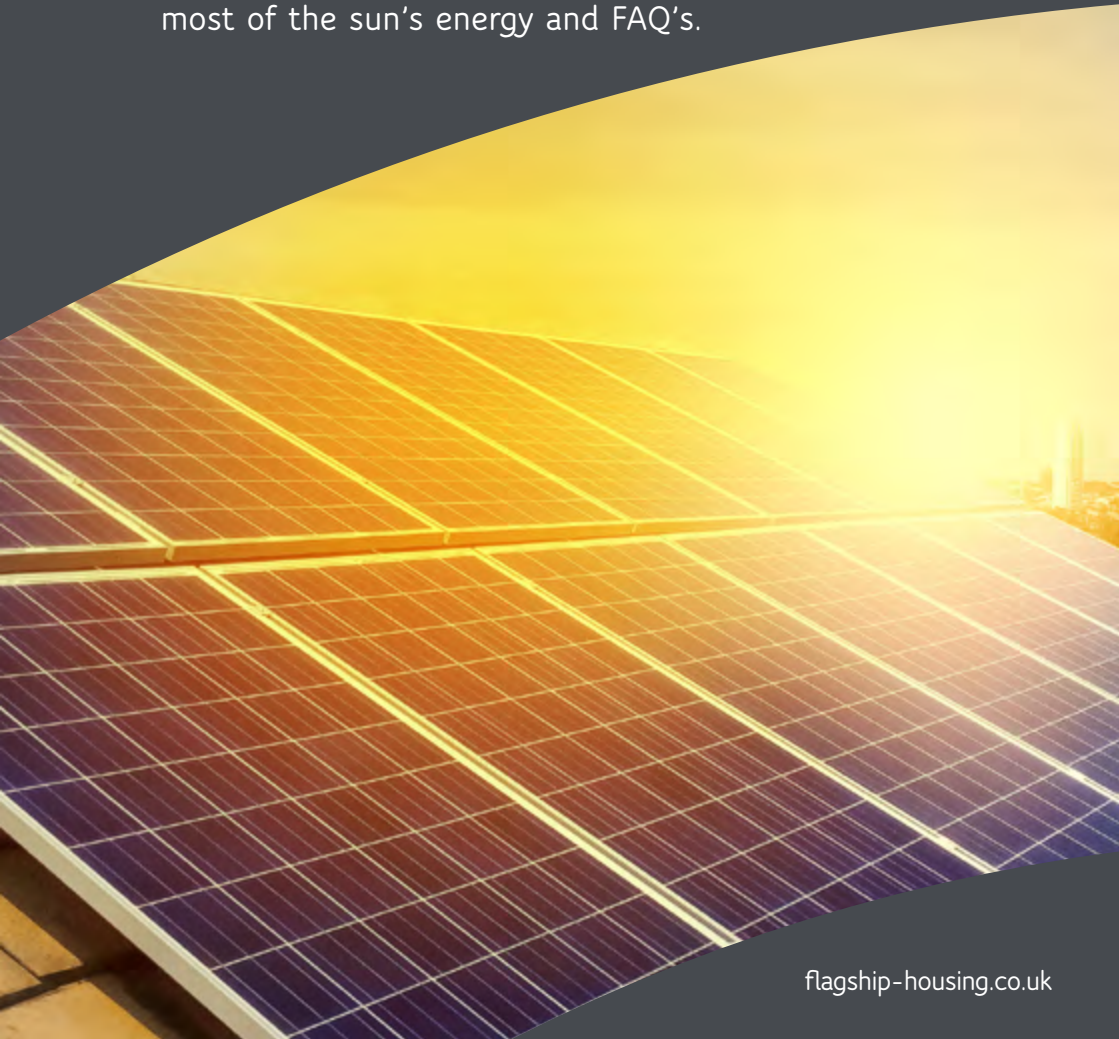




# A guide to your Solar PV

How Solar PV panels work, tips for making the most of the sun's energy and FAQ's.



## What is Solar PV?

This leaflet is a short guide of how Solar PV works, tips for making the most of the sun's energy and FAQ's.

Our Solar PV systems are connected to the national grid. This means that at night, when your panels are not generating electricity, you can still use electricity from the grid.

Having this Solar PV system installed will allow you to generate your own renewable electricity, reducing your electricity bill and lowering your carbon footprint.

## How your Solar PV works

Solar PV systems are made up of several panels, with each panel generating around 200-350 watts (W) per hour of energy in strong sunlight.

The electricity generated flows to the edge of the solar panel, and into a conductive wire. This wire brings electricity to an inverter where it can be turned into regular household electricity which is distributed around the house. The individual panels are linked together and wired to an inverter in the loft that converts the direct current from the panels to alternating current power and is connected to your electrical system via a meter.

Your home will automatically use the energy from your Solar PV system when it is generating before using energy from the grid.

## Making the most of your Solar PV

The amount of electricity generated from a Solar PV system will depend on the number of panels installed, as well as the angle/orientation of the roof and any building/trees blocking the sunlight at certain times of day.

