

**Property Information Sheet**



**Name and Address**

Steven  
Whiteacres 8 Sandy Bank,  
Whixall,  
Whitchurch,  
SY13 2SG

**Property Description**

3-bedroom house originally built in 1750, upstairs added in 1970 and rear single storey extension in 1990. Property has 6 acres of land, barn and detached garage.

**What changes have you made to your home / what green features did your home come with?**

We have done a great deal of retrofitting through installing a ground source heat pump (GSHP), underfloor heating, skirting board heating, solar thermal for domestic hot water, 10kW total solar photovoltaic (PV) panel arrays, 2 Tesla Powerwall batteries, 2 Zappi smart car chargers and 2 Eddi power diverters for both domestic hot water and underfloor heating. We removed the night storage radiators and replaced all double-glazed sealed units with K glass. Most external walls have been internally insulated; Superquilt multilayer foil insulation on all walls upstairs along with new plasterboard, Wallrock KV600 thermal wallpaper was fitted downstairs. In the sitting room a wood burning stove was fitted; a smoke particle filter was later added in 2023. All wood burnt comes from coppiced trees on our land. Lastly, we installed smart thermostats in every room, updated our washer and dryer to low energy and changed all garden tools to electric.

**Why did you make these changes / choose a home with these features?**

We wanted to reduce our fossil fuel dependency and be as energy self-sufficient as possible

**What were the approximate costs of each of the changes you made?**

In total it cost about £45,000 spread over 15 years between 2008 and 2023.

**What have been the approximate energy savings?**

We make a net profit of roughly £200 per year with no energy bills or petrol/diesel costs, thanks largely to the Feed in Tariff. For 2020, we used 11MWh of electricity and generated 9MWh. In the summer months, our home and cars run almost totally from solar power, Powerwalls used at night. We minimise the use of expensive peak rate electricity as the Powerwalls charge up at night using cheap electricity and run the house during the day.

**Property Information Sheet continued...**



### What have been the benefits to you / your home?

Our home feels warm and cosy in the winter and cool in the summer. It has been a real benefit to us having zero energy costs.

### Who undertook the work?

Azure Energy installed the GSHP whilst FlueDirect fitted the smoke particle filter. The initial 3.8kW solar PV array was fitted by Planet Solar, Joju fitted the second array. The Tesla Powerwalls were also fitted by Joju whilst we installed the insulation and underfloor heating ourselves.

### Would you recommend them?

Yes, I would recommend Joju and FlueDirect, just make sure the latter does their initial survey properly. The other companies above are no longer in business.

### What else would you like to do?

We are investigating mechanical ventilation heat recovery (MVHR) systems, a centralised system would be too difficult to install but networked individual units in multiple rooms would work. Also thinking about adding more insulation in the kitchen and front sitting room, this would be rather disruptive so we will do this next time we redecorate/update our kitchen.

### Have you considered any measures but rejected them? Please give details of what and why.

We considered a wood pellet burning boiler but rejected as we found it would be expensive and unreliable

### Any further comments?

Installing underfloor heating was quite disruptive, next time I would do it before moving in. I would install the ground side external manifolds above ground in an enclosure rather than in a pit to allow easier access for maintenance. The Tesla Powerwall batteries allow us to capture a lot more of the PV energy and use it when we need to, for example to charge the car or to run the house when we have a power cut. The Tesla batteries also allow the solar panels to charge the batteries when there is a grid power cut. This is a benefit of the batteries which is not often mentioned, most solar PV systems shut off when there is a grid power cut.

### Visiting instructions / information

Our home is open for viewing on the 20<sup>th</sup> and 27<sup>th</sup> of October from 10am to 12:30pm and 1:30pm to 4pm. Set the SAT NAV for SY13 2SG. Once in Sandy Bank, we are the 2nd house on the right from the mini roundabout. Look for the Whiteacres sign outside the front door above the hedge and turn into the driveway in front of the garage.