

# Solar Powering Your Community

## Key Elements of Solar Requests for Proposals



Powered by

**SunShot**

U.S. Department of Energy

# What is SunShot?

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## DOE SunShot Initiative

- Collaborative national initiative
- Make solar cost-competitive
- Reduce cost of solar 75% 2010-2020.
- More information at [www.energy.gov/sunshot](http://www.energy.gov/sunshot)

## SunShot Solar Technical Assistance Team (STAT)

- Solar technology and deployment experts
- Assist state and local governments
- Information on policies, regulations, financing, other issues to achieve SunShot goals
- Request specific assistance through [STAT@nrel.gov](mailto:STAT@nrel.gov)

# Today's Speakers

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- Jason Coughlin (NREL)
- Philip Haddix (The Solar Foundation)
- Andrea Luecke (The Solar Foundation)

# Overview

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- Introduction
- Solar Project Procurement
- The Solar Foundation
  - How to submit a successful solar request for proposal (RFP)
    - How to evaluate a solar RFP
    - Common pitfalls
  - Example: City of Milwaukee
- Post-Procurement Considerations
- Resources/Sample RFPs

# Project Procurement and Implementation





# Procurement Plan for Solar PV System



## Small-Scale

- Agency likely purchases the system directly
  - Obtain funding
  - Select a contractor/installer



## Larger-Scale

- Direct purchase or third-party financed (PPA)
  - Procuring distinct things
  - Capital equipment or services agreement

# Procurement Process

Develop RFP

Issue RFP

Administer the  
RFP

Evaluate  
Criteria

Award  
Contract



# About the SunShot Solar Outreach Partnership

## Technical Support

- ‘Ask an Expert’ Live Web Forums
- ‘Ask an Expert’ Web Portal
- Peer Exchange Facilitation
- In-Depth Consultations
- Customized Trainings



[www.solaroutreach.org](http://www.solaroutreach.org)

For more information email: [solar-usa@iclei.org](mailto:solar-usa@iclei.org)



# Coming Soon from SolarOPs

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## *RFP WebWorkshop*

- Discussion of Key RFP Elements
- Sample Language from Actual RFPs
- Podcast Interviews with Practitioners
- Reference Table Cataloging Key Elements from Dozens of Solar RFPs

*Look for it this November at [www.solaroutreach.org](http://www.solaroutreach.org)*

# General Best Practices

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## *Start with a Clear, Well-Defined Goal*

- Energy Savings?
- Visibility/ Awareness?
- Job Creation?
- Workforce Training?
- Emissions Reductions?

## *Early Involvement of a Broad Set of Stakeholders*

### Government/ Agency Stakeholders

- Engineering
- Financial
- City Council
- Legal
- Sustainability/ Energy/ Enviro.
- Procurement Officers

### Community Stakeholders

# General Best Practices

## *Outcome-Based Requests for Proposals*

- specify performance desired, not equipment to be used
- require respondents provide estimates using a standardized metric
  - Capacity (kW or MW)
  - Output (kWh or MWh)
- require respondents estimate performance using the same methods or tools

NREL PV Watts

[www.nrel.gov/rredc/pvwatts](http://www.nrel.gov/rredc/pvwatts)

System Advisor Model

[sam.nrel.gov](http://sam.nrel.gov)

# General Best Practices

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## *Provide Site Information*

- Site Assessment Results
- Facility Load Data
- Site Visit Schedule
- Site Photos/Maps/Plans
- Distance to Infrastructure

## *Consider Finding Outside Assistance*

- from other experienced cities, such as those who participated in the Solar America Cities or Rooftop Solar Challenge programs
- complimentary technical assistance from NREL STAT or SolarOPs



# Avoid Five Common Pitfalls

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1. RFP/RFQ specifications are too restrictive or too unstructured
2. Competing measures of system efficiency
3. Finding sufficient number of qualified bidders
4. Lack of an effective O&M program
5. Lack of a strong monitoring program

# Key Elements

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## *Roof Integrity and Warranties*

- roof is structurally sound with at least 15 yrs. before replacement required
- south-facing; avoid shading; withstand static and dynamic loads
- guarantees rooftop system will have no adverse affect on roof warranty

## *Financial Requirements*

Bid Bond/ Bid Deposit

Income Statements

Investment Rating

Audited Annual Reports

Balance Sheet/ Cashflow Statement

# Key Elements

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## *Permitting and Interconnection Responsibility*

- should be the responsibility of the successful respondent
- RFP issuer can help by providing info on:
  - relevant local ordinances
  - unique regulatory requirements
  - permitting process and application forms

## *Team Qualifications*

### Experience

- list previous projects successfully completed
- provide references from previous customers

