



## How to get the most from your solar photovoltaic (PV) system

## Solar photovoltaic energy in your home

If you are a SLHD tenant with solar panels on your roof you can make use of the electricity they generate.

The solar photovoltaic (PV) panels generate electricity during daylight hours, with more electricity being generated when the sun is stronger.

### Use them wisely to make them pay...

The electricity produced by your PV panels is not stored and must be used instantaneously for you to save money on your electricity bills. Electricity generated from the PV panels that you do not use will go straight to the grid.

To save more money on your electricity bills think about how you can make the most of this free electricity. You could change your routine or plan ahead so the electricity works for you. You could:

- Use your washing machine, tumble dryer or dishwasher during the day instead of overnight.
- Prepare your evening meal in the morning and place in a slow cooker on low.
- Charge up your electrical appliances during the day.

## How much energy do they generate?



The amount of energy generated by the solar panels varies with the time of day and across the seasons and is dependent on the height of the sun in the sky, its strength and local conditions, such as cloud cover and shade from trees or neighboring buildings. It also varies between homes depending on the total area of the solar panels and their position.

More electricity will usually be generated in the middle of the day when the sun is at its highest, and more will be generated in the summer, compared to the winter. The following graphs show how the amount of electricity produced varies during the day and with the season.

Figure 1: Electricity generated over a day in summer

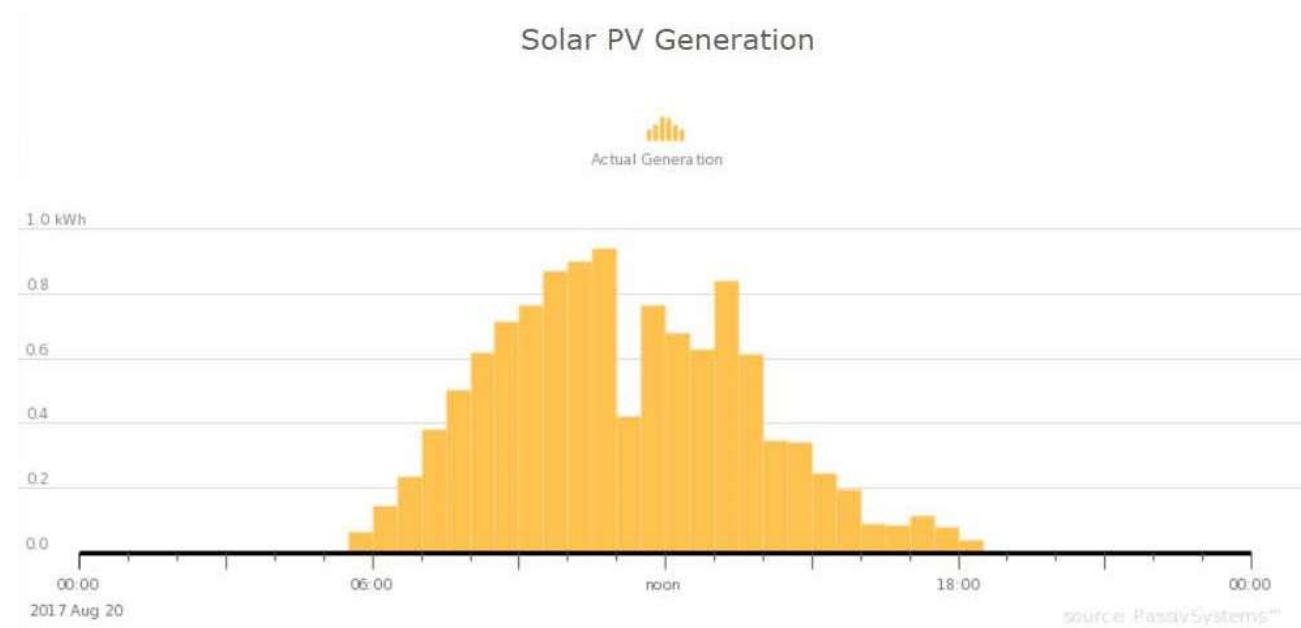


Figure 1 shows that at this example property in the summer the panels produced free electricity between 5.30 am and 6.30 pm. A total of 11.7 kWh was generated on that day, with a peak of 0.94 kWh around 11 am.

