



WHITE HORSE  
HOUSING



# Guide to **SOLAR PV**

Understanding and getting the most from your system



# INTRODUCTION

The Solar PV system is dependent on sunlight and daylight to make it work.

The amount of sunlight varies a great deal from day to day and over the seasons of the year.

The peak generation happens in summer for about six hours over midday, whereas in the winter months the system will never reach its peak capacity.

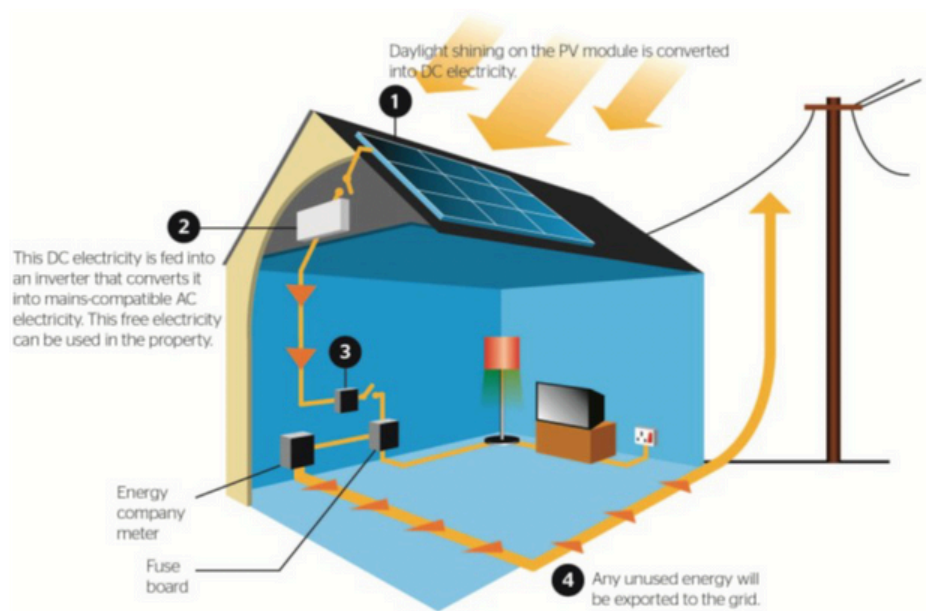
Obviously on overcast days similarly the output is low. Most of the systems we fitted are between 1½ and 2½ kW.

That means that the peak amount of electricity the system can generate will be just under those figures. Therefore on the peak time of a sunny day in summer if you have a 2 kW system it may be producing about 1900 watts of usable electricity.

For example, 1900 watts could run a fridge-freezer, a TV, a computer and some or all of the lights – depending on the number of bulbs.

Therefore those appliances could be run ‘for free’ – but only while the system is

## How does solar pv work?



generating at full capacity.

If the weather clouds over, and the system’s output falls because there is less sunlight it may only produce 1,000 watts, which could only be enough electricity to run the fridge/freezer and the TV ‘for free’.

Any other items would be taking electricity from the National Grid as usual.

In the middle of winter the solar electric output will be

much lower than the peak output in the summer months.

To put it another way, your normal household appliances will always use up the electricity generated by the solar panels first.

But if you need more electricity to run your appliances than the solar PV panels are generating, it will come from the National Grid as normal and be charged to you by your utility supplier.





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# FAQ

## **What are the benefits of my PV system?**

To cut your carbon footprint: solar electricity is a green, renewable form of energy and does not release any carbon dioxide or other pollutants. Unlike fossil fuels, the energy from the sun is an infinite resource.

## **How much electricity is my system likely to generate?**

This depends on how much PV you have installed and the light hitting your system.

## **What do I need to do?**

There should be no need for you to do anything to the system directly, as it is fully automatic. We recommend you look at the PV generation meter at least once a month and check the reading has increased. If not there may be a problem and you should contact the office.

## **What maintenance and cleaning does a PV system need?**

Solar photovoltaic systems have no moving parts and



operate silently. They require virtually no maintenance, the components are made with very robust materials and tested to ensure a long life.

## **Will my solar pv run the whole house?**

The more you are at home when the system is generating the greater the benefit you will see as a reduction in your electricity costs.

You will get no benefit from the electricity that is not used

because it is exported back into the National Grid. Take an interest in the system, learn to understand what it will and won't do.

## **Will my solar pv system save me money?**

It will save you money off your electricity bill. This could be between £50 and £150 a year, depending on how much electricity your household uses when the solar pv system is generating.



