SMART Source℠ Program Frequently Asked Questions

Participating in the Program

- **How do I know if I'm eligible to participate?**
  Only electricity customers who receive electric delivery service from AEP Texas Central Company (AEP TCC) or AEP Texas North Company (AEP TNC) are eligible to participate. Your Service Provider can help you determine if you're eligible. "Customers" are defined as the entity with financial responsibility for paying the electric bill for the meter behind which the distributed solar energy equipment is to be installed. The map at right shows the AEP TCC and AEP TNC service areas in Texas. This map is provided for reference only, as customers located within this service territory may or may not receive electric service from one of these Utilities.

  AEP Texas Central Company (AEP TCC) ESI-ID
  100327894 01234567
  Company code Premise ID#

  AEP Texas North Company (AEP TNC) ESI-ID
  102040497 01234567
  Company code Premise ID#

- **Do I need to be connected to the grid?**
  Yes. To qualify for an incentive your solar energy system will need to be connected to the grid.

- **Do systems with battery backup qualify for an incentive?**
  Yes. However, there are no incentives available for the battery portion of the system. The incentive amount is calculated based on the capacity of the solar modules installed.

- **How do I purchase a solar energy system?**
  A enrolled Service Provider must install your solar energy system. To help you get the best price, the Utilities encourage you to get more than one quote.

- **Can the Utility or Program Manager recommend a solar contractor?**
  We cannot provide referrals to individual contractors. However, we do provide a list of enrolled Service Providers who work with the program.

- **How long does it take to install a PV system?**
  The typical installation time for a residential system is from 2 to 5 days, but ordering equipment and scheduling the installation can take several months. Systems that are mounted on the ground or systems with batteries are more complex, and might take longer. Most of the installation time is spent on the outside of your house, so there should be little disturbance to you. The installation of commercial systems may take several weeks to over a month to install, depending upon size and type of installation.

- **Who will help me apply for the Solar PV Program incentive?**
  Your enrolled service provider will prepare the incentive application to secure these incentive for you.

- **Can I apply for incentives or install a solar energy system as an individual?**
  Consumers who wish to install systems by themselves may do so only if they meet all eligibility requirements and become a enrolled Service Provider in the Program, or contract with a enrolled Service Provider who will apply for funding, oversee the installation and applicable permitting, and provide the required warranty. Service Providers are required by the Program to have a lead role in every project in order to promote safety and quality in the design and installation process, and to maintain consistency with Texas interconnection rules.

Costs/Warranties/Durability

- **How much does a solar energy system cost?**
  No single answer will apply. The overall cost of purchasing and installing a solar energy system will be based on the size of the system you choose and the layout of the installation. Solar energy systems can range in cost from $2.50 - $4/watt before incentives and tax credits are taken into consideration. The Program solar incentive along with other state and Federal incentives can affect the final cost to the customer.

- **Can I sell extra energy back to the utility? How much will I earn?**
  If you are not using your solar energy at the time it is produced, it will be exported to the grid. You may be able to earn a credit for these energy "out-flows" from your retail electric provider. Please see our solar metering information page for more details.

- **What is the typical warranty on a solar energy system?**
  Most solar energy system modules will carry a 20-year warranty at minimum. Typically, the inverter for your system carries a 5-year warranty. The Solar PV Program requires that modules carry at least a 20-year warranty, that inverters carry a 5-year warranty and that the system is guaranteed for at least 5 years by the Service Provider.

- **How durable is a solar energy system?**
  Solar energy system modules have passed a standard set of tests for durability and are built to withstand winds of up to 125 miles per hour and 1-inch hail.

Solar Energy System Operation, Performance and Installation

- **Will a solar energy system work with my home?**
  To have a solar energy system installed on your roof, your property must have a reasonable amount of unshaded, unobstructed roof space during the key sun hours of the day. A southern orientation is ideal but east and west facing roofs can still capture over 80% of the energy of an ideally-sloped, true south-facing roof. Your roof may be flat or sloped. Rack-mounted systems on the ground and pole mounted systems are also available.

- **What size system should I get?**
  The size you choose is a trade off between the amount of money you want to invest and the amount of electricity you want to produce. An average Texas home during peak electricity usage in the summer uses up to 5 kW of electricity at any given moment. Over a year, that same home will use approximately 12,000 kWh of

electricity. You can look at your electricity bills to calculate how much electricity your home typically uses. You may choose to offset all or only a portion of your energy usage with solar. Another condition in deciding proper system size is the amount of suitable space available on your roof. To be suitable, you must have unobstructed, non-shaded roof area, either flat or a sloped, orientated to the South. You need roughly 120 square feet of roof space for each kW that you wish to install.

