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Who are good candidates for Photovoltaic (PV) systems?

If you can answer "yes" to the first 6 questions, you may be better off installing a new solar system.

1) Are you interested in doing your part to help protect the environment?
2) Do you own your property?
3) Is your roof sunny (free from major shade between 10 AM and 4 PM)?
4) Is your roof in good shape?
5) Do you have the means to invest at least $10,000 (cash or a home equity loan)?
6) Would you like to be protected from future energy price increases?

What are the steps to have a solar electric system installed?

- Determine annual energy use. PG&E customers may call **1-800-743-5000** to get a "billing" history. Ask for your monthly kWh electric usage for a 12-month period (press zero twice as soon as the phone connects, to speak with an agent). This information is available 24 hours a day, 7 days a week. Or create an account at http://www.pge.com/ and download the yearly electrical usage. This is required to compute the right size of solar energy system for maximum benefit.
- Verify your roof is in good shape. The best time to re-roof is before installing a solar system.
- Ask for an economic solar payback analysis to determine the financial viability of a Photovoltaic (PV) solar system. If your electric bill is high, a PV system is beneficial on financial terms alone.
- Design a PV system to net out the average annual electric bill (within your roof's limits). Or size a system that fits your budget and/or future goals. Shading affects a solar system's performance.
- Complete a California Solar Initiative on-line energy audit and get a summary print out of recommendations that must be submitted with the solar rebate paperwork. Here is the web site to do this Smart Energy Analyzer: http://www.pge.com/myhome/saveenergymoney/analyzer/en/
- Reserve your solar rebate by signing an installation agreement soon, as rebates drop over time.
- After system is installed, the local building inspector must check the installation and sign the permit. Next a net energy metering interconnection agreement must be signed (this is a contract between you and your utility). A new bi-directional meter will be installed. After the permit and rebate form is signed, the rebate final signed version of the solar rebate paperwork is submitted by Horizon Energy Systems to secure the solar rebate (final partial payment).

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Important considerations for solar electric system design

- Do a careful shade analysis to determine the sunniest place for the solar modules.

- Solar panels work optimally in the Bay Area when facing South or Southwest (SE is good too) at a tilt of between 15 to 35 degrees up from horizontal. West facing arrays are good too if the pitch is less than 23 degrees (steeply pitched west facing roofs may have weak winter performance). With a time-of-use electric meter in PG&E territory west facing arrays (at tilts less than 22 degrees) give about the same financial value as southern oriented PV systems.

- Inverters operate most efficiently and last longer when located in shady locations (preferably near the electric panel where a circuit breaker connects it to the power). This keeps wire runs short and inexpensive and to a lesser extent reduces wire loss due to voltage drop that may occur for long wire runs.

- PV is relatively maintenance free, just view the inverter output to verify system is working and clean the panels for maximum performance in the summer (hosing off panels is usually all that is needed, if panels are not cleaned summer output may drop by 3% to 9%). Monitoring systems can be connected to your computer or the internet to automate system performance monitoring. Currently available grid tied PV inverters have built in monitoring displays to show peak power output and cumulative kWh daily and lifetime energy generation. For a brief explanation of cleaning solar modules see: http://www.gosolarnow.com/YourRole.html#clean

- See this Horizon Energy Systems web page for an explanation of AC and DC watts and an explanation of kWh solar performance factors: http://www.gosolarnow.com/YourRole.html#peak