



SOLAR SYSTEMS: WHAT SIZE IS RIGHT FOR YOU?

As your Touchstone Energy cooperative, we are your source for energy and information. Since interest in solar power generation is growing, we put together a series of fact sheets to help answer questions you might have. Contact us for more information about solar and assistance in making decisions about whether solar is a good option for you.

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All solar systems begin with a series of small photovoltaic (PV) cells that produce electricity directly from sunlight. These PV cells are combined to form a module or panel. Several panels are connected together to form an array or a solar system. Arrays can be small—from a few panels to power a roadside warning sign or a remote cabin—up to a large array covering hundreds of acres as part of a utility-scale solar farm.

Solar systems generally can be divided into three types, based on size.

ROOFTOP SYSTEMS

This type of system is most often thought of as a residential system, although rooftop systems may also be installed on commercial and industrial facilities. However, for the most part, rooftop systems are smaller in scale, and for practical purposes, have far less capacity to produce solar than other types.

- As the name suggests, rooftop systems are mounted on a roof. This may be a home, a commercial/industrial building, a public building, or even a parking garage
- The actual amount of energy produced depends on the location. Typical home rooftop systems are sized to produce between

2 and 10 kilowatts (kW). On average, 75 square feet of solar panels are needed to produce each kilowatt of direct current (DC) power during peak solar periods.

- While prices vary, residential system prices have fallen to an average of \$3.50 per watt peak capacity of direct current Wp-DC. Watt peak capacity is the maximum capacity of a module under optimal conditions.
- Ownership of rooftop systems can vary: The system may be owned by the building's owner. A leased solar system may be owned by the company installing the leased system, or a community solar system may be owned by the electric cooperative installing it.
- The energy produced by the rooftop solar system helps offset energy use of the building on which it is installed. During some times of the day or months of the year, it may produce more energy than is used within the home or commercial building.
- The number of solar panels installed on the building can be expanded over time, depending on the size and configuration of the building, and the owner's desire to install additional capacity.