



## Solar in western Pennsylvania – Frequently Asked Questions

### **Solar works in western Pennsylvania (Even better than in Germany, the world's leading solar nation)**

#### ***NOW IS THE TIME TO GO SOLAR; STATE GRANTS ARE RUNNING OUT SOON***

- ***What do I do first?***

**Find out if you have adequate access to sunlight.** A south-facing location without shade is essential. Since continued access to sunlight is the most important factor in your solar system's ability to produce electricity, take into consideration future construction or tree growth on neighboring properties that could shade your system. A knowledgeable solar installer will be able to determine if solar will work for you.

**Get at least two quotes from local reputable solar installers who will visit your home.** They will review the necessary equipment, costs, and procedures to installing your system.

**Check your local laws and zoning.** You might need permits from your municipality, including a building permit and/or an electrical permit. Often your provider will take care of this and will roll the price of the permits into the total system cost. If you live where a Home Owner's Association must approve a solar electric system, you or your provider may need to submit your plans to them before installation begins.

- ***What size system is most common?***

A typical 3-kilowatt (3-kW) residential system will generate 25 - 40 percent of the electricity needed for an average Pennsylvania home, which uses 750 to 1,000 kilowatt-hours (kWh) of electricity per month. Check your electric bill to find your average usage and compare it to this baseline to determine your needs. A larger system will produce more energy.

- ***How much electricity will my system produce?***

Electricity output depends on where you live. In Pittsburgh, the estimated annual output of a 3-kW system would be about 3,297 kWh.

- ***How much space will I need?***

A typical 3-kW residential system measures about 300 square feet. Using the formula 1 kW = 100 sq. ft., you can calculate the approximate square footage of your system based on the size system you decide to install. A PV system can be located on your roof or mounted on the ground of your property.

- ***Do I need to replace my roof before installing solar?***

For most, there's no need to replace your roof before going solar. Solar panels last for 20-30 years. Because of this, you want the roof to be in good condition; it does not make sense to remove and reinstall the panels after only a few years.

- ***What is the cost of a residential system?***

A solar electric system will typically cost about \$6,000 - \$9,000 per kilowatt (kW) of capacity, **but incentives can significantly reduce that cost.** For example, a 3-kilowatt (3-kW) residential system will cost between \$18,000 -

\$27,000 before incentives, but the price can vary based on the size of the panels and the type of inverters that are selected. A solar hot water system costs about \$6,000 - \$10,000 before incentives.

- **Is funding available to help pay for my system?**

**YES!** There are state refunds, federal tax incentives, net metering benefits (selling excess electricity back to the electric company) and solar renewable energy credits that help to make solar a great investment.

**STATE REFUND** - Pennsylvania has a grant program called *PA Sunshine* for solar photovoltaic (PV) and solar thermal hot water systems. Currently, the PA Sunshine rebate is \$0.75 per watt for PV systems. Therefore, the rebate on a 3-kW system would be about \$2,275. For solar hot water, the rebate is 35 percent of the cost of the system up to \$5,000. So the refund for an \$8,000 system would be \$2,800.

*This funding is running out, so the time to go solar is now!*

**FEDERAL TAX INCENTIVE** - The U.S. government also provides a 30 percent tax credit on the system; if the system costs \$24,000, then your tax credit would be about \$7,200.

**ENERGY SAVINGS AND NET METERING** – Your solar electricity will offset the amount of electricity you must now buy from your utility. You will also be reimbursed for the extra energy that you send to the electric grid. So if you produce half of your electricity through solar power, your electric bill will be cut in half as well.

**SOLAR RENEWABLE ENERGY CREDITS (SRECS)** - Pennsylvania law requires that utilities buy a certain percentage of solar energy every year through the purchase of solar renewable energy credits (SRECs). Every solar energy system produces SRECs that can be sold if there is an available buyer on the SREC market. This price fluctuates from year to year. Sometimes there may not be a market for the SRECs, but it can bring substantial financial benefits.

**INCREASING THE RESALE VALUE OF YOUR HOME** - Studies show that solar systems may add thousands of dollars to the resale value of your home; therefore, adding solar is an investment that will pay for itself over time.

**PROTECTION FROM INCREASING ENERGY PRICES** – The price of solar electricity is free after installation. However, electricity prices from fossil fuels are expected to continue to rise over time.

**Example:** Cost/benefits for a 3-kW solar electric (PV) system (the actual cost could be less or more)

Cost of solar system	\$24,000	
State rebate	- \$2,275	
Federal tax credit	- \$7,200	
<b>Total cost of system</b>	<b>\$14,525</b>	
<b>Additional benefit</b>		
Electricity savings	+ \$ 300	per year ( > \$6,000 for 20 years)
Sale of SRECs	+ \$240 - \$1000	per year (\$4,800 - \$20,000 for 20 years)

**Example:** Costs/benefits for solar hot water system (the actual cost could be less or more)

Cost of system	\$8,000	
State rebate	-\$2,800	
Federal tax credit	-\$2,400	
Duquesne Light rebate	-\$ 300	only available for replacing electric hot water
<b>Total cost of system</b>	<b>\$2,500</b>	
<b>Additional benefit</b>		
Electricity or natural gas savings	+\$ 350	per year ( > \$6500 for 20 years)