St Barnabas Road, CB1 2BY

Howard and Fiona – Howard says:

‘We moved to our very well preserved and largely unaltered Victorian house about 12 years ago. We are passionate about not changing the appearance of the building internally or externally and we have not had the money nor wanted to suffer the disruption of major energy improvements carried out all at once. Instead we have made a wide range of incremental and often inexpensive and opportune improvements. Many of these have been carried out by ourselves and could easily be copied by others.

Although there are many further improvements planned our house is now comfortable and, considering its size, reasonably economical to run.’

Low Energy Measures

Insulation and draughtproofing

Simply closing the flue dampers to all 10 fireplaces, or placing offcuts of Celotex in the flues where dampers did not exist was most effective. Also placing 12mm Celotex behind radiators on exterior walls was an early, obvious and low-cost first step to reducing heat loss.

Insulating the loft and the triangular voids in the roof space was an early priority – now superseded by having the entire roof replaced, and the loft re-insulated.

Installing a new very high specification boiler and programmable controls to four independent zones was an important but expensive next step.

This happened about the same time as refitting a bathroom with internal wall insulation which quickly demonstrated its effectiveness.

In our sitting room underfloor insulation has recently transformed a cold draughty room. We lifted the floorboards and re-laid them over 85mm Celotex FR5000 using UNI TAPE universal paper-based adhesive tape to air seal joints.

Our hall and stairwell were similarly very draughty, but external secondary glazing of the large leaded window on the landing has addressed the problem inexpensively and without visual impact.

We used V-seal DIY strip to draughtproof doors and original sash windows.

Overview

<table>
<thead>
<tr>
<th>Age, Type</th>
<th>1897, Semi-detached</th>
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<tbody>
<tr>
<td>Wall: Solid brick</td>
<td>Floor area: 290 m²</td>
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<tr>
<td>No occupants:</td>
<td>2 adults</td>
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<tr>
<td>Project timescale:</td>
<td>12 years and ongoing</td>
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<tr>
<td>Cost of measures:</td>
<td>£40,000</td>
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Current energy usage – 2 adults

<table>
<thead>
<tr>
<th>Energy</th>
<th>kWh/m²/yr</th>
<th>Carbon</th>
<th>kWh/m²/yr</th>
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<tbody>
<tr>
<td>Elec</td>
<td>16</td>
<td>Wood</td>
<td>600 kg</td>
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Insulation

- Internal wall insulation
- Underfloor insulation
- Loft insulation
- Draughtproofing (windows and doors)
- Sealed chimneys

Glazing

- Double-glazing, new and with original sashes
- Secondary glazing (internal and external)

Heating

- Double-glazing, new and with original sashes
- Secondary glazing (internal and external)
- Condensing boiler
- Weather compensating controls
- Zone heating (four independent zones)
- Wood burner
Our double-glazed period style conservatory also helps to insulate large area of external solid 9 inch wall.

Glazing
New sashes: 20mm low 'e' argon fill double-glazed units in Victorian style sliding sash replacement windows to kitchen/living room.

Secondary glazing: 2 mm acrylic and magnetic strip either externally or internally.

Lighting
We have a few compact fluorescent bulbs but mostly we hate them so we tend to use low voltage halogen fittings with 10 or 20w bulbs and make sure we only have them on when and where we need them.

Future Plans
Solid wall insulation in the kitchen/living room and floor insulation to the one remaining ground floor room with a suspended floor.

A few more secondary glazing units where inconspicuous, and thorough draughtproofing of the remaining original sash window.

Professional Contacts
Roofing contractor M A Pooley and Son
www.mapooleyandson.co.uk

Products
Insulation
Internal wall insulation, loft insulation and underfloor insulation (ground floor): Celotex
www.celotex.co.uk

Under floor insulation (other floors): Fibreglass and Rockwool
www.rockwool.co.uk

Heating
Boiler Viessmann
Woodstove Morso