



affordable energy

Call 0800 035 2327

Solar Electricity

Photovoltaic - what is it?

Photovoltaic literally means light (photon) and electricity (voltaic). Photovoltaic (or PV) panels generate electricity from daylight, even on cloudy days.

Is it easy to use?

Yes! This system is very simple to use as there are no settings to change and no adjustments that need to be made. During the day when the solar panels are generating, the electricity goes straight to any appliances which are being used at the time. Any electricity that isn't used will be fed into the grid without you having to do anything. During the evening and night, when the solar panels are not generating, your home will be powered by electricity from the grid in just the same way as it was before. You will be billed for the electricity you use from the grid in exactly the same way as before, but your bills will be lower because of the solar electricity you are generating.

How much does it cost?

The cost of installing a solar PV system depends upon a number of factors including the type of PV panel the installer recommends, the orientation, structure, size and degree of tilt of your roof, and finally the location of your property (A house in Cornwall will generate more electricity than a similar house in Aberdeen). As a rule of thumb, a 1kW system will generate an average of 850 units of electricity a year in the UK and costs between £2,000 and £5,000 to install. Please have a look at our case study for typical costs. The Feed-in Tariff (FiT) payments – can offset them – as well as earn you a healthy return on your original investment. See our section on Feed in Tariffs for more information.

FREE SOLAR PV

With our FREE solar offer you can benefit from generating clean electricity and reducing your household bills without having to pay anything at all!

Our FREE solar scheme offers you FREE:

- site survey
- installation of a solar array
- home energy management system (optional)
- use of all the solar electricity you can generate

Our scheme is unique because you get the additional benefits of a Passiv home energy management system which helps you to save money on heating bills as well. Passiv System field trials show savings of around £270 per year on heating bills – as well as the savings you make on your electricity bill for using the solar electricity.

www.affordableenergy.co.uk



affordable energy

Call 0800 035 2327

Feed-in Tariffs (FiT)

In April 2010, the UK Government launched the Feed-in Tariff (FiT) Scheme. The scheme allows energy companies to buy electricity generated from renewable sources such as the wind and the sun. If you buy and install a solar PV array on your home, not only will you make savings on your electricity bills you will also receive cash payments each quarter from your energy company! The Feed-in Tariffs are also index linked which means the amount you get goes up at the same rate as inflation. The revenue you earn from Feed-in Tariffs (FiT) is tax free! See below for an example system based on a 2.2kW array installed on a south facing roof:

Panel Type	Sharp 220W panel
Number of Panels	10
Area Required	16m ²
Electrical output per year	1,888kWh
Price	£6,000 to £7,000
Generation Tariff per year	£817
Export Tariff per year	£29
Savings on Bills per year	£132

N.B. The figures above are indicative. Prices are subject to availability and site survey. Electrical output has been calculated according to Standard Assessment Procedure for a 2.2kW array on a south facing roof at an angle of 30°, with no shading. In real life the electrical output will vary. The Feed-in Tariff (FiT) calculations are based on the electrical output stated and on a generation tariff of 43.3p/kWh and electricity tariff of 14p/kWh and export tariff of 3.1p/kWh.

How do I know if my house is suitable?

The best locations are south facing roofs. The solar panels must not be shaded by trees, surrounding buildings or chimneys. A 2.2 kW array will require around 15m² of clear roof space. Generally speaking planning permission is not required to install solar PV panels. There are some exceptions such as having a listed building, or living in a conservation area. If the solar panels protrude above the ridge of the roof, or if they are more than 200mm above the line of the roof then you will need planning permission. Finally, your roof needs to be strong enough to take the extra weight of the solar arrays. Each solar panel weighs around 15kg plus the weight of the mounting frames. You need to consider the additional weight if it snows or during heavy winds.

Installation

PV arrays can be integrated into an existing or new roof, or externally mounted on frames. You will need an inverter to change the low voltage electricity generated by the solar panels into high voltage electricity for use with your appliances and for export to the grid. Inverters can be installed inside or outside the property. A complete installation will take between 1 and 2 working days – but since most of it takes place outside the house you won't be disturbed too much.

www.affordableenergy.co.uk