

# Making the most of solar

## A guide for tenants of solar powered homes

### Solar – it's something to shout about!

**Saving you money on your energy bills is one benefit of solar but there are lots of others too.**

- A source of clean energy – solar power produces no pollution; generating environmentally friendly energy where it is needed.
- Effortless – solar power systems are virtually maintenance free.
- Reliable, robust and long lasting – solar power is a well-established technology that will happily keep generating energy for at least 25 years. The first installed systems are still generating 40 years later.
- A win, win situation – solar power makes even more sense when used in conjunction with an economy 7 tariff, supplying free electricity during the day whilst benefiting from cheaper electricity at night.
- Energy protection – solar power will ensure that you are not as exposed to increases in electricity prices in the future.



Image courtesy of Cornwall Housing Ltd.



## How does solar work?

Solar power is a very simple technology; there are no moving parts and works automatically without you needing to do anything.

The solar panels absorb the sun's energy and convert it into electricity. The sunnier it is the more electricity they produce, generating electricity from sunrise to sunset, whatever the weather.

The inverter then transforms this into electricity that can be used in the home. The inverter will always supply the electricity to anything that is switched on in your home. If the solar panels are producing more energy than you need, the left-over electricity will be fed back in to the local electricity network.

If the solar panels are not producing as much energy as your house needs, the shortfall will be supplied by your electricity supplier.

If there is a power cut, the inverters are programmed to turn the solar power system off and will automatically turn the system back on again when grid power returns. This is for the safety of engineers working on electricity lines.

In addition to using the free energy when it's available you can also reduce your energy bills by using energy smarter. Here are a few tips on what can easily be achieved in your home.

## Waste Less Energy!

**Turn it off** – appliances left on standby still use electricity, this also applies to chargers left plugged in and switched on, even if there is no device connected to it. Switch lights off when they are not needed.

**Load it up** – only use your washing machine or dishwasher when they are fully loaded. Equally a full freezer is an efficient one; consider storing ice to fill any spare space.

**Dry outside** – when the weather allows, dry your clothes outside instead of using your tumble dryer. Is there an undercover area in your garden where you can rig up a washing line for more changeable days?

**Just enough** – only boil the amount of water needed, this goes for making cups of tea and cooking your veg.

**Put a lid on it** – food cooks quicker if you cover it (and uses less energy). Put pans on appropriate sized hob rings.

**Loving left-overs** – allow food to cool down before freezing it and defrost food in the fridge.

**Well positioned** – do not have your fridge or freezer next to a heat source (i.e. radiator or oven) or in direct sunlight. Do not let ice build-up in your freezer.

**Open up** – allow radiators/ storage heaters to circulate hot air freely; having a warm back to your sofa is not a good use of energy. Open the curtains and let natural light in during the day, move objects that block light into the room.

**Don't be draft** – drawing the curtains, closing doors and windows, fitting draft excluders and installing insulation are all ways of keeping the warmth in and cold out.

**To a lesser degree** – turning your thermostat down by 1°C can save you up to 10% on your heating bill. Set your immersion heater to 65°C, the ideal temperature for providing safe hot water. Wash clothes at 30°C as recommended by most detergent manufacturers.

**Invest in efficiency** – low energy light bulbs use a fraction of the energy of standard bulbs and last 10 times longer. High efficiency A+++ appliances will also keep your energy costs down (the more +'s the better!). If your appliance has an 'eco' setting, use it.

**Splash out** – short showers use less water, and therefore less energy to heat the water than baths. Keep an eye out for dripping taps.



# Other questions you may have about solar on your home...

**Can I still change energy supplier?** Having solar power on your home does not prevent you from changing your energy supplier. It is recommended that you review how much you are paying for your energy at least once a year to ensure that you are getting a good deal.

**Why do I have a new meter?** You would have had a new meter installed with your solar power system. This may have replaced your existing electricity meter with a new smart meter, or it may have been in addition to your electricity meter, to measure the solar electricity generated. Your landlord will advise you if and when you need to read the meter. If you have a pre-payment electricity meter you will need to ensure that the meter is always in credit as the solar power system will not work when you have a zero balance and you will miss out on free electricity.

**Do the solar panels need cleaning?** Generally solar panels do not need cleaning as they are designed to be cleaned by the rain. However, if you notice that the solar panels on your home are becoming soiled by birds or plants, then please notify your landlord as this will affect how much energy they can produce.

**Can I store the solar electricity to use at night?** Home energy storage systems are available and store energy in different ways. The easiest method is to store energy as hot water if you have an electric immersion tank. Home battery storage is not currently widely available in the UK. Please discuss any energy storage requirements with your landlord.

