

Gwydir Street - CB1 2LG

Victorian terrace renovation work in progress

Meet your host Alex Rice

We moved into the property about five years ago, inheriting a solid wall property with a vintage back-boiler. Much of the work so far has been related to making the building liveable, although there has been some progress on the low-energy portions of the project and on the veg garden.

In the longer term the building will be retrofitted to the EnerPHit standard. This will reduce energy consumption by around 90% while significantly improving comfort. It will also give me an opportunity to put my professional skills as a low-energy building expert to good use.

The project will be entirely self-built, we'll be living here through-out, and working on a limited budget so progress will be gradual.

Low energy measures

Loft insulation has been increased from 50 mm to 300 mm, joists beefed up and area boarded over for storage. The lodger's room insulation improved with insulated plasterboard using the 'dot and dab' plasterboard technique. The sloping ceiling insulated internally.

Improved heating controls allow temperature set-back (allowing the temperature to drift to a lower temperature) rather than simply turning the heating on and off. Internal temperatures are set to around 18°C most of the time.

Good quality sash windows with high-performance double glazing (U value = 1.1 W/m².K) have been installed at the front of the house. The loft hatch insulated and draught stripped. Some basic improvements to airtightness have been made, including blocking the chimneys.

We stripped off the plaster on the front wall before moving in to get the worst of the dust out of the way and get it ready to be insulated.

Sustainability measures

The fireplace was re-instated after having been bricked up and a wood stove installed. Being able to make part of the house cosy makes lower ambient temperatures tolerable.

We're converting an allotment-style veg garden from the previous owner into raised beds with permanent paths to avoid compacting the soil. We now have chickens for eggs.

We've installed a proper Sheffield stands for bikes.



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Renovation plans

My chosen standard, EnerPHit, is the equivalent of PassivHaus but for renovated properties. It allows a maximum consumption for heating of (25 kWh/sq.m/year), and stringent requirements for airtightness. It encourages a 'fabric first' approach with high levels of insulation and avoidance of thermal bridging.

The front of the building will get about 100 mm of internal insulation, with a ventilated air gap between the insulation and the brick wall to avoid issues with damp. At the rear of the building it's likely that it will get an insulated cladding. Floors will get about 100 mm of insulation between joists with under-floor heating on top.

Ventilation will be provided by combination of single room heat recovery fans, a kitchen extractor hood and opening windows from time to time.

Triple glazed windows will be installed at the rear, remaining double glazed at the front to retain sliding sash windows.

Most of the heat will come from a small condensing gas boiler. There will be a solar thermal system linked into the wood stove.

Overview

Age: 1840

Type: Victorian, Terraced

Wall type: Solid brick

Floor area: 52 sq m

Project timescale: 1 year, Ongoing

Cost of measures: About £1800 so far

Energy usage – three adults

After: Not yet available

Before: 40 kWh per sq m pa electricity

60 kWh per sq m pa hot water

200 kWh per sq m pa heating

Current features

- Loft insulation, some internal wall insulation, loft hatch
- Mostly double glazed windows
- Air-sealed: chimneys, hidden holes in building
- Radiators fitted with thermostatic valves
- Lighting: CFLs
- Wood burning stove
- Vegetable garden
- Chickens
- Sheffield stands for bikes

Renovation plans

- Insulated cladding
- Internal insulation
- Heat recovery fans
- Underfloor heating
- Triple glazed windows
- Condensing gas boiler

Products

Insulated plasterboard: Gyproc Thermaline Plus 27mm, www.british-gypsum.com

Loft insulation: Generic insulation, from B&Q

Wood stove: Stovax Brunel 1, now out of production