Cobb EMC | Solar Glossary

Alternating Current (AC)
The flow of electricity that constantly changes direction between positive and negative sides. Almost all power produced by electric utilities in the United States moves in current that shifts direction at a rate of 60 times per second.

Avoided Cost
The amount of money an electric utility would need to spend for the next increment of electric generation to produce or purchase.

Battery
Batteries are often sold with a solar electric system. The primary purpose is to store the electricity not immediately used, which could be used at some later time.

Demand
The need set by the member for Cobb EMC to reserve a certain capacity of power. The difference between demand (kW) and consumption (kWh) is important to understand.

If a 100 watt light bulb is on for 10 hrs it consumes 1,000 watt-hours. The entire time it's on, it demands/needs 100 watts or 0.1 kW from the utility. That means Cobb EMC must have that 0.1 kW ready whenever the member turns the lamp on.

100 watt light bulb + **10 hours of time** = **1,000 watt hours or 1 kWh**

Similarly, ten 100-watt light bulbs burning for 1 hour consume 1,000 watt-hours or 1 kWh.

10 x 100 watt light bulbs + **1 hour of time** = **1,000 watt hours or 1 kWh**

Note that in both examples, the consumption is 1kWh, however, look how different the second situation impacts the utility from a demand perspective. The serving utility must now be prepared to provide ten times as much 'capacity' in response to the 'demand/need' of the 10 light bulbs operating all at once.

Direct Current (DC)
The flow of electricity that flows continuously in one direction.

Frequency
The number of cycles through which an alternating current moves in each second.

Electrical Grid
The electricity transmission and distribution system that links power plants to customers through high-power transmission line service.

Fixed Tilt Array
A photovoltaic array set in at a fixed angle with respect to horizontal.

Interconnection
The linkage of transmission lines between two utilities, or between a utility and an end-user, enabling power to be moved in either direction.

Inverter
A device that converts direct current electricity to alternating current either for stand-alone systems or to supply power to an electricity grid.

Kilowatt (kW)
1,000 watts. A unit of measure of the amount of electricity needed to operate given equipment. For example, a one kW system is enough power to illuminate 10 light bulbs at 100 watts each. (volts x amps = watts).

Kilowatt-hour (kWh)
The amount of kW produced over a period of time, or one kilowatt of electricity supplied for one hour. For example, a one kW system, if operating at full capacity for 5 hours will produce (or use) 5 kWh of electricity.

National Electrical Code (NEC)
Contains guidelines for all types of electrical installations. The 1984 and later editions of the NEC contain Article 690, "Solar Photovoltaic Systems" which should be followed when installing a PV system.

Solar Energy
Heat and light radiated from the sun.

Solar Panel
Devices that collect energy from the sun (solar energy). This is usually solar photovoltaic (PV) modules that use solar cells to convert light from the sun into electricity, or solar thermal (heat) collectors that use the sun's energy to heat water or another fluid such as oil or antifreeze.