How does sunlight become solar energy?

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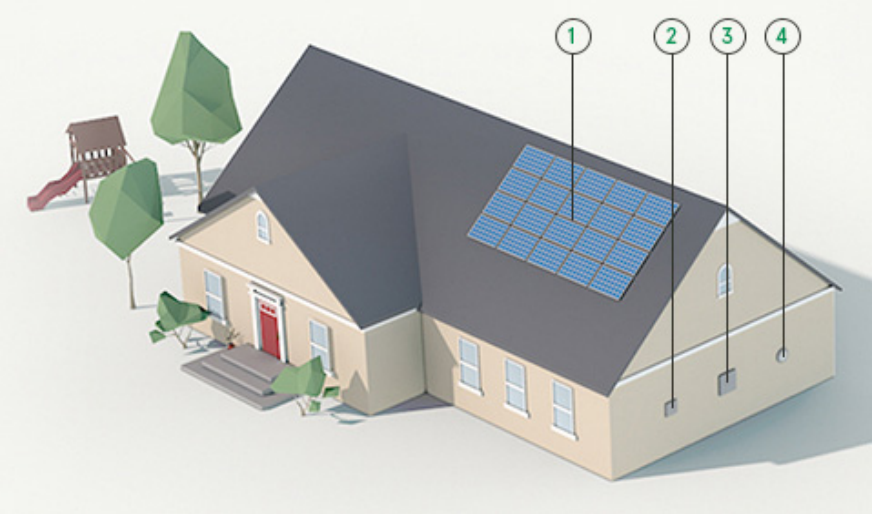
The image below will illustrate in detail how you see a solar system working?

1. Photovoltaic battery (PV) converts sunlight into direct current (DC)

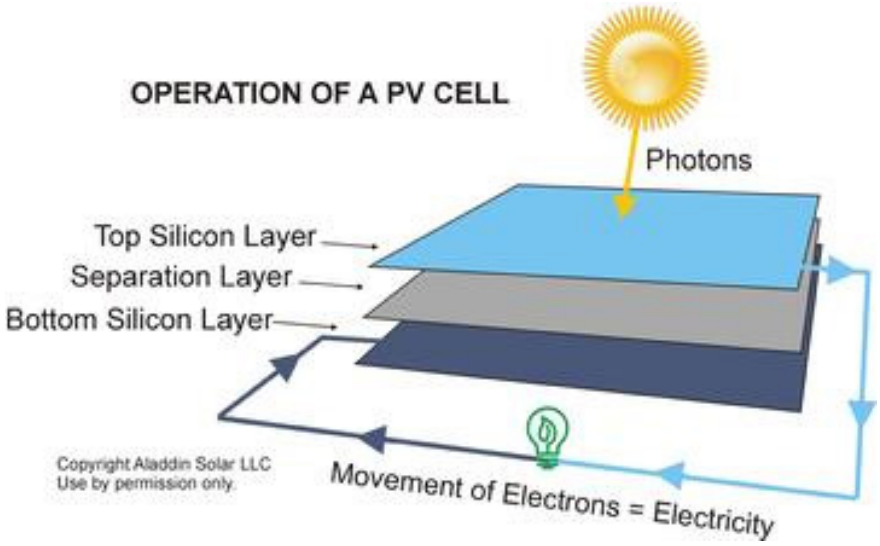
2. Inverter converts DC current into AC current

3. The electrical system will send this alternating current to lamps and devices for use

4. Measures will calculate the energy you have consumed and respond to the grid



The solar power system converts sunlight into direct current, or the same form of electricity as in batteries where electric current only moves in one direction. Solar batteries, usually consisting of two layers of silicon (semiconductor material) and a layer of separation, are connected together and assembled into solar panels or modules.



When these batteries are exposed to sunlight, photons from the sun interact with electrons in the upper silicon layer, essentially knocking them out of the related atoms. Free electrons will be attracted to the atoms in the silicon layer below and into the wire to reach the other end. The movement of electrons from one side to the other side of the battery is the current. The term "photovoltaic" or PV is a unique description of this process.

When the solar system is produced, photovoltaic batteries are connected together into a series. The system's output voltage depends on the number of batteries that make up it. The output voltage is usually 12, 18 or 24 volts. The output power depends on the battery's efficiency and the size and area of ??each area on the battery in the system. The bigger the battery and the higher the efficiency, the bigger the capacity per square. Solar systems that use "genuine" batteries tend to be more expensive.

When the installer assembles a PV system, the exact number of connected panels (containing multiple batteries) in the series will be specified, to achieve the required voltage target. inverter or payload. After that, these panels will be connected "in parallel" to increase the capacity of the system. When all these components are installed, the sun provides energy and the system simply produces electricity.

Hopefully this article will help you more easily visualize how a solar power system works to get electricity from sunlight.