

## 17 Peverel Road, Worthing BN14 7LX

### Overview

Owners: Felicity Field and Mark Kennedy

Type: Detached Victorian

Age: 1920's

Bed: 4

Walls: Brick

Area: 120m<sup>2</sup>

Residents: 4 + the dog

### Key Features

Wi-Fi operated LED lighting system

State of the art heating system

Underfloor Heating

Condensing Boiler

Water solutions

### Other Features

Cavity Wall Insulation

Double Glazing

Low Energy Appliances

Loft Insulation

Solid Wall Insulation (external)

Wood burning Stove

### Introduction and approach

Are you motivated by technology? Would you like to run your heating and **lighting by your iPhone**, while living in a 4-bedroom house with a **gas condensing boiler** designed for a 1-bedroom house and still be too warm in the winter with no heating on!?! If the answer is yes, or you are interested to know how technology can help you be energy efficient meet Felicity and Mark and hear their renovation story and get inspired.

They have a **state of the art heating system**, Honeywell kit with bespoke elements and it is wireless and internet capable. Since installation they have already seen a 30% reduction on their gas bill and are expecting more. They have thimble sensors in every room enabling them to control their heating at the



touch of a button. Their **underfloor heating** is covered by a heat resistant floating floor with stone tiles on top that enable 67 times more heat conduction.

They also run a Water softener company called **UKh2o** which is a specialist water treatment solutions company, supplying quality equipment for domestic, commercial & industrial purposes. Therefore, they have water kit such as a thermostatic bath mixer, high recovery hot water cylinder and a Quooker instant stainless steel vacuum water heater that is 58% more efficient than boiling the kettle.

This house is an education on how today's modern living really can promote efficiency all run remotely, what's not to like!

### Energy efficiency measures

#### Wi-Fi operated LED lighting system

They have a fully remote controlled lighting system that can be operated by opening an app on their phone. It is completely Wi-Fi and internet capable. No need to ever get up to switch a light on or off!

## State of the art heating system

The state of the art heating system uses Honeywell kit, but has been given some bespoke additions to enable maximum use of all the appliances off the heating system. There are thimble sensors in every room so the heating can be remotely controlled. This set up is a first for Honeywell and the design and implementation was driven by Mark's pursuit of the highest performing and more technological approach to what he wanted. The Honeywell evo home 'off the shelf' app is what is used to control the heating. Honeywell and David worked together to design and install the system.

Very quickly they saw a 30% reduction on their gas bill and this was before all the kit was fully installed and operational. They are expecting further reductions as time goes by. To be fully appreciated it should be seen first-hand.

## Underfloor Heating

The underfloor heating has been integral to the energy efficiency of this property since its renovation. The underfloor heating system has a few elements that make it the super-efficient system that it is even compared to other under floor heating systems.

The underfloor heating elements sit in heat reflective support trays that help to maintain the temperature and reduce heat loss. On top of these trays sit the composite stone tiles which are made by a German company Knauf, using their Gifafloor flooring. As these tiles are stone and not just normal floor tiles they act as a heat conductor and as a result are 67 times more efficient.

The final element is the inclusion of a heat resistant floating floor between the trays and tiles which again adds to the insulation capabilities of the flooring.

## Condensing Boiler

The condensing boiler that has been installed in this 4 bedroomed home is only a 24kw boiler which would normally be installed in a much smaller house. A 3-bedroom home nearby has a 36kw boiler installed, which

while efficient as a boiler is good, but because of all the heating considerations this family has taken the 24kw boiler makes it very cheap to run in comparison.

## Water solutions

As Felicity and Mark own their own water softener company UKH20, it is to be expected that their understanding and application of water appliances should be of the highest order.

Being in a very hard water area they have implemented water softener solutions which have enabled a reduction in lime scale, detergent and soap use which equate to many long term savings.

In the kitchen, they have a high recovery hot water cylinder and to enable permanent hot water at the touch of a button without the need for a kettle they have installed a Quooker instant stainless steel vacuum water heater which is 58% more efficient. In the bathroom they have a thermostatic bath mixer which regulates the temperature of the water enabling a very great safety value as well.

Their web site [www.ukh20.co.uk](http://www.ukh20.co.uk) can provide much more detail.

## Cavity Wall Insulation

The house had cavity wall insulation put in as part of the renovation

## Double Glazing

The house is fully double glazed

## Low Energy Appliances

All of their appliances are of the highest efficiency with their own unique features.

## Loft Insulation

There is no heat required at all in the loft because not only does it have a triple layer of insulation across the floor, there is insulation up the side rafters as well to ensure the maximum insulation possible.

## Solid Wall Insulation (external)

When the house was renovated an extension was added to the back of the house to create a separate room. This room has 3 external walls



and has had solid wall insulation applied to the external walls.

### **Wood Burning Stove**

They had a wood burning stove installed as well.

### **Lessons learned**

The renovations meant the family had to move out for a short while and while they experienced inconvenience as a result of the extensive remodelling it was well worth the effort.

### **Professionals**

UKH20 - [www.ukh20.co.uk](http://www.ukh20.co.uk)

