

# Solar Electric System – Purchasing Tips and Resources



- 1) Solar is best installed on a roof in good condition because the solar panels must be removed when you reroof. ~60 square feet (6 x 10) needed for 1 kilowatt (DC) of power. High efficiency panels cost more, but use less space
- 2) The optimal order for selecting the best roof direction is South, South West, South East, West and then East.
- 3) Interview three solar installers and get three bids for comparison. Installers should provide a written statement of the system components as well as a schedule for payments.
- 4) Compare energy production (kWh) across different designs at California [CSI-EPBB.com](http://CSI-EPBB.com) or [PVWatts.nrel.gov](http://PVWatts.nrel.gov) (easiest)
- 5) The installer should do a shading analysis that tells you the percentage of annual solar energy blocked by shade.
- 6) \$1,000 is the maximum down payment by law. Don't pay more until you receive the panels and work begins.
- 7) Withhold a significant percentage of the payment until the job is done and signed off by your city inspector.
- 8) Installer should manage city permit, inspection process and working with PG&E for final signoff.
- 9) Installers should have state contractor's license & liability insurance. NABCEP solar certification is a plus.
- 10) PG&E customers – Required to use a Time-of Use rate (e.g. E-TOU-C) which can increase the financial benefit. Net Energy Metering rules (Dec 15, 2016) add ~\$145 connect fee (one time) & reduces the value of electricity sent back to grid by 2.3 cents/kWh. This reduces overall payback between 5% & 10%. For more info go to [tinyurl.com/nvf92eb](http://tinyurl.com/nvf92eb)
- 11) Check other customer experience from people you trust and from web sites including:
  - a. [EnergySage.com/p/SunWork](http://EnergySage.com/p/SunWork) - free solar marketplace with side by side quotes from installers along with reviews. By using this [link](#) & going solar with EnergySage's marketplace, SunWork receives funds supporting our local efforts.
  - b. [solarreviews.com](http://solarreviews.com) - free - locates installer with detailed information provided by the customers & installer
  - c. [yelp.com](http://yelp.com) - free - some homeowner feedback on local installers
  - d. [bbb.org](http://bbb.org) - Better Business Bureau to check on business reliability rating & license
  - e. [diamondcertified.org](http://diamondcertified.org) (free - but only highlights three vendors per area & vendors pay for listing)
  - f. [angieslist.com](http://angieslist.com) – free - solar reviews by members with added checks

## Other considerations:

- PG&E customers pay a minimum monthly fee of \$10. You get a monthly statement, but only pay the cumulative total after a full year of operation. This is called a True-Up bill. If you use at least \$120 of electricity distribution charges over the year, you get credit for paying this on the True-Up bill.
- If you don't have space for a 240 Volt breaker in your electrical panel, you may need an upgrade at additional cost.
- Solar PV systems are virtually maintenance free although the inverter may need to be replaced after 10+ years. Hosing off solar panels increases solar output about 5% after cleaning (only put water on a panel, when panel is not hot)
- Get warranties for panels, inverter & installation in writing & ask if it provides full replacement versus prorated.
- Leasing can be a good option if you don't have access to funds. Typically, if average monthly electric bill is over \$130, you can reduce the net monthly cost. Look at transfer costs if you plan to sell home before the lease is over.
- Federal tax credit is 26% of system cost & can be carried forward (26% in 2021-22, 22% in '23). Enter credit on tax return.
- State residential solar rebates have ended
- If you produce more kWh than you use in a year, PG&E will credit ~\$.03/kWh (\$.072/kWh in PA) for the extra kilowatt-hours
- Check Silicon Valley Toxic Coalition PV Survey for solar panel ratings at [solarscorecard.com/2018-19](http://solarscorecard.com/2018-19)
- Check PV Evolution Labs "2020 PV Module Reliability Scorecard" at [tinyurl.com/y6orqngc](http://tinyurl.com/y6orqngc)

## Other resources:

- [ebenergy.org/smart-solar-program](http://ebenergy.org/smart-solar-program) (510)981-7788 for free guidance on solar and energy efficiency from a nonprofit
- [pge.com/solar](http://pge.com/solar) for PG&E specific information relating to solar plus excellent free information and courses
- [google.com/sunroof](http://google.com/sunroof) for solar calculator integrated with google maps that sizes a solar array for a home with shade analysis
- [norcalsolar.org/solar-101](http://norcalsolar.org/solar-101) for general information on solar energy
- [californiadgstats.ca.gov](http://californiadgstats.ca.gov) - searchable database of solar installs by city
- [sunwork.org](http://sunwork.org) - low cost option if electric bill averages less than \$100 per month; volunteers help with installation