Figure 2: : Electricity generated over a day in winter

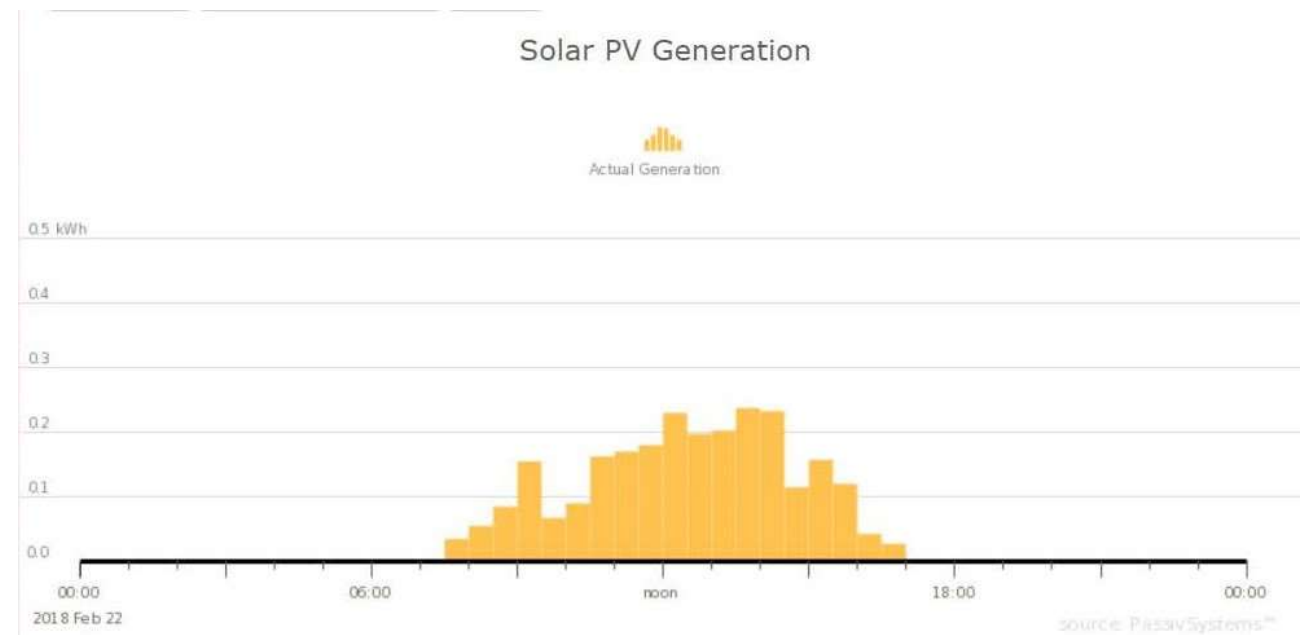


Figure 2 shows that the amount generated in the winter is much lower. In the same property as Figure 1 in February, the panels were generating free electricity from 7.30 am to 5 pm and generated a total of 2.6 kWh on that day, but with a peak of only 0.2 kWh from 12 noon to 2.30 pm.

## How to make the most of this energy

When the solar PV panels are generating electricity, it goes into the mains electricity for your house. The electricity produced by the PV system will be used first. The PV will provide a base rate of energy and the rest will be provided from the grid.

**To make the most of this energy you should try and time using your electric appliances, such as ironing, vacuuming, or using washing machines and especially tumble driers, if you have one, where safe to do so, during the day when the sun is stronger, typically from 8 am –5 pm in summer, to 9 am – 3 pm in winter**

The electricity produced by your PV panels will not completely power these appliances but will reduce the amount of electricity you need from the grid and help keep your energy bills lower.

## Example

If the solar panels are generating up to 1kW peak (1000W) some of this energy will be used by appliances continuously plugged in or on standby. At peak generation:

- 100W will be used by the fridge (not continuously as fridges switch themselves on and off according to need), this would leave 900W for other appliances.
- Leaving appliances on standby instead of turning them off at the socket, such as your TV, computer or mobile phone chargers, will use electricity and leave less electricity for powering other appliances.

