

## 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.'*



### Overview

**Age, Type:** 1897, Semi-detached

**Wall:** Solid brick **Floor area:** 290 m<sup>2</sup>

**No occupants:** 2 adults

**Project timescale:** 12 years and ongoing

**Cost of measures:** £40,000

**Current energy usage** – 2 adults

Energy kWh/m <sup>2</sup> /yr			Carbon kWh/m <sup>2</sup> /yr	
Elec	Gas	Wood	/m <sup>2</sup>	/person
16	96	600 kg	25.7	3722

### 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

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Insulating the loft and the triangular voids in the roof space was an early priority – now superseded by having the entire roof replaced, and the loft re-insulated.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

Our double-glazed period style conservatory also helps to insulate large area of external solid 9 inch wall.



### Heating system

Our Viessmann high spec boiler was chosen for efficiency and quiet running operating with a timer, thermostatic radiator valves and 4 independently-controlled heating zones.

Lastly, our superb Morso 6140 woodburner ensures our kitchen/living room is always cosy of an evening, which means we can maintain a lower overall temperature elsewhere.



### 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](http://www.mapooleyandson.co.uk)

### Products

#### Insulation

Internal wall insulation, loft insulation and underfloor insulation (ground floor): Celotex  
[www.celotex.co.uk](http://www.celotex.co.uk)

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

#### Heating

Boiler [Viessmann](#)

Woodstove [Morso](#)