SIMPLIFYING SOLAR

Federal Solar Programs
A Primer on Developing a Program

SunEdison®
simplifying solar

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August 17, 2010

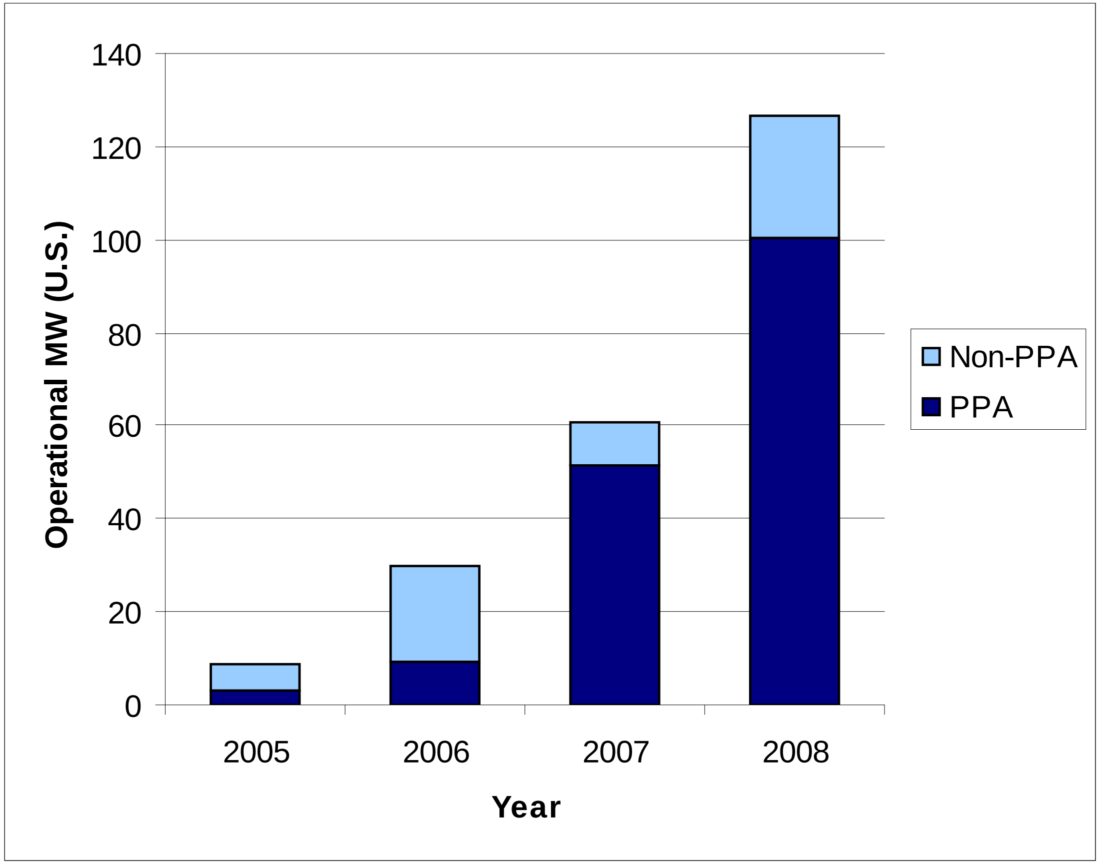
Agenda

Objectives

- PPA impact
- Benefits of Solar
- Factors to Consider
- Financing Federal PPAs

Market impact of PPA

Since the first Solar Power Services Agreement in April 2004, the PPA model has become the chosen vehicle for implementing non-federal solar in the US.



