

# Solar PV Panels

Photovoltaic (PV) panels, can convert energy from the sun into electricity by means of PV cells. Most domestic PV systems are installed on roofs, so if your roof is suitable you may be able to generate your own electricity to use in your home, lowering your energy bills and carbon footprint.

## Is your roof suitable for Solar PV?

### Orientation

Do you have a roughly south facing roof? PV panels will generate the maximum energy if facing south, as they will be most exposed to sunlight throughout the day. However, east and west facing roofs may also be appropriate for PV panels, depending on what time of day you use the most energy.

### Size

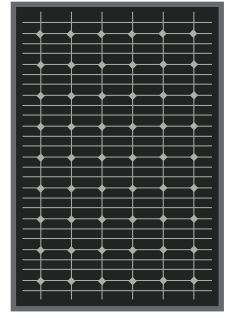
Roofs require a sufficiently large clear space to accommodate a PV panel array. Whilst you may be able to fit a couple of panels on a smaller roof, the cost of installation may outweigh the benefits of the system. As a general rule, the more panels you can fit on your roof, the less time it will take to pay off.

### Shading

Surrounding trees, buildings, or features such as chimneys and dormer windows can overshadow your PV panels. Even if they only shade part of a panel, the efficiency will be greatly reduced.

### Roof Covering & Condition

Systems have been invented to mount PV systems on most common roof types. However, certain roof coverings such as slate can greatly increase the complexity of installation, and so may increase the initial cost of the system. It is also important to ensure that your roof is strong enough to take the extra weight of the panels, and that it will not need to be repaired or replaced in the lifetime of the solar panels.



## \*Typical Costs and Savings...



**720kgCO<sub>2</sub>e**  
Annual Carbon Savings



**£365**  
Annual Bill Savings



**£6,450**  
Typical cost

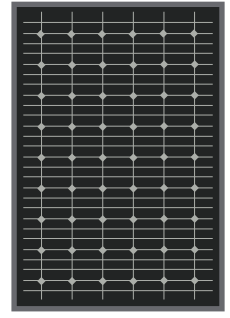
## Keep it Ethical

Consider which PV panels you buy. Like many electronic products, the cheapest panels may be manufactured in places where energy supplies are carbon intensive and pollutant disposal is not well regulated. They may have travelled a long way; some contain rare metals or conflict minerals. Do your research to work out what your money is supporting.



\* Figures are taken from Energy Saving Trust and are based on fuel prices as of July 2023. Estimates are based on an insulated, three bed, semi-detached, gas-heated home. The average professional installation cost is unsubsidised, prices will vary.

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## The Benefits of Solar PV

- Generate your own renewable energy
- Reduce your electricity bills
- Lower your carbon footprint
- Sell excess energy to the national electricity grid

## Making the most of your Free Green Energy

To make the most of the energy generated by your PV panels, try to use appliances that consume a lot of energy - such as washing machines, dishwashers and electric ovens - when the sun is shining. If you are not at home during the day to switch these on, consider setting delay timers - many appliances have these integrated.

Technologies such as heat pumps and electric vehicles are also a great use of PV energy.

### Smart Export Tariffs

Larger energy companies are now obliged to offer a Smart Export Guarantee, whereby customers who generate their own energy are paid for the excess energy that they export to the grid.

Currently the tariffs offered are significantly less than the tariffs charged to the consumer for buying electricity, so it best to use as much of the energy that you generate at home.

### Energy Storage

Rather than exporting excess electricity to the grid, it is possible to combine a PV system with energy storage to maximise how much of the energy generated is used in your home.

Battery storage can be expensive, however the technology is rapidly developing and prices are falling.

Alternatively, excess PV energy can be used to heat water via an immersion diverter. This technology requires the property to have a hot water cylinder, which are less common in houses with newer heating systems, however can be installed.

## Next steps...

If you are interested in Solar PV, HEAT Hub are here to advise you on whether it'd be suitable for your property and the best next steps. For advice or to book a FREE Home Energy Plan, please visit:

**[bit.ly/BookHomeEnergyPlan](https://bit.ly/BookHomeEnergyPlan)**

If you're offline, please call us on:

**0115 985 9057**