

The Solar Power “Common Questions” List

Produced for the North Texas Renewable Energy Group by Dan Lepinski – June, 2008
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Q: How much solar equipment will it take to:

a) Have a zero electric bill?; b) Power my air conditioner?; c) Run my entire home?

A: If you live in a typical energy-inefficient home, you’ll run out of roof space before you run out of electric bill. It’s best to have a home energy audit done first .. then act on the most effective steps recommended in the audit. After that, when you DO add solar electricity, it will have a greater impact on your utility bill. If your home utility bill is \$300 a month, you’ll need roughly \$140,000 in solar electric equipment to offset this cost every month. This doesn’t include maintenance on or replacement of the very large battery system that would also be required.

Q: How much electricity do solar panels make?

A: That depends on their size, the number of panels in the system, and other variables. Typical residential solar electric systems today use 10 to 20 solar panels, and on average generate between 2,000 and 4,000 watts in full sunlight.

Q: How many years before the solar panels “pay for themselves”?

A: Based on electricity generation alone, “payback” (return on investment) can require from 7 to 40 years or more, depending on what you pay for electricity, what you paid for the equipment, and any incentives involved. Many people install solar equipment not for the payback .. but because to them, it’s the right thing to do.

Q: Why are solar panels so expensive?

A: They are made from material similar to that used in microprocessors and transistors. The process of creating this very pure material is time-consuming and costly.

Q: When will the cost of solar panels come down to where they’re affordable?

A: Costs are falling now, though slowly. “Affordable” is a matter of perspective. Solar panels increase the value of your home, while reducing your energy consumption.

Q: What incentives are available to help reduce the cost of renewable energy equipment?

A: The US government offers a 30% federal tax credit for the installed cost of solar electric equipment, solar hot water systems, and other energy saving items. In addition, utility companies and power delivery companies in your area may also provide rebates. Your out-of-pocket cost in such cases can be reduced by 50% or more.

Q: What about hail?

A: Insurance companies commonly offer coverage for solar electric and solar hot water panels once they’re installed on your home or business. Contact your insurance carrier before you install any equipment to be sure. Solar panels are designed to withstand up to 1” hailstones, but will break if the hail is large enough.

Q: Do solar electric panels also make hot water?

A: No. Solar electric panels are not designed to create hot water. It would seem a logical thing to do, but solar electric panels do not operate efficiently at the high temperatures required for heating water.

Q: Do solar panels make electricity in cloudy weather?

A: Yes, but less than in clear weather. Reduced light results in reduced energy.

Q: How much less energy?

A: It depends on how cloudy it is. Heavy overcast can reduce the energy produced by solar electric panels by 90% or more. Conversely, haze may reduce their output by only 10%.

Q: I want to install solar electricity on my home. What should I do first?

A: First, have a home energy audit performed and make the changes .. and install the upgrades recommended in the audit. Next, add solar hot water. THEN solar electricity.

Q: Where can I get more information?

A: The North Texas Renewable Energy Group www.txses.org/NTREG/

Texas Solar Energy Society www.txses.org

American Solar Energy Society www.ases.org