### Qualifications

- training/ credentials; licenses; dispute history

# Key Elements

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## *Technical Specifications*

### Product Standards

Modules: UL 1703

Inverters: UL 1741 IEEE 1547

### Codes

National Electric Code

International Building Code

### Warranties

Approximately 90% rated power output after 10 years

Approximately 80% rated power output after 25 years



# Key Elements

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## *Operations and Maintenance*

### In-house

- require respondent to train staff to perform these functions and/or provide O&M manuals

### Third-party

- make this the responsibility of the respondent and include in project cost

## *Performance Monitoring and Guarantees*

- provide a monitoring system that measures system output at inverter
- respondent provides annual system performance estimates

# Key Elements

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## *Timeline of Project Milestones*

- Permits and Other Regulatory Approvals Obtained
- Interconnection Agreement Executed
- Equipment Ordered
- Construction Begins
- Operation Commences

## *Equipment & Labor Requirements*

# Proposal Evaluation

Criteria used to evaluate proposals should be tied to **project goals**.

Criterion	Value
Cost effectiveness of the proposal	35 points
Technical approach / Implementation schedule	30 points
Qualifications and experience in developing, owning, operating, and maintaining solar PV projects that meet power production specifications over significant terms	20 points
Project team, team members experience and organizational approach	15 points

# Proposal Evaluation

## FORM OF PROPOSAL AND EVALUATION CRITERIA .....

Section 1: Cover letter (0 points) .....

Section 3: Proposing Installer Profile (15 points) .....

Section 4: Qualifications of the project team (10 points) .....



Section 5: Marketing Strategy (5 points) .....



Section 6: Use of Local Providers (10 points) .....

Section 7: Scope of Services and Schedule (25 points) .....

Section 8: Pricing Schedule (25 points) .....

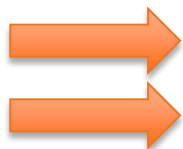
Section 9: Offer / Certifications / Offer Commitment (0 points) .....

Section 10: Supporting Documentation (10 Points) .....



# Proposal Evaluation

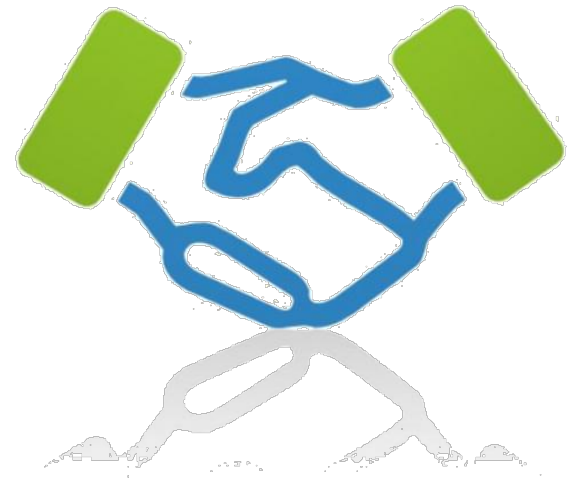
	Available Points	Rating	Points Received
Approach and Schedule	5		
Respondent's Qualifications and Experience	15		
Personnel Qualifications and Availability	15		
Performance Record of Respondent	20		
Project Understanding	10		
Local Knowledge and Experience	5		
Relevant Specific Knowledge and Experience	15		
Energy and Environmental Experience	5		
Leveraging Project Educational Value	5		
Ability to Contribution to Local Economic Development	5		
<b>Total</b>	<b>100</b>		



# Unique Considerations for TPO

## Negotiation points:

- Fixed or floating electricity price
- Price escalator
- Contract term length
- Liability
- Regulatory risk



# Case Study: Milwaukee Shines

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# Case Study: Milwaukee Shines

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## First Attempt

- Fall 2007
- RFP issued for 9 solar hot water installations on municipal firehouses
- bids received were at least double project budget

## Lesson Learned:

- project was **over specified**
- didn't offer installers flexibility to respond in a cost effective way



# Case Study: Milwaukee Shines

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## Second Attempt

- Spring 2009
- RFP redesigned to be outcome-based
- discovered that several roofs would require structural reinforcements and that fire department was unwilling to assume O&M responsibilities

### Lessons Learned:

- greater attention to roof integrity
- ensure effective O&M program is in place

# Case Study: Milwaukee Shines

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## Third Attempt

- Spring 2010
- solar hot water for 4 firehouses (those with wooden trussed roofs)
- negotiated fire department responsibility for O&M, on the condition their staff received training
- included workforce training component