Source: Energy Acuity, as of October 30, 2009

Benefits of Solar PPAs

Benefits of solar: Economic

Hedge

- Solar rate set equal or below utility's rate in Year 1
- Utility rates can go up or down, but solar PPA rate is always predictable

On-peak production

- Solar energy is produced when grid energy is most expensive

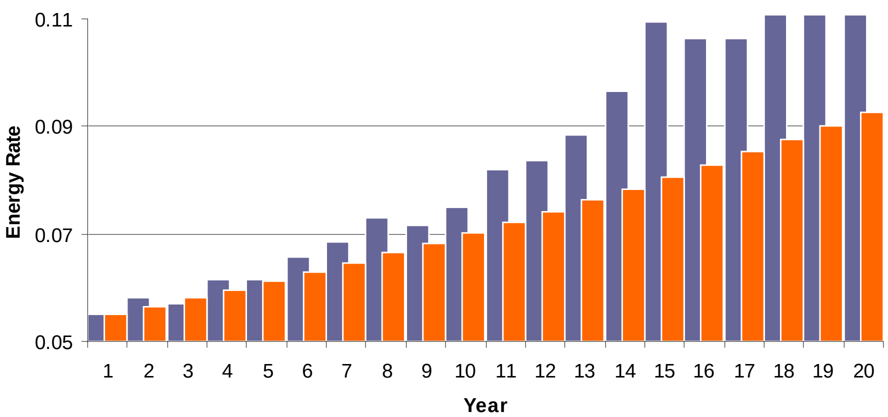
Financially efficient

- All solar incentives are fully maximized regardless of tax status of agency

Predictable PPA prices

vs.

Volatile energy prices



The "most compelling argument" for solar? Respondents of a survey cited the following[1]:

- *Cost savings (42%)*
- *Reducing dependence on foreign energy (31%)*
- *Reducing environmental pollution (18%)*

1. Sharp Electronics Corporation survey of 1,000 adults; May 2006

Benefits: Good Will From Hosting Solar

Customer is contributing to production of clean, CO_2 free energy and can participate in:

- Press releases
- Project Profiles
- Flip the switch events
- Educational programs
- Industry outreach
  - Speaking opportunities
  - Award nomination

GREEN POWER Leadership Awards

Benefits: Carbon Offset

Produce clean energy at your facility and claim the carbon offset – either through:

- Locally generated solar RECs
- Replacement RECs from other renewable systems, such as:
  - » solar RECs from other states
  - » wind RECs in your state
  - » wind RECs from other states