As an example, you could use your 750W microwave and still have 150W available to power appliances such as lights. Or, if you wanted to run your washing machine at 40°C (using 2kWh which is 2000W) you'd would only have to pay for the extra 1100W.

Figure 3:

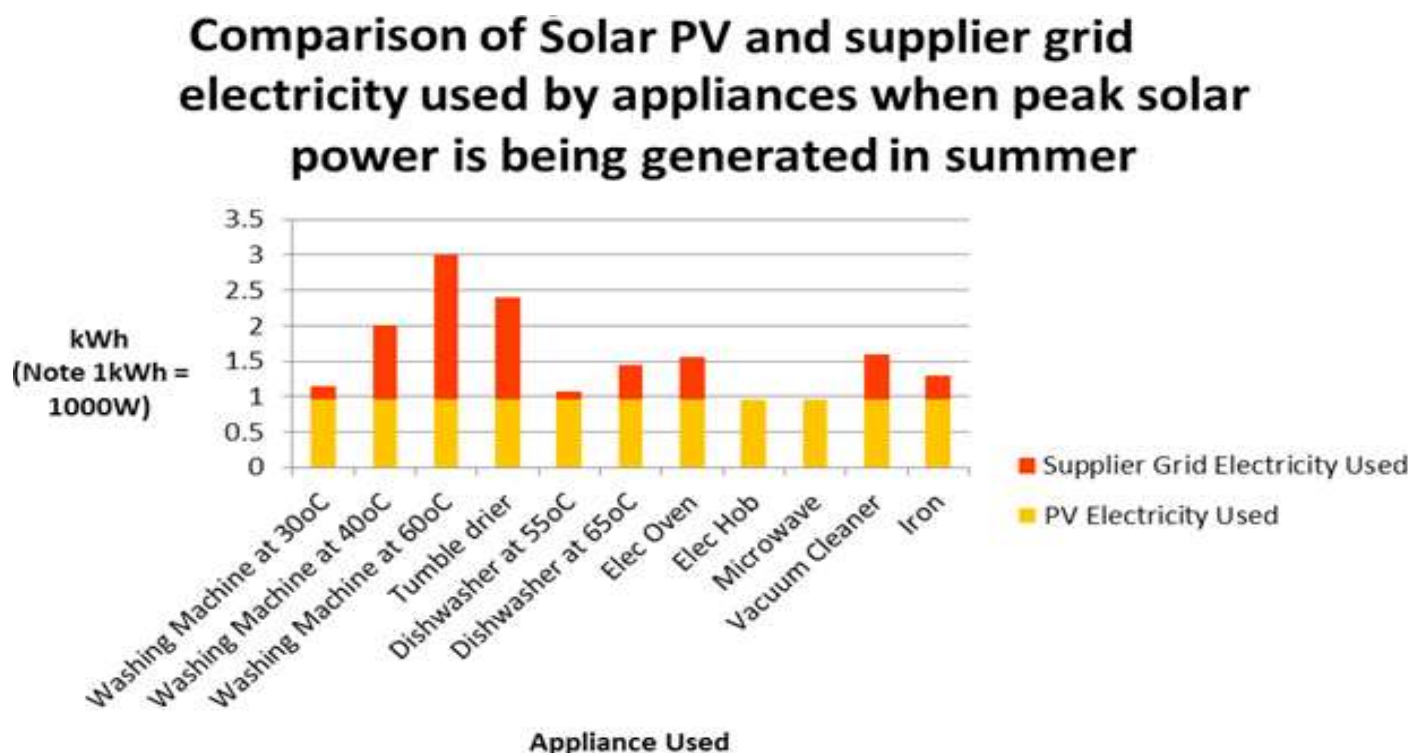


Figure 3 shows some typical power ratings and the amount of the appliance's electricity that could be provided from the solar PV, compared to that being used from the grid. This example is from the summer when the sun is at its strongest.

Some appliances could almost be completely powered by the PV electricity, when the sun is at its strongest (such as washing at 30°C). Remember the higher the temperature setting you run the washing machine at, the more grid electricity will be needed.

