The Dos and Don'ts of Purchasing a Photovoltaic System

Online Course

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Goal of Webinar

Provide you information on how to locate a solar contractor in your area, how to compare bids for a photovoltaic system.
Ready to go Solar?

1. Finding a Solar Contractor
2. Choosing a Bid
3. Signing a Contract
Finding a Solar Contractor
Finding a Solar Contractor

Start out by visiting www.gosolarcalifornia.ca.gov for a list of licensed solar contractors.

Tip: You can view the average cost of solar in your area by clicking on “Resources” and “California Solar Statistics”.
Finding a Solar Contractor

Before requesting a bid, verify that the contractor has an active A, B, C-10 or C-46 license through the California State License Board (CSLB) or 1-800-321-2752.

Tip:
The CSLB provides important tips about hiring a contractor, such as checking references, checking to see if the company has any pending or active judgments or liens against it, requesting for all terms be in writing, etc.
Finding a Solar Contractor

Check References

Consumer Advocacy Groups

• Better Business Bureau www.bbb.org
• Utility Consumers’ Action Network www.ucan.org

Examine Customer Feedback

• Search Internet for customer comments
• Talk to others who have experience with contractors you are exploring
Finding a Solar Contractor

Upon the contractor’s initial visit, ask the representative to show their photo Id and their CSLB pocket license or their Home Improvement Sales person registration card.

Tip: Contractors carry a pocket license and Home Improvement Sales Reps carry a registration card.
Choosing a Bid
Choosing a Bid

Interview at least three potential solar contractors.

Obtain and compare their solar system bids before choosing one.

Tips:

Take caution against automatically selecting the contractor with the lowest price. An unusually low price may be a red flag that the contractor is cutting corners. Remember, “You get what you pay for”.

You could obtain detailed information from the California Solar Initiative about the average project costs at [www.gosolarcalifornia.ca.gov](http://www.gosolarcalifornia.ca.gov). You could see if your bids are approximately within average range.
Choosing a Bid

Utilize PG&E’s Bid Comparison Worksheet which could be downloaded at www.pge.com/solar.

Tips:
PG&E’s Bid Comparison Worksheet should be used when soliciting installation bids for your new PV system. The worksheet helps you track and compare bids.
## Bid Comparison Worksheet

<table>
<thead>
<tr>
<th>#</th>
<th>Item</th>
<th>Bid #1</th>
<th>Bid #2</th>
<th>Bid #3</th>
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<tr>
<td>1</td>
<td>Company Name</td>
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<td>2</td>
<td>License Number</td>
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<td>3</td>
<td>System Size in DC kW</td>
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<td>4</td>
<td>System Size in CEC-AC kW</td>
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<td>5</td>
<td>Base System Cost</td>
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<td>All “Adders”</td>
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<td>7</td>
<td>Monitoring Cost (If Applicable)</td>
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<td>Estimated Permit Fees</td>
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<td>9</td>
<td>Total Cost</td>
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<td>10</td>
<td>Financial Rebates, Incentives and Tax Credits</td>
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<td>11</td>
<td>Final Cost</td>
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<td>12</td>
<td>Percent of Electricity Covered</td>
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<tr>
<td>13</td>
<td>Contractor Financing Options (If Applicable)</td>
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<td>14</td>
<td>Warranty timeframe</td>
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</tbody>
</table>
1. **Company Name:** Name of the solar contractor who gives you the bid for the purchase and installation of the solar system.

2. **License number:** issued by the Contractor State License Board (CSLB). Confirm the information about the contractor or sales representative at www.cslb.ca.gov or 1-800-321-2752.

3. **System Size in DC kW:** Capacity rating of the system in Direct Current (DC) kilowatts (kW). DC kW is referred to as the nameplate rating but does not reflect actual power production as DC must be converted into Alternating Current (AC) to power your home. It’s not necessary to see a DC rating on your bid, although some contractors choose to include it.

4. **System Size in CEC-AC kW:** CEC-AC is the most common and accurate rating to determine system size. It is based on the California Energy Commission’s rating of solar equipment in real world conditions. It must be included on your bid – if it’s not, be sure you ask for it.
Bid Comparison Worksheet

Description

5. **Base System Cost:** Some companies have a base system cost and then will add charges. Others will simply list total cost. Make sure you are clear on how the costs are listed and what those costs include.

6. **All “Adders”:** Adders are extra charges for items such as roof costs and trenching. Be clear on whether these have already been included in your bid, if applicable.

7. **Monitoring Cost (If Applicable):** Monitoring provides the ability to view the system’s electricity production online (at an extra cost.) This may or may not be included in your bid.

