

## 62 Sompting Road Lancing, BN15 9LD

### Overview

Type: Detached

Age: Edwardian (1924)

Beds: 3

Walls: solid brick

Area: 119sqm

Residents: 4

### Features

Condensing boiler

Double glazing

Energy controls – programmer, TRVs

Food production

Ground floor insulation

Heating controls

Low energy appliances

Low energy lighting

Low water goods

Rainwater harvesting

Under floor heating

### Introduction and approach

David and Lydia bought this property in January 2014. As first time buyers with a small family, a “small” DIY project seemed a really good idea. The detached Edwardian house had been converted into two flats in the early 1980s. The refurbishment aims to reinstate “original” features with a very efficient and contemporary backbone.

The approach has been to make a “forever home”; to do things properly, but once. Cutting energy costs is vitally important for the couple, as is the idea of living more lightly in an urban setting, especially around issues of food dependency and drainage. The garden already features chickens, composting, mature fruit trees and a fruit garden. A rain garden at the front of the house is planned for this year.



A lot of back-to-basics work was needed upfront to rewire the house and install a new central heating system. This work uncovered more that needed doing and as the floorboards were all up, it made sense to insulate underneath.

The refurbishment is very much work-in-progress. This year, David and Lydia will be concentrating on the super-insulated study in the converted garage. When finances allow, solid wall insulation is planned, which should make a huge difference.

### Energy and CO2 performance

An Energy Assessment Certificate completed in September 2013 rated the energy efficiency of the house as band E, with the potential to rise to band C. (The average energy efficiency rating for a dwelling in England & Wales is band D.) CO2 emissions would be reduced from an estimated 8.1 tonnes to 5.6 tonnes.

The report suggests that if the recommended improvements are made, the household’s energy costs could be approximately halved. It will be interesting to see how this works out, because in some instances David & Lydia are working to a higher energy

efficiency specification than the report's recommendations.

## Energy efficiency measures

### Heating and hot water

A Baxi condensing gas boiler has been installed in the loft to replace two independent systems consisting of two small boilers and two small water heaters. The array of hot water pipes running down from the loft provide heat at the back of a new airing cupboard.

Modern radiators with TRVs have been installed, linked up to a "smart" thermostat. The bathroom has been fitted with underfloor heating.

### Insulation

The loft is currently untouched, as there was a fair amount of insulation throughout. All windows are double-glazed, although approximately half are inefficient and date back about 20 years.

Approximately 100mm of insulation has been installed under the floorboards downstairs.

Future plans include a study in the converted garage that will be insulated to exceed current building regulations. When finances allow, the double-glazing will be upgraded and solid wall insulation added, at which point the solid brick walls will be re-rendered.

### Airtightness & ventilation

Fireplaces that had been bricked in and some without vents may have contributed to damp problems. The original vents have been re-opened to create the more natural ventilation intended by the builders. Once the real dynamic of the house is learned then it can be tweaked.

### Electricity

All appliances are A-rated or above, with a number of power-down sockets, for the television, for example. The whole house (aside from dimmable table lamps) is fitted with LED bulbs that take between 3 and 5W each.

In the utility room/ downstairs toilet, rear hall, pantry and "cloakroom" (cupboard under the stairs) the lighting is controlled by PIR triggers. These switch the light on as you open the door/ pass through (and only when light levels are low) and switches off again after a couple of minutes of inactivity.

Mains wired smoke and carbon monoxide detectors have also been fitted, so that there is never a need to worry about batteries.

## Lessons learned/ Further improvements

It has been hard work; a far more complex project than anticipated, with a fair number of surprises. However, we don't regret the decision to strip it back to the bare bones and reconstruct instead of "making do". It has been costly (although using trades only for what really couldn't be a D-I-Y job has helped), but it's getting there and will be worth it.

Further improvements include solid wall insulation; a rain garden at the front; changes to the driveways so that they are permeable and don't jettison storm water directly onto the highway; a redesign of the back garden with a dedicated fruit patch; replacement of the old concrete pre-fab garage with an insulated timber workshop

## Professionals

Much of the project has been D-I-Y. David is a Chartered Landscape Architect and Lydia is formerly an architect. David's brother-in-law did the electrical work.

Plumbing: Greenfield Services  
[www.greenfieldservices.com/](http://www.greenfieldservices.com/)

