



Home Renewable Energy

Why Renewable Energy?

You can significantly reduce your need to draw electricity from the Grid if you generate your own power from solar panels (photovoltaic cells), especially between March and October. There are over 2 million installations on homes across the UK (source DESNZ) and you have probably seen ever more panels being installed on roofs near where you live. Once you have paid for the installation (or bought a house with an array) this free source of energy from the sun can be used to cover your domestic use, charge your EV if you have one, and in times of excess sell back to the grid to reduce your bills further.

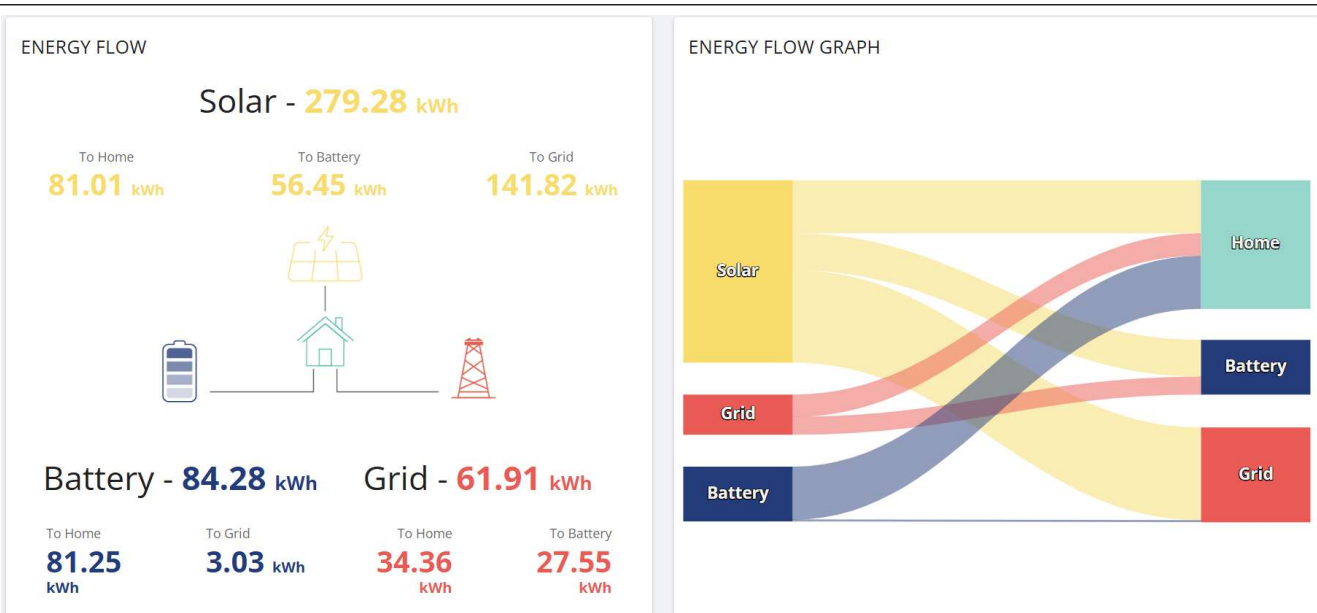
What are the options?

There are many national and local companies offering competitive deals currently to install solar panels. The price of the panels themselves is reducing, and their efficiency increasing, and so this is becoming more affordable. For your panel installation you will also have to consider the following aspects:

1. **Where to install the panels** – ideally a south facing, unshaded roof is ideal, on your house or garage. If your roof is east / west facing you may need panels on each side to capture the sun day long. There is even evidence that panels on north facing roofs will generate with ambient light only during summer months.
2. **How many panels to install** – your roof size will largely dictate this but considering that the main cost is not the panels themselves but the installation, it may be better to get as many as you have space for – you can sell the excess power back to the grid or store it.
3. **Home Battery** - You should consider also whether you need a home battery. This can store the daytime solar energy for use after sunset or during heavy cloud cover. An additional benefit of a battery is you can use it also to store cheap rate power and use at higher cost times (during the winter or cloudy days). They are expensive, but the savings in electricity cost storing energy at bought at low tariffs in addition to benefiting from your panels all day long is significant. Home batteries are not subject to VAT.
4. **Battery Location** – You should not install a battery in your loft space; a suitable location is likely to be on the ground floor or outside). You will also need to consider what size of battery suits your needs now and in future. Your installer will advise about this in addition to wiring / fuse box modifications.
5. **Inverter / Battery control** - you will always require an inverter to convert the direct current (DC) from the PV cells to your houses alternating current (AC) supply. You can control your charging and discharging via an app such as WonderWatt.com if you have a smart meter and the inverter has an appropriate API (e.g. GrowWatt and Sigenergy).
6. **Energy provider tariff** – electricity import and export tariffs are key to maximising export revenue from panels and minimising import costs for immediate use or battery charging. It also depends on other technologies you have such as heat pump or EV.

Do they really work?

But don't take our word for it, take a look at the real numbers below just for one month (albeit a very sunny April one) of generation. This is with a bit of shade from a tree in the afternoon on a 7 panel array.



The statistics for a 2.75kWp (7 panel) array for April 2025. This shows how much energy even a small array can generate over one (very sunny) month with excess power going back to the grid at 12p/kWh on Octopus.