8. **Estimated Permit Fees:** Permit fees should not vary between contractors. Each city or county jurisdiction sets their own permit charges.

9. **Total Cost:** This refers to the total price of the project, including materials, labor, taxes and any additional charges you have agreed to in the contract.
10. Financial Rebates, Incentives or Tax Credits: This should reflect deduction of any relevant financial rebates or incentives (local or state) and tax credits (state or federal), if applicable.

11. Final Cost (After Rebates, Tax Credits): This refers to your out-of-pocket costs, after all applicable rebates and credits have been deducted. Make sure the contractor is passing down these savings to you.

12. Percent of Electricity Covered: The system will cover a percentage of your monthly electricity needs – prior to the installation and bid selection, it’s important to understand how much.

13. Contractor Financing Options (If Applicable): Some contractors may offer financing methods, such as system leasing. If this is of interest to you, inquire with the contractor before soliciting a bid.

14. Warranty Timeframe: In order to qualify for the California Solar Initiative rebate, the system must come with a minimum ten-year warranty.
Contract Negotiations

Understanding System Sizing

Which system size is appropriate for your needs?

• Understand your energy usage: analyze past 12-months usage at [http://www.pge.com/myhome/](http://www.pge.com/myhome/)

• Will your load change in the near future (electric vehicle etc)?

Are you offsetting all or partial load?

Size appropriately. Do not oversize!
Contract Negotiations

_Understanding System Sizing_

Questions to Ask your Contractor:

Reduce before you produce: What energy efficiency measures should I explore first?

How much square footage is available for PV? Identify possible locations for the solar PV system. Approx. 100sf needed for 1kW system.

How is shade going to affect my production?

Which PV panels and why?

What monitoring options are available?
Contract Negotiations

_Understanding Current Prices_

Average PV Prices for Residential Systems: $8-10 / Watt

Take advantage of all available Rebates and Tax Incentives

CSI Rebate (apply at www.pge.com/csi)

Research current PV prices in your region at www.californiasolarstatistics.org
Signing a Contract
Signing a Contract

Before signing a contract, carefully read the entire document. Make sure you fully understand everything, including costs, warranties and maintenance agreements.

Tips:
Make sure the financial terms are clear.
The California Solar Initiative Program Requires a 10-year equipment and installation warranty.
Signing a Contract

Do NOT accept any verbal promises.
Ensure that all quotes for the project are in writing.

Tips:
Contract should include everything that is agreed to. Never sign a blank or partially blank contract.
Always update your contract if anything changes.
Signing a Contract

*What an Installation and Purchase Contract should include*

- Name, address and contractor’s license number for the company installing the system
- Installers must have a valid A, B, C-10 or C-46 contractor’s license
- **Site address** of the system installation
- A clear description of the quantity, make and model number of the **PV modules, inverters, and system performance meters** (as shown on the California Energy Commission lists of eligible equipment)
- The **total purchase price** of the system installation before applying the incentive including payment terms (payment dates and dollar amounts)
- **Warranty information**
- Description of the work to be performed with **estimated installation dates**
- Printed names and **signatures** of the purchaser and equipment seller/contractor
- Designation of the **CSI rebate** (do you or the contractor receive the rebate?)
Signing a Contract

Remember that you should never pay more than $1000 or 10% of the contract price for a down payment under California State Law, whichever is less.

Tips:

Don’t pay cash and don’t let the payments get ahead of the work.

If you decide to cancel the project, make sure your cancellation is in writing.

Keep all copies of contracts and documents in a file.
Tips for Choosing a Contractor

1. Hire only state-licensed contractors.
2. Check contractor’s license #.
3. Get at least three (3) bids.
4. Check references from each bidder.
5. Make sure all project details are in writing.
6. Confirm contractor has worker’s compensation insurance.
7. Never pay more than 10% down or $1,000, whichever is less.
8. Don’t let payments get ahead of the work.
9. Keep all copies of contracts and documents
10. Don’t make final payment until satisfied with job.
Next Steps
Next Step

Educational Opportunities

Solar System Safety and Maintenance for Homeowners: March 18, 2011

Your Path to Energy Savings (EE with Solar) - Residential and Small Commercial: April 1, 2011


Online Resources

• www.pge.com – PG&E Website
• www.csi-epbb.com–CSI Program Incentive Calculator
• www.gosolarcalifornia.ca.gov–CPUC and CEC Website
• www.cslb.ca.gov–Contractor State License Board
• www.bbb.org–Better Business Bureau
• www.californiasolarstatistics.org–CSI Program Data
• www.dsireusa.org -Database of State Incentives for Renewables & Efficiency
• www.ucan.org –Utility Consumers’ Action Network