

# Solar Photovoltaic FAQs

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## What is solar photovoltaic?

Solar electricity or photovoltaic (PV) systems produce electricity. Currently, they are only about 15% efficient at converting the sun's rays into usable electrical energy. This electricity is typically connected to the mains supply in the building, via an inverter, to offset your electrical consumption. Depending on your electricity supplier you will be paid an amount for the electricity you export to the national grid.



## How do I know when I am using solar electricity?

Your general electrical consumption occurs as you use electrical appliances, for example, small amounts are used when you turn on a (low energy) lamp and larger amounts are used when you put the kettle on. If your PV panels are generating enough power when you are using your appliances the system will ensure that you'll be using the solar-generated electricity. If there is no solar electricity available (e.g. at night) then the system will switch to the national grid.



## How much electricity will I produce?

Electricity production will depend on the size of the system, which is in turn dependent on the amount of roof space you have readily available. Domestic installations generally vary from one to four kilowatts in size. A one kilowatt system will produce a peak of one kilowatt of electricity, a two kilowatt system will produce two and so on... This is consistent whilst there is daylight, meaning far more will be produced in the summer months, and production will dip in winter months.



The system would be sized to provide your annual need but most of the output would be in the summer. Electricity accounts for just 15%-20% of the total annual energy needed by a typical house (unless you have an electric heating system). However the proportion of carbon emissions is greater than this because only around 30% of the energy of the fuel burnt at a power station is delivered as electrical energy to your home, the rest is lost in generation and transmission.

## How much maintenance is required?

Overall, solar panels require little or no maintenance, but they should be cleaned periodically.

## How much does it cost?

The size of the installation will of course depend on the size of your roof space available. For example a one to four kilowatt could cost between £7000 - £15000 on average but this will be dependent on a site survey at the time.

## How long will my Photovoltaic system last for?

A well designed system should operate well in excess of the manufacturers 20 year warranty. The PV module which has no moving parts has a lifetime expectancy of at least 30 years.

## What is a feed in tariff?

Please see the Feed-in Tariff page on our web site.

## Is my home suitable?

The best situation for a panel is on a south facing roof, with as close to a 45 degree angle, you can produce worthwhile amounts on east and west roofs and calculations can be provided to show how much you can expect to make on any roof before any installation begins.

## How does it 'payback'?

There are essentially three ways in which you can make or save money when installing a PV system.

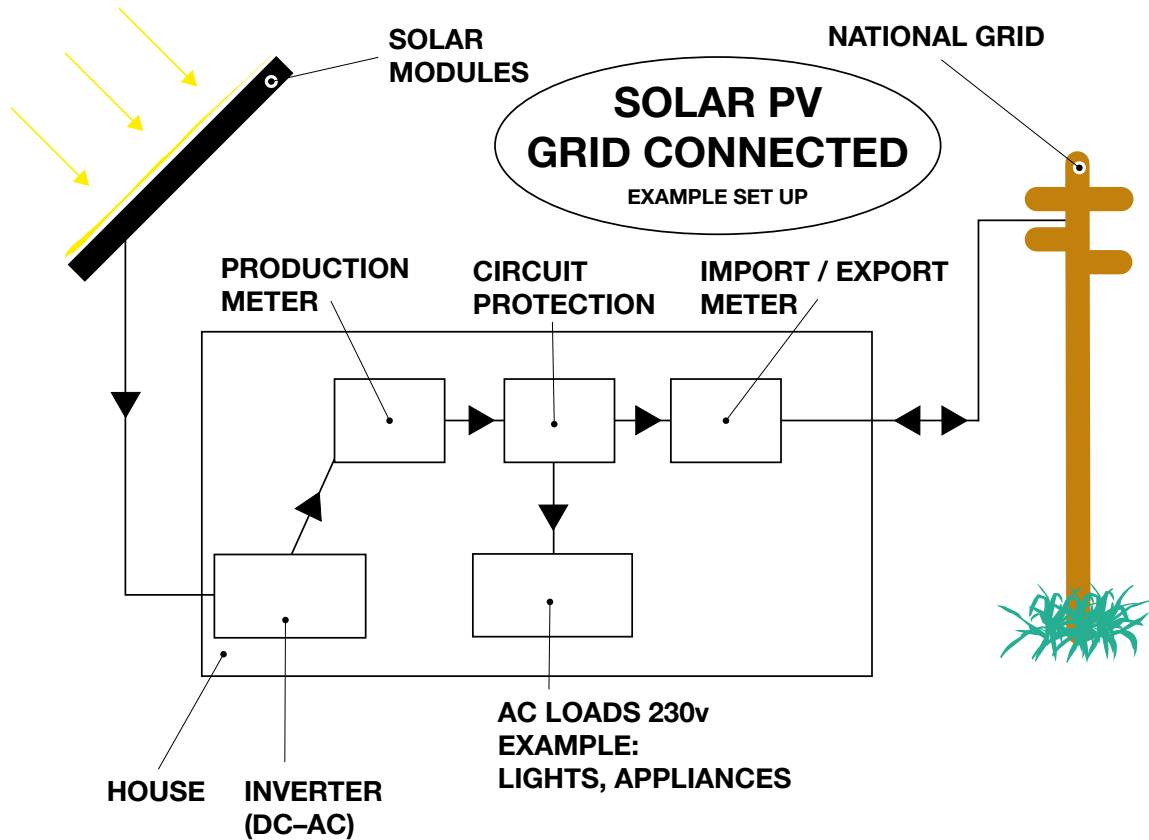
The first is that you will have less reliance on the national grid, whenever you are producing electricity anything you are using will be powered by the PV system before importing from the national grid. Meaning lower electricity bills.

The second is by exporting any surplus electricity to the national grid. There will be times in most days that you are producing electricity from your installation but not using it, this means you can export this surplus back to national grid at a fixed rate.

The third is by taking advantage of the Feed in Tariff, this is a scheme that has been running on the continent for many years now and has recently been adopted by our government as well. It means you will receive a fixed rate of payment from your electricity supplier for every kilowatt hour (kWh) that you produce.

All this means there has never been a better time to consider the possibilities of installing a P.V. system onto your property

# How It Works...



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