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How Does Solar Energy Work

Do you ever feel like you know just enough about Solar Energy to be dangerous? Let's see if we can fill in some of the gaps with the latest info from Solar Energy experts.

Ever wondered how solar energy is converted into electricity? Well, this will give you an idea how it works.

First, solar panels are installed over a flat surface like the roof of your home. Once activated, it absorbs the sun's rays since the panels are made of semi-conducting materials such as silicone.

Electrons are then knocked off loose from their atoms so it can produce electricity. This process by which light is converted into electricity is better known as the photovoltaic effect.

From there, you now have direct current electricity and when this enters an inverter, it is converted into 120 volt AC which is the electricity needed to power the home. Of course this is connected to the utility panel in the house so the lights and the appliances will work when these are switched on.

If you are not using that much electricity from the solar energy generated, it is stored in a battery so will be able to supply the house with power during a power outage or at night. Should the battery be full, the excess electricity is then exported to the utility grid if your system happens to be connected to it. When your solar energy runs out, utility supplied electricity kicks in.

The information about Solar Energy presented here will do one of two things: either it will reinforce what you know about Solar Energy or it will teach you something new. Both are good outcomes.

The flow of electricity of solar energy is measured using a utility meter which spins backward and forward. It will go backward when you are producing more energy than you need and forward when you need additional power from the utility company. These two are only offset when you pay for the additional energy from the utility company. Any surplus is sod back to what is known as net metering.

A smaller version of this is used to power a water heater inside the home. Using the same principles, homeowners get to convert sunlight into heat to get warm water.

As you can see, transforming sunlight into solar energy is very easy. But why do countries like Germany and Japan use it more often than the US? The answer is because it is much cheaper for them to use this form of alternative energy compared to oil.

Also, although the US initiated this during the 1973 oil crisis, it is not as popular as it was back then because the government neither increased the budget in research for alternative forms of energy nor gave incentives so people will be encourage into doing that again.

Most state regulations also prohibit individuals from installing their own devices even if this is used to give you warm water. Chances are, you won't even find anyone to do it so you will probably have to do it yourself. Just remember that if there is a problem with the plumbing, your insurance will not cover it. Should the state allow you to install such a system, you will not be entitled to the rebate.

Using solar cells is just one way to make the most out of solar energy. Your other option is passive solar energy which helps avoid heat loss so those inside will not feel too cold or too hot throughout the day. This is used by a lot of homeowners living in the southwest since they do not need that much insulation compared to homeowners who live in other parts of the US.

About the Author

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