

## 4 Church Row

**Address:** 4 Church Row, Lewes, BN7 2PU

**Owner:** Jane Lee

**Type:** terraced

**Age:** late 18th century

**Beds:** 2

**Walls:** brick

**Residents:** 1

## Book Tour

[Saturday 15th October](#) [1]

[Sunday 23rd October](#) [2]

## Features

- Cavity wall insulation (extension)
- Condensing boiler
- Draughtproofing
- New heating controls (wireless thermostat)
- Low energy lighting
- Magnetic secondary glazing
- New Radiators
- Room-in-roof Insulation
- Woodburning stove

## Summary

Church Row is a charming 200-year-old terraced cottage, where sensible low cost measures have been combined with improved roof insulation to sharply cut energy use and make the home more comfortable.

The attic bedroom was previously cold, but has been stripped back to the rafters, with high performance insulation inserted in between. For conservation reasons timber single glazed windows have been retained, but near-invisible (and cheap) acrylic secondary glazing has halved losses and improved comfort.

The more recent kitchen extension has had its cavity walls filled and the open lounge area now has a wood burning stove to help further cut gas use and create a cosy environment.

Attention to details such as good heating controls and insulation wherever feasible have all helped to pull down usage to well under half of what a typical house of this style would use.

This is a great example of how a modest refurbishment, focussing on the most cost effective measures, can have a big impact on energy use and give a good payback on the investment.

## Energy efficiency measures

### *Heating and hot water*

Although the house originally had gas heating, there was no room thermostat nor thermostatic radiator valves and the boiler was old and inefficient. This has now been rectified, with a condensing combi fitted room stat and TRVs throughout. This overhaul alone greatly reduced gas use.

In addition, as the ground floor is largely open plan, a woodburning stove has been fitted which can distribute heat throughout and reduce gas use even further.

### *Insulation*

**Walls** - As this is a terraced house, the amount of wall area exposed is relatively small and wall heat losses are fairly modest. However, the more modern extension had cavities and these have now been filled. This measure is very cost effective and was relatively cheap.

**Windows** - Being in a conservation area imposes limitations on what can be done to change windows. One of the upstairs windows has been changed for a timber sliding sash that has been built to take double glazed panes and is also draughtproofed. This exactly resembles the window it replaced but has far lower heat loss.

However, it would have been very costly to change all the windows, so instead secondary double glazing has been fitted using acrylic sheets held in place by magnetic strips. These were fitted by local specialist, Olivier Sauer, and are near invisible but have cut window heat loss by half.

**Roof** - The house has always had a room in the roof, but this was poorly insulated with rockwool pushed between the rafters. This was not only inefficient, but could also have promoted condensation and possible future decay, due to inadequate ventilation.

The sloping ceiling was therefore stripped and the rockwool cleared out and replaced with far more effective rigid foam PIR board, 80mm thick and fitted between the joists with a 50mm ventilation space above. All joints were taped for airtightness, before overboarding with a plasterboard finish. The work was carried out by local builder Luis Diamante (Luis of Lewes)

**Floor** - The ground floor is suspended timber boards and Jane did consider lifting the whole floor and insulating underneath. However, floor heat loss is often exaggerated and this measure would only have cut consumption by about 5%, yet would have been disproportionately expensive and potentially troublesome to find replacement boards. The floor has been left as is, but the gaps have been sealed with mastic to draughtproof.

**Draughtproofing/Airtightness** - Secondary glazing and sealing the floorboards has effectively draughtproofed the house.

### *Renewables and Low carbon technology*

As this is a conservation area and the roof is very visible, neither solar PV nor solar thermal would have been appropriate.

### *Electricity*

As far as possible, lighting has been replaced with LEDs, which use 80% less electricity.

### Carbon emissions

Energy Use: Electricity 1020kWh pa, Gas 4500kWh pa, Wood 2500kWh pa.

Net CO2 emissions: 1.5 Total tonnes (74% less than average UK dwelling)

## Professionals

Magnetic DG - Olivier Sauer 07534 263534

Builder/Insulation – Luis Diamante 07778 987286

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### **Links:**

[1] <http://lewesecoopenhouses.org.uk/booking#4ChurchRow15th>

[2] <http://lewesecoopenhouses.org.uk/booking#4ChurchRow23rd>