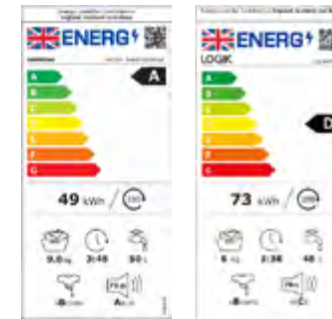
You can monitor your own Solar PV energy output using your meter. See further into this guide for how to read your Solar meter.

Households that use their electrical appliances during the day are likely to see greater savings. Running washing machines and dishwashers while the sun is shining can help you to make the most of the solar generated electricity.



To help better understand which appliances use the most electricity and should be used during sunlight, here is a handy guide looking at the average power ratings of different appliances.

Appliance	Estimated consumption	Appliance	Estimated consumption
Electric Shower	8,000W	Microwave	600 - 1,500W
Kettle	2,000W	Vacuum Cleaner	500 - 1,200W
Tumble Dryer	2,000-3,000W	Plasma TV	280 - 450W
Oven	2,000 - 2,200W	Fridge-freezer	200 - 400W
Hairdryer	2,000W	Heating Blanket	130 - 200W
Washing Machine	1,200 - 3,000W	Games Console	45 - 190W
Dishwasher	1,050 - 1,500W	Computer Monitor	30W
Hob	1,000 - 2,000W	Phone/Tablet charge	10W
Iron	1,000 - 1,800W	LED Light Bulb	10W
Toaster	800 - 1,500W	Clock Radio	1W
Coffee Maker	800 - 1,400W		



If you need to replace any of your appliances, it's worth considering their Energy Efficiency rating. Many appliances come with an Energy Efficiency rating, which will be rated from A (most efficient) to G (least efficient). Energy-efficient appliances can help you to lower your electricity consumption and reduce the need to pay for energy from the grid.

*Left: A comparison of 2 similarly priced washing machines. You can see the more energy efficient machine can wash a larger load using significantly less electricity.*

## Reading your Meter

Following the installation of your Solar PV panels, you will be provided with a full demonstration on how to use the system.

A new meter will be installed to show whether your panels are generating electricity (showed by a red flashing light), and how much electricity your Solar PV panels are producing at a certain time.



## Maintenance

Solar PV systems need little maintenance as the panels are designed to be self-cleaned by rainfall. Keep an eye on nearby trees to ensure they don't begin to overshadow the panels.

Keeping a close eye on your system and the amount of electricity it's generating (alongside the weather conditions) will help you understand what to expect and alert you to when something might be wrong.

## FAQ's

### How long will my Solar Panels last for?

Solar panels have an average lifespan of roughly 25 years.

### Is there a danger my Solar Panels will blow off the roof during a storm?

This is highly unlikely. Your solar panels are attached to the fabric of your home using a roof hook and rail system. Your panels are mounted at least 30cm in from the edge of the roof to prevent excessive wind loading.

### How do Solar Panels connect to the electrical supply in my home?

The electricity produced by your Solar Panels is converted from DC (direct current) by the inverter to AC (alternating current), which your home is run on. The electricity is then taken from the inverter via an AC cable to your distribution board, where it is used to power the circuits in your home.

### If I have Solar Panels, can I come off grid?

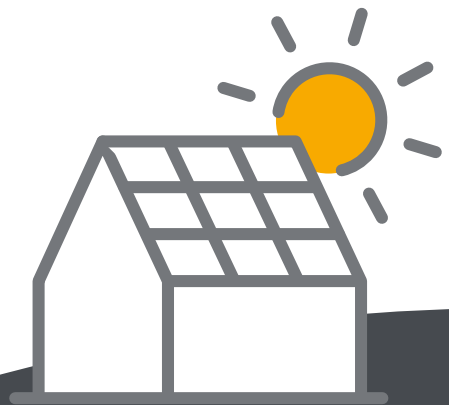
Solar PV panels alone will not give you electricity 24 hours a day as they only produce electricity in daylight hours. During the night or excessively cloudy days you will still need access to the grid to power your appliances. The systems we install will only operate if there is a connection to the grid, so you need to ensure you are in credit on your electric meter to gain a benefit.

### Will my Solar Panels work when there is a power cut?

If there is a power cut your inverter will switch off, which stops any generation from your Solar Panels entering the property. This is a safety feature to protect workers who may be repairing the grid.

### Will my Solar Panels work as well in the winter?

Yes, solar panels will produce electricity throughout the colder months. A bright day in winter will continue to produce high levels of electricity, as panels gain energy from solar radiation, rather than energy from heat. However, sometimes the output is lower than during the height of summer, as winter days are shorter and so the sun will be lower in the sky.



## Contact

If you have any questions or would like general advice, please email [energyteam@flagship-housing.co.uk](mailto:energyteam@flagship-housing.co.uk)