



POWER UP

Renewable Energy



Solar Energy

All You Need to Know



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Solar Energy

What is it?

Solar power works by converting energy from the sun into power.

There are two forms of energy generated from the sun for our use – electricity and heat. Both are generated using solar panels, which range in size from residential rooftops to ‘solar farms’ stretching over acres of rural land.

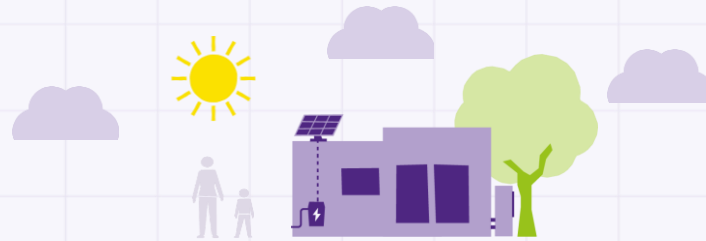
Is solar a clean energy source?

Yes, solar power is a renewable and infinite energy source that creates no harmful greenhouse gas emissions.

The carbon footprint of solar panels is already quite small, as they last for over 25 years. Plus, the materials used in the panels are increasingly recycled, so the carbon footprint will continue to shrink.

What are the benefits?

- ✓ Reduced electricity bills
- ✓ Lower carbon emissions
- ✓ No running costs
- ✓ Low maintenance
- ✓ 25 years+ life expectancy
- ✓ Energy independence from the Grid



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How does solar work?

Solar panels are usually made from silicon, or another semiconductor material. When this material is exposed to photons of sunlight, it releases electrons and produces an electric charge.

This PV charge creates an electric current (direct current / DC), which is converted to alternating current (AC) by an inverter. AC is the type of electrical current used when you plug appliances into normal wall sockets.



1

Solar panels absorb natural light

Each panel comprises small units (PV cells) made from a semiconductor material.



2

Sun shines, generating electricity

When sunlight hits these cells, electrons in the material move, creating a charge of electricity.



3

Currents are converted to energy

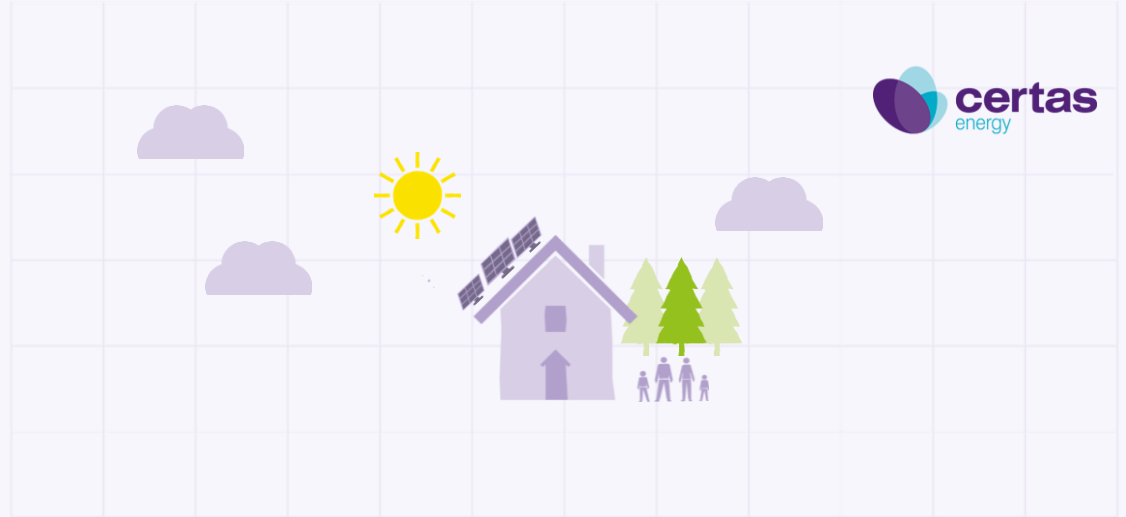
The electricity then flows into an inverter where it's converted into AC power ready to be used.



4

Excess energy sent to the grid

If you don't use or store all the electricity generated, it can be fed back to the national grid.





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Frequently Asked Questions



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Do solar panels work on a cloudy day?

Yes. Solar power only requires some level of daylight to harness the sun's energy. That said, the rate at which solar panels generate electricity does vary depending on the amount of direct sunlight and the quality, size, number and location of panels in use.



How much do solar panels cost?

The cost of installing solar panels can vary depending on a number of factors, such as the size of the system, the type of panels, and the complexity of the installation. It's important to get a quote from a reputable solar panel installation company to get an accurate estimate.



What is the expected return on investment?

Solar panel installation can provide significant long-term financial benefits for homeowners and businesses. ROI can depend on several factors such as the cost of electricity, the size of the solar panel system, location, and the incentives available.