Belmont Solar
April 3, 2020

Your solar guide to green power

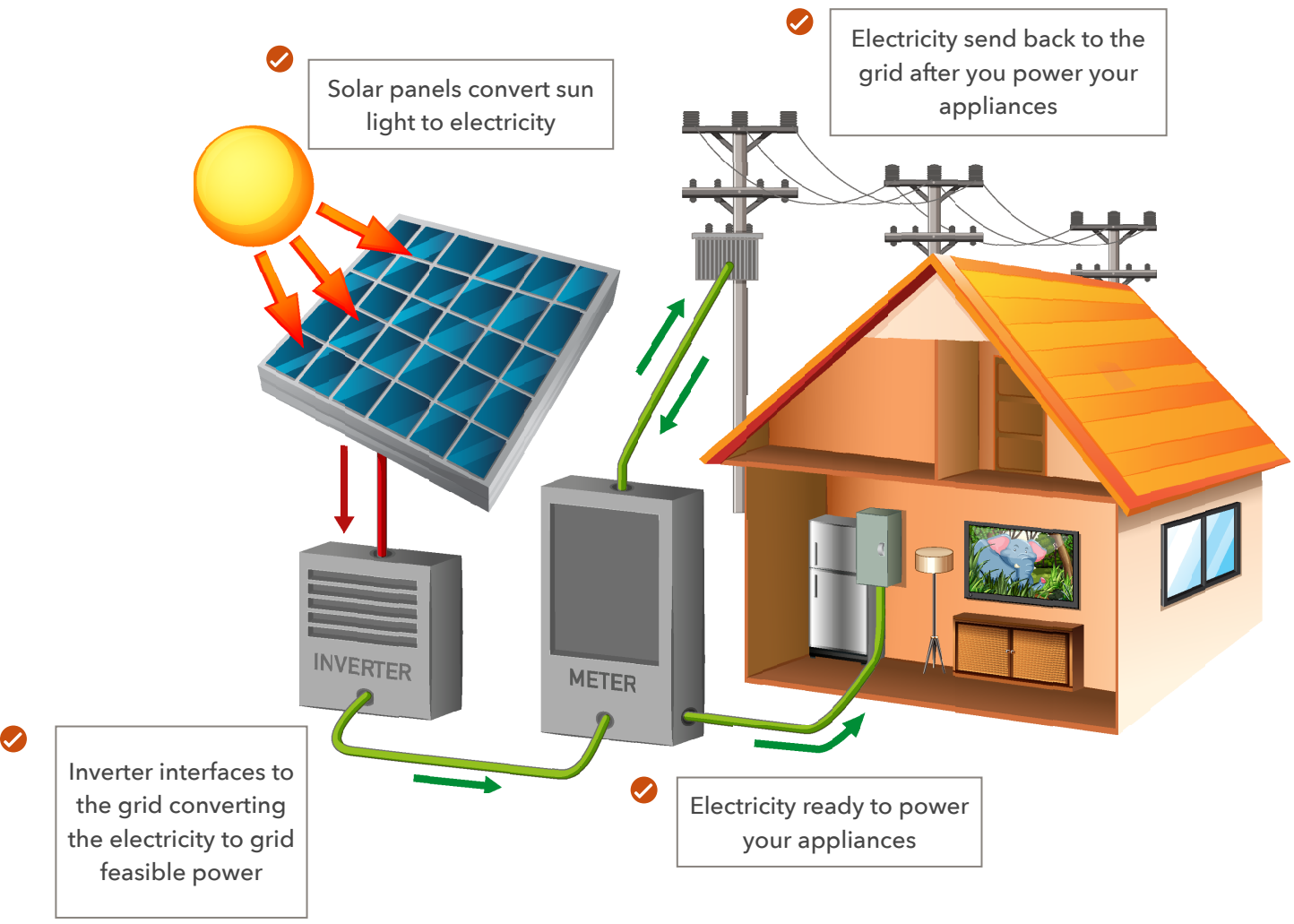
Become the solar power specialist

Let’s talk solar

- Overview of how solar works
- Net metering
- SRECS

How solar works

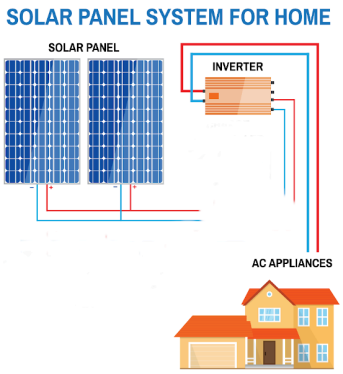
Power out of the thin air



Collecting sunlight with solar panels.

Solar panels convert sunlight to electricity. Imagine each panel as a battery that starts giving power when the sun hits the panel. Batteries give Direct Current (DC) electricity and so do solar panels. Once the sun is up the DC power starts flowing.

The inverter.



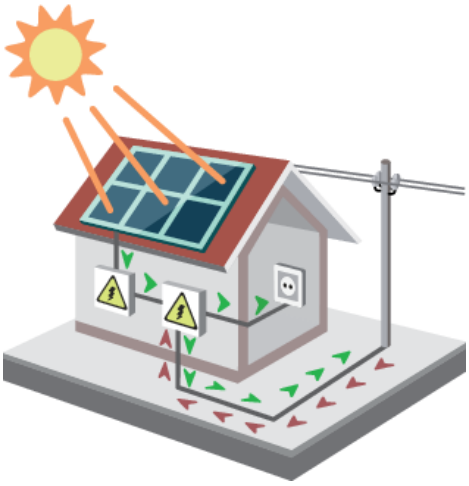
Most, if not all, appliances in you home run on either 110 or 240 Alternating Current (AC). We therefor need to convert the DC into AC and that is where we need the Inverter for. The inverter converts DC to AC and works as an interface between the solar panels and your AC electric system of your house and the grid.

Electric energy for your house.

When the day begins and the sun hits the panels your appliances are now powered by the sun. You don not have to do anything but enjoy the free power. You are however still connected to the grid, so if its a cloudy day and you are using more power than you produce, the grid will supply the difference.

Pushing back to the grid.

On a sunny day when you are producing a lot of energy, the inverter pushes the left over electricity back to the grid. Think of it as a bucket of water that will overflow if you not taking out enough water to stem the inflow of water. Your Net meter will measure how much energy you have pushed back into the grid and your utility company will give you credits that you can use for times where you use more than you produce. Some utilities will even cut you a check.



The Net Meter explained.