# SUCCESS!

# Post-Procurement



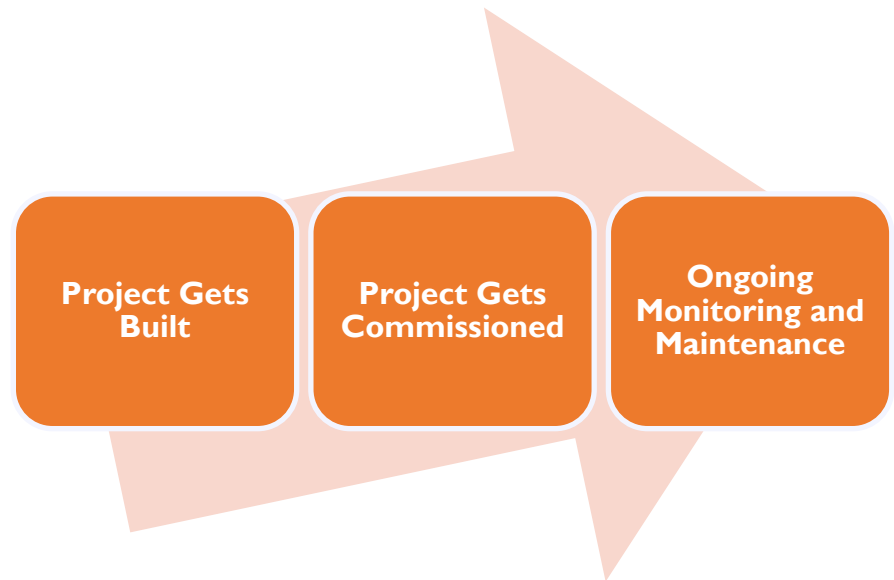
**Project Gets  
Built**

**Project Gets  
Commissioned**

**Post-  
procurement**

# Post-Procurement

- O&M agreements
- Warranties
- Monitoring system
- System performance
- Production guarantees
- Buyout options

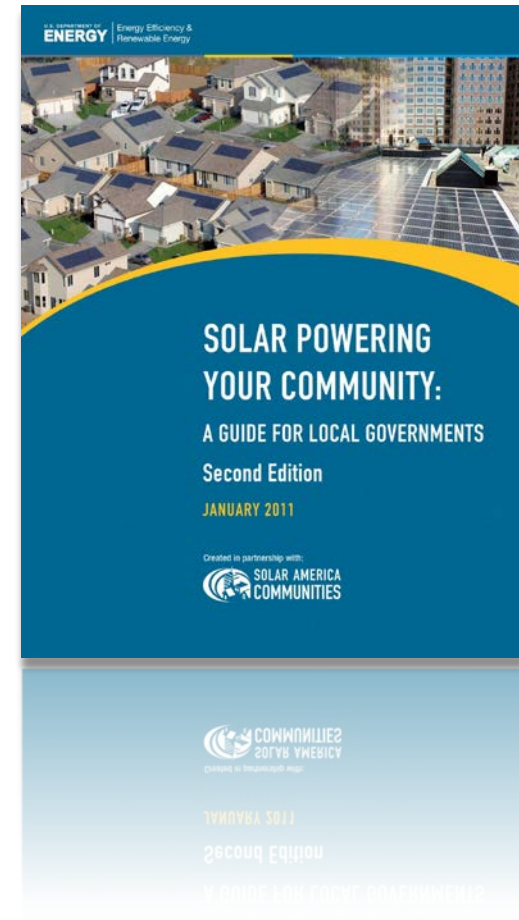


# Resources

## Solar Powering Your Community Guide

A comprehensive resource to assist local governments and stakeholders in building local solar markets.

[www.energy.gov](http://www.energy.gov)



# Resources

- Power Purchase Agreement Checklist for State and Local Governments (NREL):  
<http://www.nrel.gov/docs/fy10osti/46668.pdf>
- Procuring and Implementing Solar Projects on Public Buildings (DOE):  
[http://www1.eere.energy.gov/wip/solutioncenter/pdfs/procuring\\_and\\_implementing\\_solar\\_projects\\_on\\_public\\_bldgs-how\\_to\\_avoid\\_common\\_pitfalls\\_12-8-10.pdf](http://www1.eere.energy.gov/wip/solutioncenter/pdfs/procuring_and_implementing_solar_projects_on_public_bldgs-how_to_avoid_common_pitfalls_12-8-10.pdf)
- Solar Decision Tree (EPA):  
[http://www.epa.gov/oswercpa/docs/solar\\_decision\\_tree.pdf](http://www.epa.gov/oswercpa/docs/solar_decision_tree.pdf)
- State and Local Government Procurement: A Practical Guide (NASPO):  
[http://www.naspo.org/content.cfm/id/state\\_local\\_procurement\\_guide](http://www.naspo.org/content.cfm/id/state_local_procurement_guide)



Photo Credit: NREL PIX 19794



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