

Property Information Sheet



Name and Address

Steven
Whiteacres 8 Sandy Bank
Whixall
Whitchurch
SY13 2SG

Property Description

3 bedroom house, around 6 acres with barn, polytunnel, detached garage. Original house built in 1750. Upstairs added in 1970. Rear single storey extension added in 1990.

What changes have you made to your home?

Removed night storage radiators. Installed ground source heat pump, underfloor heating, skirting board heating, solar thermal for domestic hot water, two solar PV arrays (10kW total), 2 Tesla Powerwall batteries, 2 Zappi smart car chargers, 2 Eddi power diverters for domestic hot water and underfloor heating. Internally insulated most external walls - Superquilt multilayer foil insulation installed internally on all the upstairs walls, along with new plasterboard. The house had blown wool insulation installed before we purchased it. We have also added Wallrock KV600 thermal wallpaper downstairs. Replaced all double glazing sealed units with K glass. Installed wood burning stove in the sitting room in the centre of the house. Smoke particle filter added in 2023. All wood burnt comes from coppiced trees on the property (approximately 6 year cycle). Installed smart thermostats in every room. Updated washer and dryer to low energy. Changed all garden tools to electric, including ride-on mower and wood chipper/shredder.

Why did you make these changes?

To stop using fossil fuels (not install an oil or gas boiler). To be as energy independent as possible.

What were the approximate costs?

About £45,000 spread between 2008 and 2023.

What have been the approximate energy savings?

We make a net profit of about £200 per year, with no energy bills or petrol/diesel costs (running a Nissan Leaf mostly charged from solar PV). This profit is largely due to the Feed in Tariff payments on the initial 3.8kW PV array. For 2020, we used 11MWh of electricity. We generated 9MWh of electricity, we used about 5MWh of mostly cheap rate electricity from the grid. In summer, the house and cars run almost totally from solar power, using the Powerwalls for power at night. In the winter, the Powerwalls charge up at night using cheap electricity and then run the house during the day, thus minimizing the use of expensive peak rate electricity.

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What have been the effects on your home?

The house feels warm in winter and cool in the summer. We are not using fossil fuels. Our annual energy costs are zero.

Who undertook the work?

We used Azure Energy to install the heat pump. Planet Solar for initial set of PV panels. Joju for later set of PV panels and Tesla Powerwalls. Underfloor heating and insulation self installed. Exodraft smoke particle filter installed by FlueDirect.

Would you recommend them?

Yes, I would recommend Joju. I would recommend Fluedirect, just make sure their initial survey visit is done properly (in our case, they failed to notice that a standard 6inch flue liner would not fit, even after further questioning). Other companies above are no longer in business.

What else would you like to do? And why haven't you done them yet?

Make hydrogen and store for use in a hydrogen powered car and home heating (technology not commercially available yet). Investigating Mechanical Ventilation with Heat Recovery (MVHR) systems. A centralized system would be too difficult to install. Networked individual units in multiple rooms would work. The house is not sufficiently sealed at the moment, this would be difficult to do because of the age of the property. Thinking about adding more insulation in the kitchen and front sitting room, this would be quite disruptive. Will do next time we redecorate and/or update the kitchen.

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

Wood pellet burning boiler, expensive and unreliable source of pellets. MVHR for now because of the house not being well sealed.

Do you have 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).

Are there any access issues? Eg steep steps, lack of parking.

Set sat nav for SY13 2SG. Once on 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. Turn into the driveway in front of the garage. What Three Words location is poet.cringes.bothered.