**Should I use the solar energy for heating & hot water?** The energy that comes from your solar panels is electricity, therefore if you have electric heating or hot water then you can use solar for this. However, please note that electric heating and hot water (immersion tank or shower) require a lot of energy and will use the majority, if not all, of the solar electricity generated.

**How do I know when free solar energy is available to use?** Unless your landlord has provided you with an energy monitor it is hard to see how much solar energy is being generated and how much energy you are using at the same time. Energy monitors can be bought and fitted at any time, along with other smart solar switches for diverting surplus free energy into your hot water tank.

**How much money will I save having solar?** This will all depend on how much energy your solar panels produce and how much of the free energy you use. Usually tenants see a reduction in their annual energy bills of £50 - £250.

**If you have any more questions about your solar panels or how to be more energy efficient please contact your landlord directly.**

## Solar power is a great asset to you and your home, and can save you money if you follow some simple steps.

### USE MORE SOLAR!

**Use free electricity during the day** – solar panels generally generate more electricity between 10am – 2pm, try to do all your energy intense activities during these hours. This includes things like hoovering, ironing and washing clothes etc. Charge your mobile phone, laptop, tablet etc. during the day too.

**Only use one energy hungry appliance at a time** – the size of solar power systems that can fit on a house can usually only provide enough energy to supply one high power appliance at a time in addition to continuous loads such as fridges/freezers; try not to use the tumble dryer at the same time as your electric oven, shower or hair dryer.

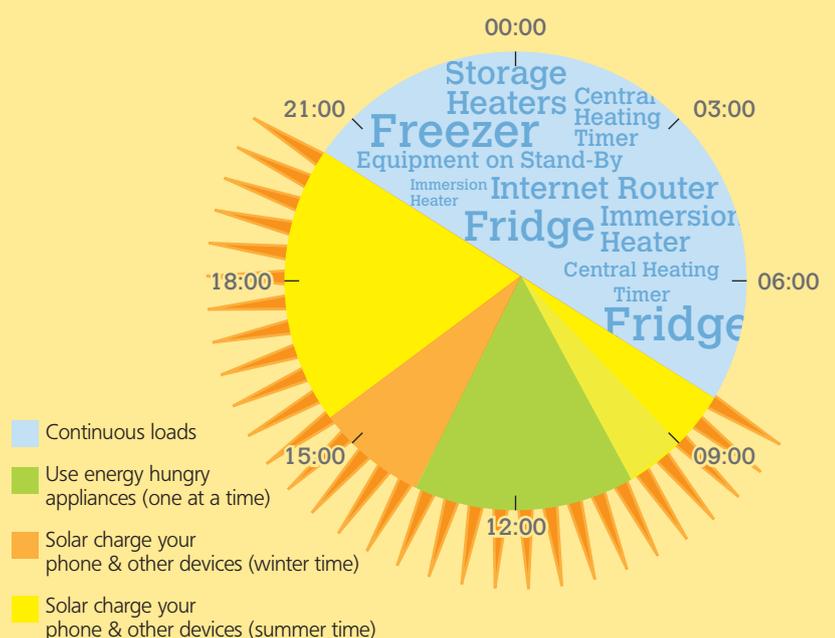
### SOLAR ELECTRICITY IS FREE NOT UNLIMITED.

**Use timer switches** – this is a great way to make the most of solar energy if you are not at home during the day, or an easy way to co-ordinate the use of your bigger appliances, hot water and heating.

**Be on sun-watch** – as more electricity is generated when it's sunnier it is good to be aware of what the weather is doing, or not doing. Consider mowing the lawn on a sunny Sunday afternoon or delaying doing the ironing until there is a break in the clouds. Also be aware of shorter days in the winter months – you will be getting only 30-50% of summer output each day.

**Do away with shade** – the amount of energy that a solar panel generates can be seriously reduced when shaded. Trim back any nearby trees or shrubs before they cast shade on your solar panels. If these are in your neighbour's property be sure to ask permission first.

### How best to match your electricity consumption in your home to solar generation.





The Big Lunch, Eden Project

## About the BRE National Solar Centre

The BRE National Solar Centre was established in 2012 to provide independent evidence based information on solar energy systems and related topics. NSC provides a respected voice for the sector, providing support through information, research, analysis, testing and training, and driving improvements in the quality of products and installations.

Find out more about what we do at  
[www.bre.co.uk/nsc](http://www.bre.co.uk/nsc)

### **BRE National Solar Centre**

Eden Project  
Bodelva, St Blazey  
Cornwall PL24 2SG

T +44 (0)1726 871830  
E [nsc@bre.co.uk](mailto:nsc@bre.co.uk)  
@natsolarcentre

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