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# THE GOLDEN RULES OF SOLAR

## Daytime is best

Where possible use your electrical appliances during the day rather than in the evenings, especially if it is a sunny day.

If you are not at home during the day, timers can be easily purchased from hardware stores which can be set to activate household appliances during daytime hours.

## One at a time

Use household appliances one at a time if you can. For example, during breakfast try using the kettle first and then the toaster so you reduce the demand for electricity at any one given time. That way, more electricity can be harnessed from the solar PV panels and less from your utility supplier. The sunnier it is, the more energy you are producing up to the maximum that your system can produce.

## Kilo what? Understanding electricity

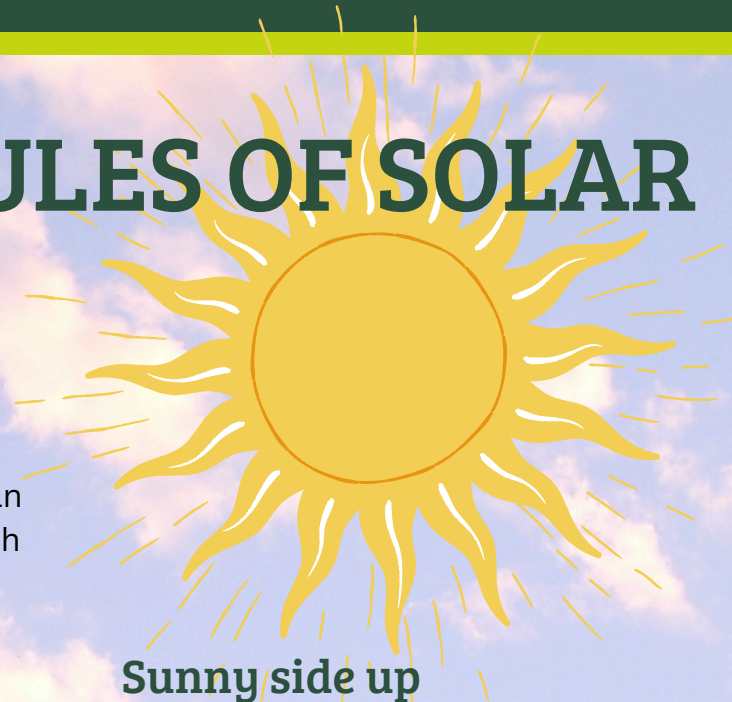
Electricity is sold by the unit, how much you pay for one unit of electricity will depend on what your chosen utility provider charges. One kilowatt (kW) of electricity used for one hour is one unit or a kilowatt hour (kWh).

1,000 watts = 1 kilowatt

1 kilowatt used over 1 hour = 1 kilowatt hour

1 kilowatt hour = 1 unit

(Check your electricity bill to find out how much you pay for 1 unit of electricity. It is currently around 23-28p)



## Sunny side up


The sunnier it is, the more energy you are producing up to the maximum that your system can produce.

Reduce electricity consumption at home by turning appliances off standby, buying low energy light bulbs and switching appliances off when they are not in use.





# WHAT DO MY APPLIANCES COST?

Appliance	Rating (watts)	
 Smart phone	2-15	
 Broadband router	5-15	
 TV	25-175	
 Fridge/freezer	100-300	
 Microwave	700-1400	
 Iron	1000-3000	
 Cooker hob (per ring)	1000-2000	
 Grill/oven	2000-2400	
 Washing machine	1000-2200	
 Tumble dryer	1500-2500	
 Immersion	3000	
 Electric shower	7000-10500	



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# WE ARE WHITE HORSE








We are a specialist rural housing association that has successfully built, managed and improved affordable homes in rural areas since 1984.

We only build homes in rural areas and currently have 430 properties across 55 separate villages in Wiltshire, Swindon and Somerset.

Our stated purpose is: **To be a trusted provider of excellent services and affordable, sustainable homes, working together with rural communities.**



## Our values

-  We will act with integrity, openness, accountability, honesty, impartiality and respect in everything we do. We do this by:
-  Keeping our commitments and promises to our customers, stakeholders and staff and following through on our actions
-  Being consistent in all our activities, demonstrating an open minded and impartial approach
-  Promoting equality of opportunity, respecting each other and celebrating diversity so that everyone can give of their best in every aspect of our business
-  Putting customers first – listening to them, understanding their needs, treating complaints as an opportunity to learn and recognising the impact our work has on both our customers and stakeholders
-  Valuing our staff and encouraging them to take individual responsibility for problems and find solutions to them
-  Continually striving to improve the service we provide







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