

SOLAR PHOTO VOLTAIC

Solar photovoltaics for making electricity:

Solar photovoltaic (PV) panels and roof tiles generate electricity using the energy from the sun. PV panels produce energy from daylight, so they still produce energy on cloudy or overcast days. The electrical energy produced is either used directly in the home, or, whilst at work or on holiday, unused energy is sold back to your electricity supplier. In the night electricity from the grid is supplied in the normal way.

What Types of Solar PV units are there?

Solar PV panels come in a variety of shapes and sizes and are rated in kilowatt peak (kWp) which is the amount of energy generated in full sunlight. The output from the system is measured in kilowatt hours (kWh) which is the standard measurement for all energy systems. The installation needs to face south (south west through to south east), and can be mounted on your roof, garage roof or nearby building or racked on a ground installation.



Panels

Available in a variety of sizes purposely designed to suit the allocated space.



Roof Tiles

Perfect for new builds
Or re-roofing projects.

FACT SHEET

The Benefit

Cut your carbon footprint:

Solar electricity is green and doesn't release any harmful carbon dioxide or other pollutants. A typical home PV system of around 2kWh could save around 1200 kg of carbon dioxide per year - that's around 30 tonnes over its lifetime and covers about half of the electricity demand of the average home

Cut your electricity bills:

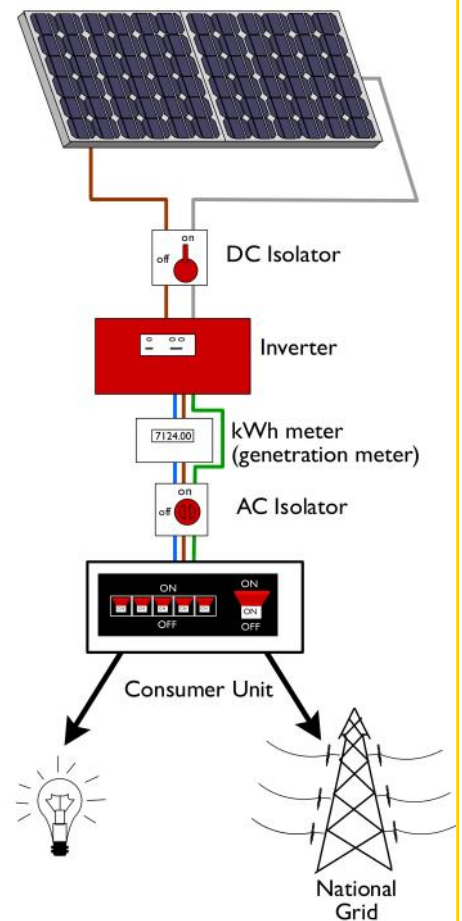
Sunlight is free, so once you've paid for the initial installation your electricity costs will be greatly reduced. A typical home (3/4 bedroom) PV system can produce around 40%/50% of the electricity a household uses in a year.

Sell electricity back to the Grid:

If your system is producing more electricity than you need, or when you can't use it, someone else can use it - and you can make money.

Good return on your money:

Around 10% return that is based on electricity at today's prices.



Absolute Solar and Wind Ltd
32 Jordanvale Avenue, Glasgow G14 0QP
T: 0141 530 7644 F: 0845 869 6454
E: info@asaw.co.uk
W: www.asaw.co.uk



Feed in Tariffs in Scotland

As of April 2011 the government has confirmed the following levels for the FiT:
(the installer and product must be accredited).

Solar PV system <4kW = 21p/kWh (unit) generated

This would mean that you would receive 21p for every kWh generated from your system whether it is used within your home or exported to the grid. An additional minimum 3.1p will be awarded for every kWh that is exported to the grid.

To help understand the value of installing the system we detail below two scenarios showing:

Estimated Savings and Income using Energy Saving Scotland template on a 2.52kW System (estimated generation of 2101kWh pa)

1. The return on investment using the government figures (EST) where half is consumed and half exported to the grid.		2. The return on investment assuming all power generated is consumed by you.	
Income from generation tariff (2101 x 21p)	£441.21	Income from generation tariff (2101 x 21p)	£441.21
Income from electricity sales (1050 x 3.1p)	£32.55	Savings on avoided electricity purchases (2010 x 13p)	£273.12
Savings on avoided electricity purchases (1050 x 13p)	£136.50	Total annual income + savings	£714.33*
Total annual income + savings	£610.26*		

*This means that you could generate over £17,858, through income and savings, and cut around 22 Tons of carbon emissions over 25 years (life of the government Feed in Tariff).

Important Notes:

We are not a financial services company, so the examples above are indicative only. Customers wanting to compare solar PV as an investment or security should consult an IFA or other relevant professional. Please note that the tariff legislation referred to is the Energy Saving Scotland feed in tariff.

In the above example, we have assumed that for every kWp of PV installed, you will generate approx 850kWh per annum (the SAPS 2009 national average), which assumes a south facing roof having a 30-40 degree pitch, with no shading - Sources are: 'The role of onsite energy generation in delivering zero carbon homes' published in August 2007 by the Renewables Advisory Board and 'The growth potential for micro-generation in England Wales and Scotland' published in June 2008 by DBERR Microgeneration Steering Group.)

The Energy Savings Trust states that 50% of PV-generated electricity is used by the homeowner and 50% is exported.

Typically, the power output of PV modules and tiles is warranted for 25 years (for minimum 80% efficiency). Their life span is considerably longer; up to 40 years according to some manufacturers. It is possible you may need to replace your inverter during the 25 years at approx £1000.

Absolute Solar and Wind Ltd offer advice, design, installation and supply of the best green energy options for all buildings, private, public and commercial. Specialising in Solar PV and Solar Thermal, installation is through a network of trained installers backed by office based design engineers. From Step One 'assessing your property' to the last step of 'claiming your feed-in-tariff' we aim to make the whole process easy to understand so you don't have to become an expert in renewable energy.



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