

Tournament Road, Salisbury

1930s home, with stand alone PV, battery storage and secondary electrical system



Key features

- Stand-alone solar PV with battery storage
- Secondary electrical system
- LEDs

The PV and battery system

When Julie and Chris installed their solar PV system, they wanted to make sure that they benefitted fully from the electricity generated. They decided not to connect it to the grid, but instead installed a battery bank, charged by the three PV panels on their shed. The battery bank consists of 10 old computer 76AH batteries, which were bought from a metal scrap yard for £5 each about 8 years ago. They also installed a secondary 12v electrical system throughout the downstairs of their home, to power all the 12v electrical appliances: lights, phone charging, internet, computer, DVD, hifi and TV. They also reduced energy use by making sure that all 240v lights are low energy or LED. They did all the work themselves, and continue to update the system, for example as new models of LED bulbs become available. The disruption was very minor, and the only thing that could have been improved was the placing of the sockets.

The PV generates 15-20 amps per hour on a sunny day, while about 5 amps per hour is used in the evenings. This is usually plenty to cover their use, although during the two darkest winter months they have to be careful how much they use their 12 volt appliances.

Other improvements

They have loft and cavity wall insulation, as well some insulation behind the kitchen cupboards and under the bath. There are thermostatic valves on the radiators, and heat reflector panels behind them. To save water, there is an eco-flush converted toilet, and water butts for the garden.



Energy saving and other benefits

The yearly electricity bill has now reduced to £120. And unlike solar PV systems that are connected to the grid, they can still power all their electrical equipment during a power cut.