

## Property Information Sheet



### Name and Address

Ian  
47 Albert Road  
Albrighton  
Wolverhampton  
WV7 3QN

### Property Description

1930's Brick semi-detached with both solid and narrow cavity insulated walls. Tiled roof

### What changes have you made to your home?

Complete renovation back to brick and floors removed. Installed multiple damp proofing membranes in floors and up the walls as there was rising damp, increased below floor ventilation by connecting the chimneys to below the floors. Dug out and insulated all floors, insulated internally all external walls (on top of cavity filling), loft fluff to 300mm, room in roof insulation, rewire, new combi condensing gas boiler with very large radiators- system works @ 47-52 degrees, HIVE controls some heating and lighting.

Lots of solar PV with battery, heat battery, Eddi, Zappi.

Of interest is the combi boiler with preheat SUNAMP heat store working seamlessly with solar and agile. The boiler heats water as normal but if the heatstore has spare heat, the boiler switches off. Especially useful on windy winter nights when electric can be cost negative or cheaper than gas. The heatstore can store 10kWh of absolute heat - 7kWh of useful heat.

On the cooling front I fit passive external solar blinds April - September to keep the house cool as it overheats with solar gain. House maintained 19-23 degrees in rooms (lower in winter, it stays high all summer).

### Why did you make these changes?

Because I can see the world around me heating up. It is no joke and there is a massive time lag that people don't realise. Just think how much energy you need to heat up the oceans by 1 degree. On average the oceans are nearly 2 miles deep.... That's a lot of heat and it is now there and rising, regardless of what electric car you drive.

### What were the approximate costs?

All in all about £60k+ but that includes full DIY renovation. Insulation is the key, it's boring but you only buy it once, you consume energy all year and heaps of it in the winter unless you have lots of it everywhere. Just the 5.5kW solar, batteries and water heat store come to £12k DIY, but they currently save around £2k yearly in electric and gas reductions. If I get to sell my summer excess and do some arbitrage with my battery then I could make that back much quicker.

### Property Information Sheet continued...

What have been the approximate energy savings?

I have made calculations and can share. But essentially the energy needed to heat the house all day and night October to April before works would have been around 20,000kWh (£1600) for gas and 3,500kWh (£1000) for electricity per year. Now I don't need heating till late October and per year I will only need around 4,000kWh (£300) in gas and 500kWh of grid electricity. As I am on the Octopus Agile tariff, I will only buy energy when it's cheap or indeed negative and charge the battery if needed November - March, the rest of the year I don't need gas or electricity because the solar provides enough for water heating.

What have been the effects on your home?

I monitor humidity like a hawk, I do have residual humidity but no damp.

Who undertook the work?

Local tradesmen but mainly DIY.

Would you recommend them?

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

There are lots of offers for heat pumps at the moment, but with such a low heat demand I don't need much gas, and I am thinking about converting my boiler to LPG bottles especially if I have air to air heat pumps added for air conditioning and winter heat.

Home assistant - I am considering playing about with a Raspberry pi to control the house.

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

NSBRC have plenty of suggestions and I recommend going to see them in Swindon, it's a fascinating day out.

Do you have any further comments?

Fossil fuels will continue to rise in price, going green will get cheaper and it will always be the right thing to do.

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

Park on the road, come on in the front door.