When the sun is not as strong and less solar PV is being generated, such as on a cloudy day or in the winter, the amount of electricity an appliance needs from the grid will increase (the red part of the graph will increase and the gold part be less).

It is best to use your appliances one after another instead of all at once to allow more of the electricity used to be powered from the solar PV. For example, wait for your washing machine to finish before running the vacuum cleaner. You could use time clocks to start items such as washing machines, tumble dryers and dishwashers when you are out during the daytime, if it is safe to do so.

## How much could I save?

The solar PV panels can generate approximately 1,000 kilowatt hours (kWh) of electricity a year, but this will vary from home to home. Most households are not able to use all of this energy, due to timing differences between generation and electricity usage.

It is estimated that on average households use about 50% of the solar PV electricity generated, with the actual amount dependent on lifestyle and electricity use behaviour.

Depending on your lifestyle you could use, on average, 500kWh of the solar photovoltaic electricity, meaning you don't have to buy this from your energy provider. Assuming you buy electricity at 15p/kWh from your energy provider, that could be a saving of up to £75 a year.

In an average household, using 3000kWh of electricity a year, this would be a 16% saving on the electricity bill.

Remember these figures can't be guaranteed... they are dependent on how much electricity you use in daylight hours. The more you can alter your lifestyle to have electrical appliances running during daylight, the more you will save on your electricity bills.

## What happens to the rest of the electricity?

The surplus electricity the panels generate that you do not use in your home, is exported to the grid, so it is not wasted and can be used by other properties on the grid. By exporting this electricity, there is less demand on coal burning power stations to generate electricity, meaning less carbon dioxide is produced. The income from the electricity being generated and returning to the grid goes to SLHD, to invest back into the housing stock.

## Meter readings

There is a total generation meter fitted in your home which records the amount of electricity in kilowatt hours (kWh) the system produces.

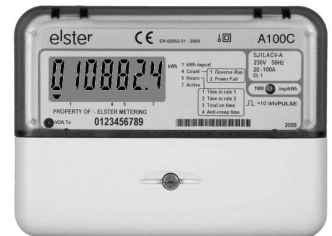
Once a week we advise that you check your Fuseboard to make sure that the Trip switches have not activated and “gone down.” By doing this you are making sure that you get the most out of the system.

If you wish to know your Solar Panel meter reading, Please contact St Leger Homes, as we can do this remotely.

Be careful NOT to provide your PV generation meter reading when you give your electricity supplier your electricity meter reading.

You do not need to read your PV meter when you give your electricity supplier your Electricity meter reading. The solar PV meter is completely separate from your mains electricity supply.

We are required to provide PV meter readings and carry out meter checks periodically. We will contact you by letter if we need access to read your meter.



## FAQs

### **Do I need to take readings from both electricity meters (electricity meter and PV meter) for my electricity supplier?**

No. The solar PV meter is completely separate from your mains electricity supply.

Be careful not to provide your PV generation meter reading when you give your electricity supplier your electricity meter reading.

St Leger Homes can read your Solar PV meter wirelessly.

### **Can I switch electricity supplier if I have solar PV on my roof?**

Yes. As your solar panels are completely separate from your mains electricity supply, you can switch to any electricity supplier you want.

To see if you can save money by switching tariff or supplier use an Ofgem accredited price comparison website.

### **Will the PV panels still provide me with electricity if there is a power cut or I run out of credit on my prepayment (pay-as-you-go) meter?**

No. If there is no mains electricity supply to your house, the solar panels are unable to provide electricity to use, the inverter will shut down after a minute or so and no power will pass the inverter to power the rest of the property.

**Please note: Even when the main fuse board for the house is switched off the panels will still generate electricity to the inverter in the loft and the cables will still be live!**

### **How do I benefit from having the Solar Panels on the roof of my property?**

To benefit from having the Solar panels on your roof you should try and time use your electric appliances, such as ironing, vacuuming, or using washing machines and especially tumble driers, if you have one and where safe to do so, during the day when the sun is stronger, typically from 8 am – 5 pm in summer, to 9 am – 3 pm in winter.

## **Further information**

To report a repair contact SLHD on 01302 862862 or access your SLHD online account and complete the form.

For further information and support contact SLHD 01302 862862.