- **What happens if my solar energy system doesn't provide enough power for my home?**
  While you generate the bulk of your own electricity during the peak hours of daylight and demand, your utility will seamlessly take over and continue to supply your electricity at night and on cloudy days. If you decide to include battery storage, the additional cost of the battery system will not be covered by the incentive.

- **Will a solar energy system produce enough energy to handle my electricity needs?**
  System size determines production. The size of system that is right for you depends on how big of an investment you want to make, what your electricity consumption is, and how much unshaded roof space is available. It is always a good idea to reduce your electricity usage as much as possible through efficiency and conservation before assessing your needs for self-generation. (Other programs may be available to help.) You should work with an enrolled Service Provider to determine an appropriately sized solar energy system for your home, and to evaluate how much of your electricity needs will be met by that system.

- **How much electricity will a 1 kW, 2 kW or 3 kW system produce?**
  Solar electric systems in the Utilities' service areas produce from about 1,200 to 1,600 kilowatt-hours (kWh) per year per kilowatt dc (kWdc) installed, depending on: your location; the tilt, orientation and shading of the solar panels; and, the type of inverter you select. This means that:

  - a 1 kWdc system can produce from 1,200 to 1,600 kWh per year,
  - a 3 kWdc system can produce from 3,600 to 4,800 kWh per year,
  - a 5 kW system can produce from 6,000 to 8,000 kWh per year, and
  - a 10 kWdc system can produce from 12,000 to 16,000 kWh per year.

  Your Service Provider can help you determine what to expect from your system. You can also use an online tool provided by the National Renewable Energy Laboratories to help estimate solar production: http://pvwatts.nrel.gov/.

- **In what temperatures will a solar energy system operate?**
  Solar energy systems typically operate in temperatures ranging from -13 to 122 degrees Fahrenheit. Solar energy systems are electronic devices that generate electricity directly from sunlight. Output drops off a small amount as the system gets hotter. In summer months, increased daylight hours increase production.

- **How is solar energy converted into electricity?**
  A solar energy system generates electricity through the use of photovoltaic (PV) technology. PV cells convert the energy in sunlight directly into DC (direct-current) electric energy. An inverter converts the DC current to AC (alternating-current) for use in your building.

- **How do I use the electricity from my solar energy system?**
  The electricity generated by a solar energy system works just like the electricity delivered by your electric utility. After passing through the inverter, the direct current (DC) electricity generated by the solar panels is converted to alternating current (AC), the type of electricity that you access through the outlets in your home.

- **Do the modules need to be mounted on my roof?**
  PV modules are most often mounted on the roof, but they can also be mounted on the ground. Ground mounted systems are a better choice if the house/roof is shaded, or if dormers or other obstructions limit available roof space.

- **Which type of modules or inverter should I choose?**
  Many different types of modules and inverters are available. Consult with your Service Provider to determine which type of module and inverter will best meet your goals. For the purposes of the Solar PV Program, all equipment chosen must be new and listed on this list of approved modules and inverters.

- **Can I increase the size of my solar energy system at a later date?**
  Yes.

- **How will I know if my solar energy system is working?**
  Since solar technology is motionless and noiseless, a meter is required to keep track of how much electricity your system is producing. The inverter display can show you how much power is produced at any given time. Also, if you have an analog solar meter (not the utility meter, but a meter installed to record production from the solar energy system) and the disc rotating, your solar system is generating. Most digital meters also have a means of determining the real time output of your solar energy system.

- **What happens at night?**
  Since sunlight is required for solar energy systems your system will not produce electricity at night. Unless you purchase a system with a battery backup, your electric utility will supply your energy needs at night.

- **What happens during an electric outage?**
  For any type of electric outage, only solar energy systems equipped with transfer switches (these are common in systems with battery backup) will continue to produce power. Systems without transfer switches, by law and engineering standards, must shut down until the outage has been restored.

- **Do solar energy systems require maintenance?**
  For the most part, solar electric systems require very little maintenance. However, to keep them working at optimal performance it is recommended the panels are kept clear of dust and debris. Consult with your installer or the manufacturer regarding the maintenance of your solar energy systems.

- **Can I add battery backup at a later date?**
  Yes. Some solar inverters are made to work with a battery system. If you start with this type of system, it is easy to add more batteries. However, if your existing inverter does not support battery backup, you would either need to upgrade to one that does, or purchase an independent battery charging and backup system.