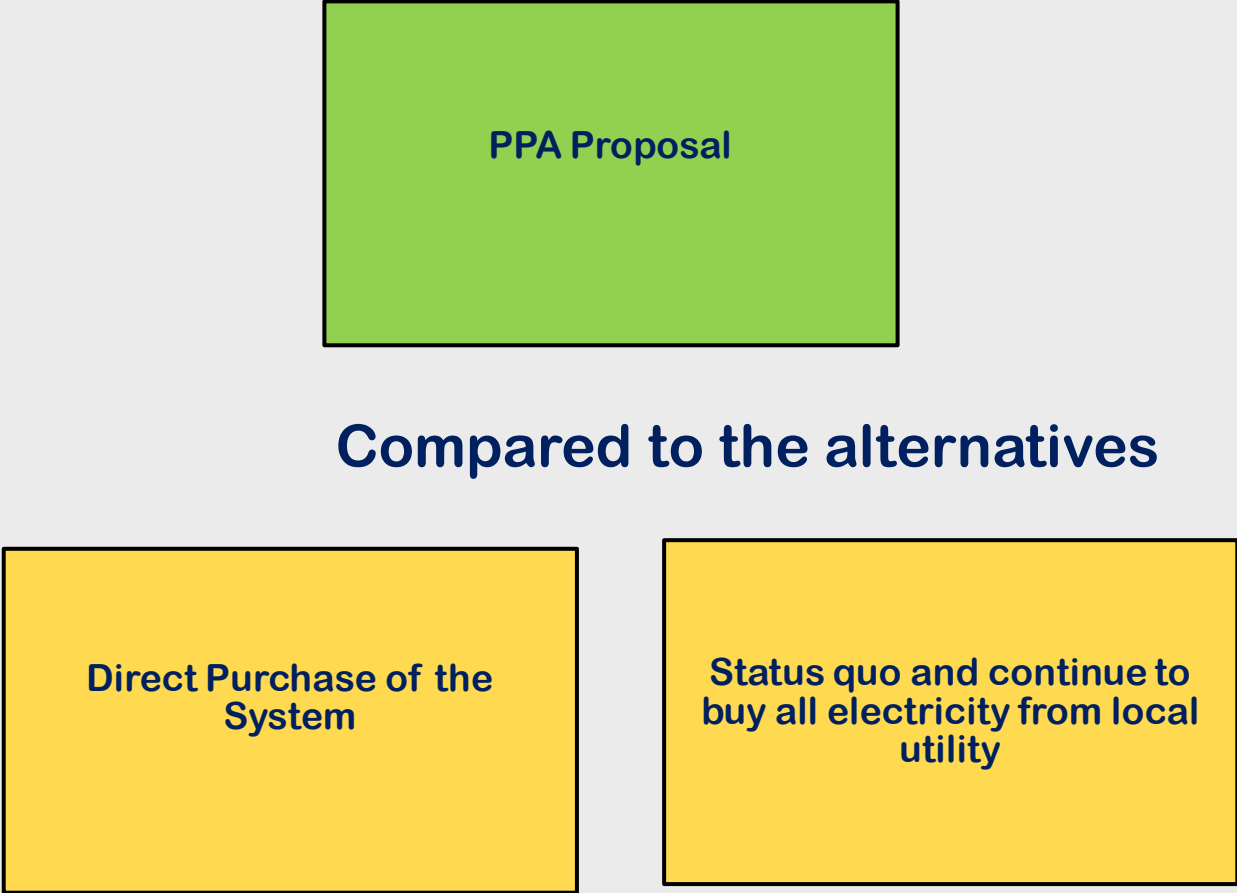
Caveats of the PPA

- ❖ Not “free electricity”
 - Not necessarily cheaper than current utility prices at the outset
- ❖ Economics unlikely to work for small projects unless you bundle
- ❖ Financing is difficult these days. No guarantee you’ll find interested counterparties or that counterparties can obtain financing.
- ❖ Environmental attributes (RECs) remain with the system owner
 - Green versus Brown Energy
 - Be careful what you say about the system
- ❖ 3rd Party Access to the property is necessary
- ❖ Transaction costs are high for all involved

Economics of a PPA



Economics of a PPA



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graph TD; A[PPA Proposal] --> B[Direct Purchase of the System]; A --> C[Status quo and continue to buy all electricity from local utility]
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PPA Proposal

Compared to the alternatives

**Direct Purchase of the
System**

**Status quo and continue to
buy all electricity from local
utility**

What can happen at the end of the PPA?

**Extend the
PPA**

**Purchase
the System**

**Have PV
System
Removed**

Some additional things to think about

- **Roof vs. Ground-mounted**
 - roof system tends to be more expensive
- **If roof system, what's the condition of the roof?**
- **If ground-mount system,**
 - Environmental Impact issues
 - Soil Information
- **Sizing the system**
 - Net metering limits
- **Easement/Lease Issues**
 - any third parties that need to be involved?
- **Interconnection Agreements**
 - What is required by the utility?

Many legal issues and nuances

- Allocation of risk
 - Can't be a one sided transaction
- Appropriation clause
- Lost revenue issues
 - Shading
 - Removal of systems for repairs
- Tax recapture issues
- Indemnification issues
- Termination clauses
- Others....

The Process

- **Site assessment**
- **Evaluate purchase versus third party finance model**
- **Develop and issue an RFP**
- **Managed bid process**
- **Select winner**
- **Negotiate contracts**
- **Manage the construction process**
- **Commission system**

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