The Net Meter is a bi-directional energy meter installed in your house and can measure electricity in two directions. If you use more than you produce, the meter will run forward, and if you produce more than you use it will run backwards. Some utilities, however, require two separate meters to be installed - one for inflow and one for outflow.

Net metering

While the Net meter measures what you use and produce, the utility also needs a mechanism to send you the credits for the excess production that's been send back into the grid. This billing mechanism is available in most states and is a good reason to make the money saving choose to go solar for many home owners. And there are more benefits from net metering. Your production will, first and foremost, be used by you, but your solar system also reduces the strain on the grid's distribution and transmission infrastructure. Next to that, the distribution losses will also be much less, as your energy is used in your house and your neighbors' houses and does not need to travel many miles from the nearest power plant. For more information see the Solar Cost-Benefit Studies page by SEIA.

Solar Renewable Energy Certificates or SREC's

SREC's are a much overlooked benefit from owning a solar system, they are basically Green Energy trackers, tracking energy produced by solar systems. Your inverter keeps a record of the energy you produced and transmits that directly to a database. This database maintains all the data of solar energy produced in the state. The database is a public/private partnership between state government and a private company that service the database and sends the checks to the home owners. Depending on the size of your system, you will earn SREC's that will be bought by power plants. State laws called "Renewable Portfolio Standards" require fossil fuel power plants to produce a certain percentage of their energy using renewable energy systems. Your system is the answer to their renewable energy requirement, and depending on the state you are in you can get great financial benefits from your SREC's.