



SOLAR POWER ON YOUR HOME: GETTING STARTED

CONGRESSWOMAN GABRIELLE GIFFORDS

Finding a Solar Installer in Southern Arizona

- Word of mouth – the best way!
- Phone book/Internet
- Arizona Solar Energy Industries Association: www.arizonasolarindustry.org/members.html
- Tucson Electric Power:
Electric: www.greenwatts.com/Docs/ListingSolarInstallers.pdf
Hot water: www.tep.com/Docs/RESTDocs/2008HotWaterHeatingInstallersList.pdf
- Trico Electric Cooperative: www.trico.coop/index.php/renewable-energy

General Installation Procedures for Solar Electric Panels

1. Initial call to schedule site visit
2. If you live in an area with a homeowner's association, it is wise to contact them early!
 - The law says an HOA cannot prohibit you from installing a solar energy system or interfere with the full potential of energy generation
 - HOAs do have the right to ask that the system be as unobtrusive as possible
3. Sign contract with installer
4. Installer will help you apply for a building permit from the City or County
5. Sign an interconnection agreement from your local utility and apply for the rebate
6. After the permit, interconnection agreement, and rebate are settled, the installation will begin – this may take 1-3 days
7. City or County will send an inspector to ensure safety
8. Utility company will send an inspector to review system
9. Utility will provide the rebate

Tax Credits/Incentives for Residential Systems

NOTE: *Tax credits apply to the year that the solar system actually goes into operation*

- Federal tax credit : 30%
 - No cap on residential federal tax credit
 - When filing taxes, use Federal Tax Form 5695
- State tax credit : up to \$1000
 - When filing taxes, use Arizona Form 310
- Utility rebates
 - Tucson Electric Power offers \$3 per watt up to 60% of the system cost, or 0.2¢/kWh. TEP also offers up to \$1,750 for a solar hot water system
 - SSVEC offers \$3 per watt up to 50% of the system cost, or 0.2¢/kWh up to 60% of the cost. There is currently a waiting list.
 - APS offers up to \$3 per watt up to 50% of the cost. APS also offers up to \$0.75/kWh for solar water heating.
 - Trico Electric Cooperative has suspended its rebate program, pending additional funding. However, there is a reservation list for rebate applications, and the previous incentive was \$3 per watt up to 40% of the cost.

Things to Keep in Mind

- Generally, an installation can take 2-4 months from the initial call to actual operation.
- Conservation/Energy Efficiency
 - Before even thinking about installing solar electric or solar hot water, make sure you have done all you can to improve the energy efficiency of your home and adjusted your energy use patterns to minimize wasted energy.
- Many variables can affect the price:
 - System brand and installation company
 - Cost of permitting
 - Available roof space, slope of the roof, and difficulty/time of the installation
- As a rule, the bigger the system, the greater the volume discount
- Inverters – changing DC watts produced into usable AC watts:
 - Solar panels produce DC (direct current). However, almost everything in your house runs on AC (alternating current), which is what the utility provides.
- The power from your panels must flow through an inverter which changes-DC to AC, which can be used for your home or pushed onto the grid.
- There is a loss of about 5-10% when a current is converted from DC to AC for a grid tie system.
- The utility incentive is for the system size in DC watts.

Definitions and Conversions

- A **kilowatt hour** (kWh) is the amount of electricity it takes to run a 100 watt light bulb for 10 hours.
- The average household uses around 11,000 kilowatt hours (kWh) per year.
- 1000 watts (W) = 1 kilowatt (kW).
- 1000 kilowatt (kW) = 1 megawatt (MW).
- 1000 megawatts (MW) = 1 gigawatt (GW).
- For example, a house might use a 2-5 kilowatt system, a big box store might use a 200 kilowatt system, and a coal power plant or a thermal solar plant might produce 200-500 megawatts of power.

Please visit Congresswoman Giffords' website and click on the sun:

www.giffords.house.gov