…Or you can choose not to buy any RECs …

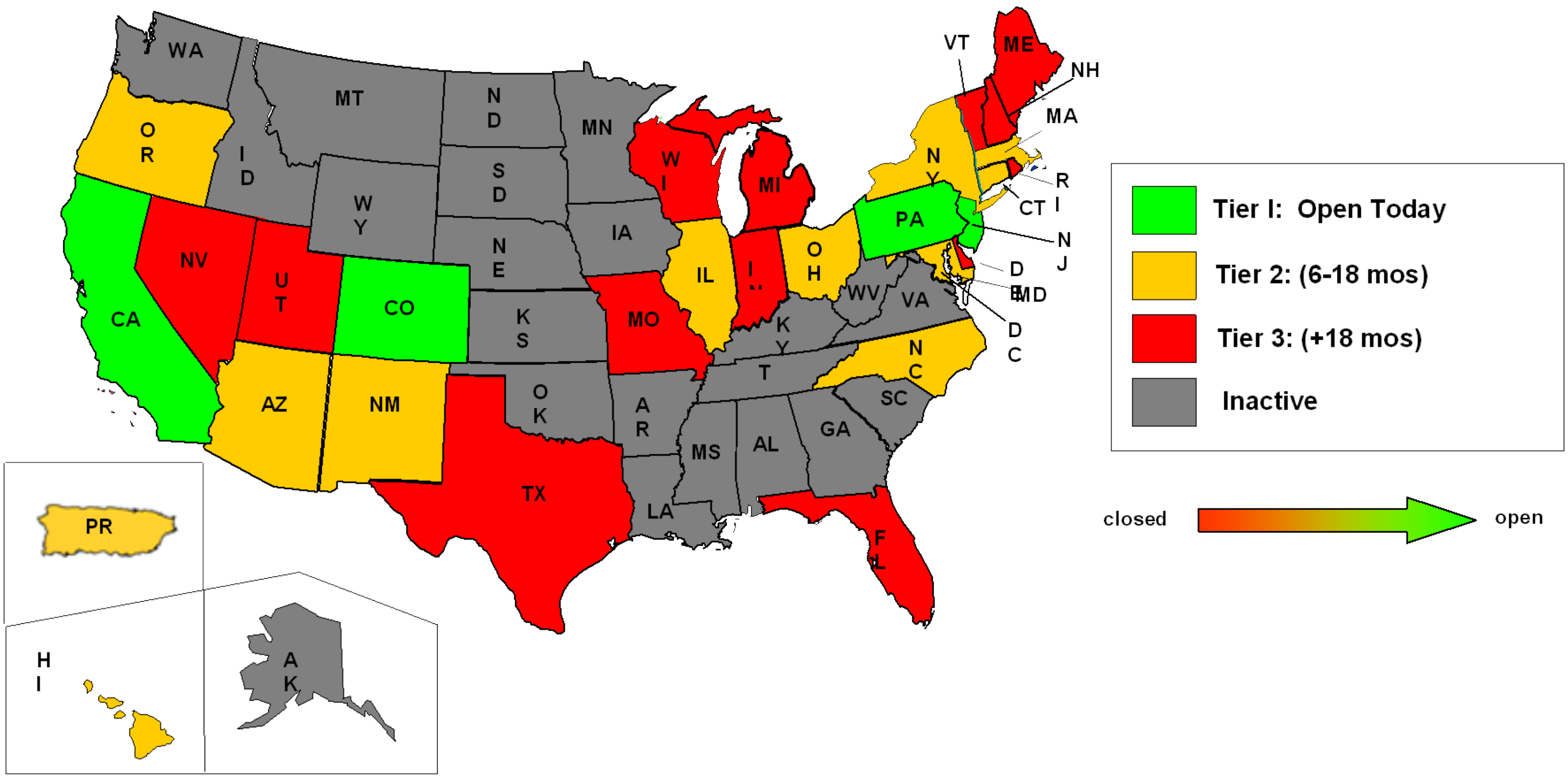
Factors to Consider

if you’re serious about solar

Factor to Consider: Regulatory Readiness

Where are the economic incentives available?

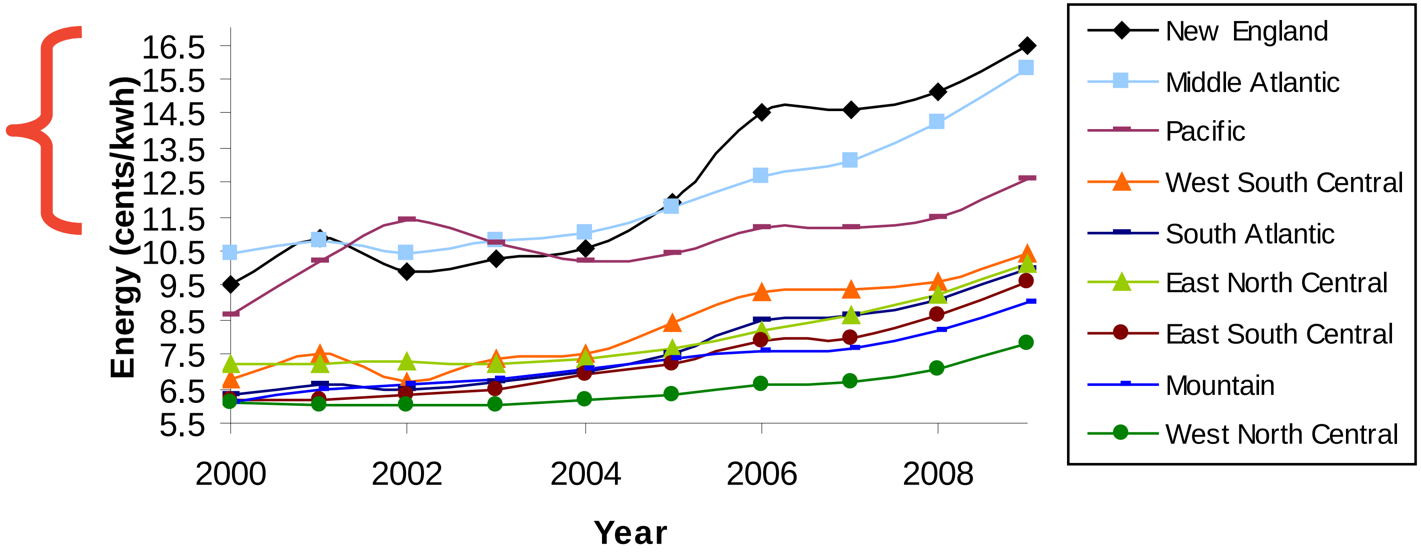
What is the impact of interconnection and net metering rules?



