

Property Information Sheet



Name and Address

Jemma and Chris Prydderch
 75 Shelton Road
 Shrewsbury
 SY3 8TD

Property Description

2019 new built Passivhaus

What materials were used in the construction of your home?

Insulated concrete raft **foundation**, with 300mm polystyrene insulation supplied by KORE.

Walls and roof comprise of timber i-beam SIPs panels filled with WarmCell insulation (recycled newspaper). All constructed in Welshpool and assembled on site by PYC Construction.

Triple glazed timber **windows**. Exterior is clad in larch.

Underfloor wet **heating** system downstairs only, runs off gas condensing boiler. No heating upstairs other than bathroom towel rails.

Rooftop solar PV system (4kWp). Excess power generated is used in water heating (conventional hot water cylinder) via solar i-boost system.

A traditional boiler was selected given the very low heat demand anticipated, and the relative cost of servicing the requirements with ASHP.

Why did you make these choices?

We previously lived in an Edwardian semi – full of original features including the draughty sashes, open fireplaces and solid walls. We had done what we could to improve the thermal efficiency (installed double glazed hardwood sash lights, insulated the wooden floors, added a well insulated extension and loft conversion) but it was cold. We had considered further retrofit of internal/ external wall insulation but it was going to be difficult, expensive and would be at the expense of some of the period features.

We wanted to stay in the Copthorne area and when a plot became available, we submitted a bid on a whim, without thinking about it! Once we'd found out we were successful, we would only ever have built a low carbon home, quickly settling on the passivhaus standard and deciding to build a house based on passivhaus principles, without necessarily going through the full certification process.

We spoke to a lot of architects; many tried hard to convince us to back away from passivhaus standard and build something more traditional. We stuck with it and eventually settled on Clare Williamson of Cando (Shrewsbury) who was a great fit. We chose the method of construction after meeting with PYC and establishing a good relationship with them. We liked that they were local and that their choice of materials comprised lower levels of embodied carbon and energy.



What were the approximate costs?

Build cost 300 - 350k

What have been the approximate energy savings?

We unfortunately do not have a 'before' for comparison but bills over the past 12 months, for gas and electricity have averaged at something like £50 per month. This has included car charging for the past 6 months.

We had read case studies on passivhaus where people did not use their underfloor heating at all, but this has not been the case for us. We are surrounded by tall trees which potentially limits our solar gain in winter, though it's a welcome relief from overheating in summer.

In summer we export twice as much electricity as we use, in winter we are net importers; but the solar, especially because of the water heating, provides a substantial saving.

What have been the effects on your home, compared to traditional homes you have previously lived in?

Compared to the Edwardian semi – the lack of draughts and the general 'comfort' factor is huge. The house maintains a steady temperature – less cold in winter, cooler in summer. The house generally requires a lot less effort to maintain a comfortable temperature in winter. There is a knack to keeping the house cool in summer, but again its much more comfortable than the old house where the well insulated loft and extension would overheat.

We lived temporarily in a smaller 1950's house during the build and the notable difference is the moisture levels. That house was prone to damp. Here the MVHR system keeps the house well ventilated and humidity levels low. There's never any condensation, and it maintains a freshness to the internal air, without having to open windows routinely. Living on a main road it's also handy we don't have to open the windows, so we don't hear the traffic and all incoming air is filtered.

Who undertook the work?

We project managed the build, doing what we could to help between trades

Architect: Clare Williamson, Cando Design, Shrewsbury

SUDS, permeable paving, paths and some landscaping: ISB

Groundworks, foundation slab: Evans Construction

Shell (supply and construction): PYC, Welshpool

Carpentry: Alex Hamer

Doors, windows and MVHR : Green Building Store

Would you recommend them?

Yes to all of the above.

We used one firm for the plumbing and electrics, including PV, thinking this would be better than individual contractors



given the interconnected nature of the systems. We would not recommend them, and it was a lesson in only selecting contractors which come with a personal recommendation!

Project managing is very time consuming. Coupled with our 'proper' full time jobs and young children it was all consuming and there were definitely delays due to the other pressures on our time.

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

We installed a solar gateway during the build to allow the addition of a battery at a later stage. Initially it was not clear if there would be sufficient excess electricity generated to warrant the outlay but monitoring our usage over the past 12 months has shown that we export a lot in summer and we could make further energy savings if we balanced out supply/demand with battery storage. We're crossing our fingers that the government might reinstate the tax break previously available ...but not holding our breath!

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

We looked at solar thermal and PV but installing both seemed overly expensive / unnecessary and the solar i-boost offers us water heating and power combined from PV.

We considered ICF in a bid to get the same 'solid' wall feel that we had in our previous house but could not find any providers locally and were happier with the lower embodied carbon in timber frame. We insulated the wall cavities and used double layers of plasterboard between the two adjacent bedrooms and the downstairs living room/study to deaden sound.

Do you have any further comments?

Timeline

Site was bought with planning permission but we submitted an alternative scheme a few months after completion of the land purchase. Although a non-traditional design, this was approved very quickly (within the usual 8 week determination period).

We started clearing the very overgrown site of vegetation in January 2018. Finding the build contractor, finalising structural design details and getting building control consent took longer than we expected but in hindsight we should not have worried about this – if anything, tying down more details at this stage might have made for a smoother build! Groundworks commenced April 2019 and we moved in in July 2020 – there were some delays in the final stages due to the Covid lockdown and scarcity of materials.

Are there any access issues? Eg steep steps, no downstairs toilet.

Parking on site. We are on the main road (Shelton Road) - the postcode may send your sat nav to the rear (Mytton Park), along but there is no access to our house this way.