Factor to Consider: Energy Prices

Solar tends to be more economical in states that already have high energy prices.

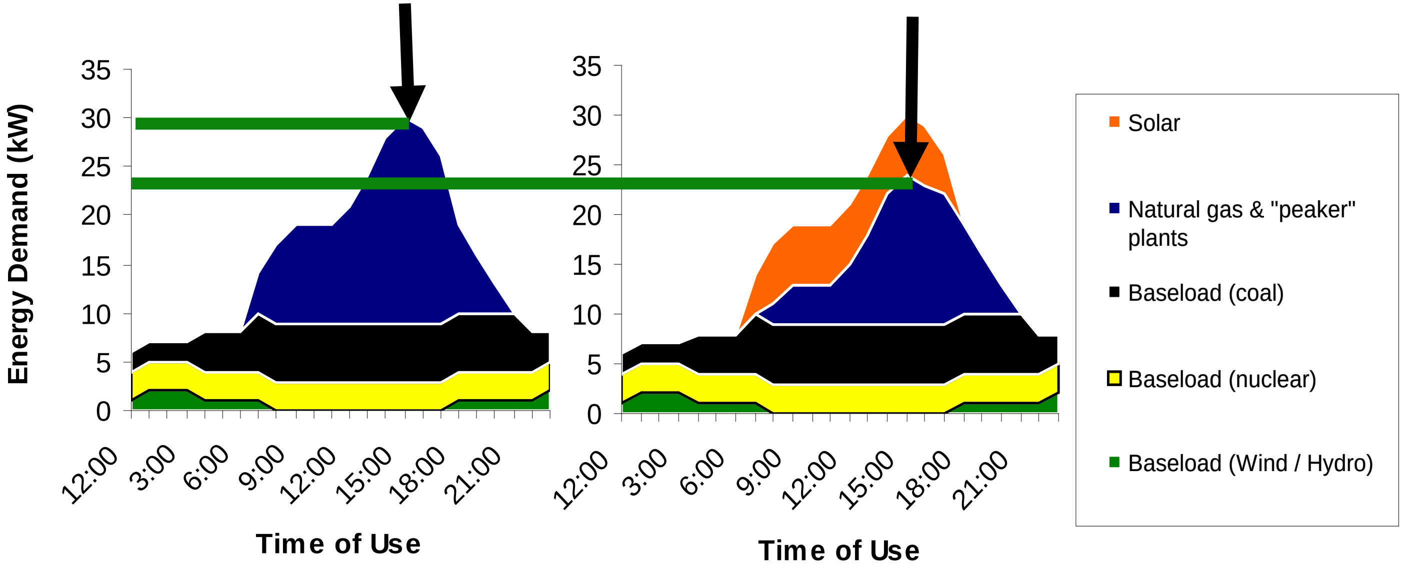
Statewide	AZ	CA	CO	CT	DC	FL	HI	MA	MD
Rates in 2008	8.0	11.0	7.3	15.4	13.2	9.7	25.9	15.0	11.5



Factor to Consider: Energy Load

To make project economics work, there should be:

- Significant energy load within ½ mile
- High energy load during solar peak (it's even better if solar peak production matches utility's peak usage)



Factor to Consider: System Placement

Adequate Space > 40,000SF of solar viable space.

Insufficient Space – lack of contiguous space, domed roof, AC units.

Financing Federal PPAs

Intro to Federal Power Purchase Agreements

Power Purchase Agreement (PPA) defined:

- A contract between energy producer & energy off-taker or "host"
- Stipulates energy prices and term (typically 20 years)
- Enables Government to buy energy instead of energy power plant
  - solar energy system is owned by solar developer/project investors via sale leaseback or other financial structure

First PPA was "commercialized" in 2004

Since then, businesses, governments, and utilities have realized that PPAs provide :

- the lowest risk
- the lowest hassle (not yet true for federal clients!)
- the lowest cost

Source: Energy Acuity, as of 6.18.09.

SO, Why Are There So Few Federal PPAs?

1. Developer Selection:

- RFPs often fail to separate those who can execute from those who promise they can
- RFPs often require obtaining subject matter expertise on a dynamic, complex, and innovative process;
- RFPs often force developers to adhere to terms and conditions that unknowingly hinder the project.

2. Contracting Authority:

- Most Federal agencies are limited to 10-Year power purchase authority;
- Those with longer authority, such as DoD branches, have burdensome and untested protocols for obtaining authority.

3. Contracting Method:

- IDIQs and Inter and Intra agency agreements are complex and require strong coordination and high levels of buy-in;
- PPAs are novel for federal agencies and require significant review.

Advantages of a Power Purchase Agreement (PPA)

PPA

Government purchases energy

- no capital expenditure

SunEdison maximizes incentives

- sells tax credits, RECs to interested parties that can monetize them
- provides (discounted) solar rate

SunEdison holds performance responsibility

- monitors system performance, operations, maintenance, etc.

Evaluate savings on PPA rate vs. utility rate

Direct Sale

Government purchases entire PV system

- pay cash upfront, asset on balance sheet

Government tries to monetize incentives

- uses incentives to offset capital expenses over appropriate payback period
- Can’t utilize tax incentives creating instant project loss of at least 30%

Government holds O&M responsibility

- self-performs maintenance & operations or hires a servicer

Evaluate return on investment (ROI) on PV System vs. ROI on core business investment

SO, Why are there so few Federal PPAs?-Continued

4. Third Party Financing

- •Most solar financiers have limited experience with federal contracting;
- •FAR or DFAR or other terms by reference-misunderstood and poorly designed for PPAs;
- •Appropriation risk/Anti-Deficiency Act;
- •Take or Pay-need for reliable revenue stream;
- •Dispute resolution/sovereign immunity;
- •Termination for convenience;
- •Assignment;
- •Rights of access/preemption;
- •Lender's rights (but not obligations);
- •Confidentiality;
- •Indemnification;
- •Insurance;
- •Liquidated damages;
- •Non-traditional deal structures: Task Order's IDIQs, ESA's under ESPCs;
- •Government desire protect against all risks, whether realistic or not, increase financing risk and cost.

Succeeding in Breaking the PPA Barrier

1. Selecting the Right Renewable Team:

- Knowledge of contracting methods allows flexibility and ability to be creative (not paralyzed or unwilling to do things differently than in the past);
- Strong relationships and trust from decision making hierarchy;
- True commitment, resources and authority.

2. Selecting the Right Development Partner:

- Execution risk with Government PPA deals cannot be understated; developer must have history of financing complex federal PPAs or long history executing on complex, novel projects.
- Developer's history and staying power critical in federal projects as contract award/privity makes replacing PPA providers more complex.

Succeeding in Breaking the PPA Barrier-Continued

3. Selecting the Right Contracting Vehicle:

- FAR and DFAR do not currently address PPAs well-though some of the utility provisions are promising (and raise other concerns);
- A thorough understanding of your contracting vehicles and their abilities and then tailoring the vehicle to allow the maximum benefits of third-party financing while recognizing the need to minimize “real” risks to the Government;
- Examples: Task Order under MACs and/or IDIQs; stand alone PPAs based on the FAR; Utility Energy Services Contracts, Energy Services Agreements under Super ESPC.

Thank you! Questions?

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