

51 Northcourt Road Worthing BN14 7DT

Overview

Type: Claire Hunt and Ryan Haines

Type: Mid terrace

Age: Victorian

Beds: 3-4

Walls: part solid brick, part cavity, part rendered

Area: 96m²

Residents: 2

Key features

DIY solar powered toilet

Rainwater garden

Water & energy saving measures

Frogs & hedgehogs

Other features

Double glazing

Draught proofing

Food growing

Heating controls

Loft insulation

Low energy appliances

Low water goods

Rainwater harvesting

Green roof

Introduction and approach

Have you ever really wondered how much water (& money) you can save off your water bill with every flush you make? Probably not, but here at Claire & Ryan's home they save approximately 10 pints of water every time they flush their DIY solar powered toilet!!

If they use their toilet say 6 times a day, that is a whopping 60 pints of water a day, or 21,900 pints of water saved a year... Imagine that reduction on your water bill.

They are passionate about saving water and energy and have all manner of low tech, low spend solutions in their home and as a result



are a leading example of how easy it is to save this precious commodity and save themselves money at the same time.

Both their front & rear gardens showcase effortless ways to collect rainwater, ensuring it doesn't add to surface water flooding and waters their plants at the same time.

Not only can Claire & Ryan share about water solutions, they are part of a hedgehog corridor, provide a frog habitat, and are part of a growing number of people who have switched their energy supply to a 100% renewable supplier that is cheaper than the larger energy companies.

If you are wanting to be more water and energy conscious and learn about creating a rain water garden, have kids that love wildlife or you want to know more about growing your own fruit trees this home is well worth a visit!

Energy efficiency measures

Heating and hot water

The old inefficient boiler was replaced by a Worcester Green Star condensing boiler. With hindsight, it would have been better to have fitted one with flue gas heat recovery, but the new one is still 10/15% more efficient. The programmer is Wi-Fi and therefore portable. An old Edwardian cast iron fire surround with gas fire was fitted in the front sitting room.

Insulation

Walls – at the front, these are solid rendered, but at the back they appear cavity. The cavity was assessed some time ago as too narrow to fill, but this will be reassessed because of the potential to cut heating bills by around 15/20%.

Windows – three old ugly windows at the rear have been replaced with elegant new double glazed timber sliding sash units. Further windows will follow when funds allow, but in the meantime, Claire and Ryan have fitted acrylic magnetic double glazing on downstairs sash windows. This cost around £100/150 per sash window, was easy to do and is nearly invisible.

Roof – the loft conversion has 100mm of Rockwool between the joists, which offers reasonable insulation. In the eaves and loft areas, there is also 100mm of fibre insulation between the joists. There are plans to clear the spaces and raise the floor by using new joists at right angles, to create the space for additional insulation, before over boarding again to restore storage space.

Renewables and low carbon technology

A solar PV system was rejected as uneconomic because of limited roof space. With only two occupants, demand for hot water was considered too low to install a solar thermal system, but this may be reconsidered as there are now AirBnB guests. Choice of provider for mains supply does help the development of renewables (see below).

Electricity

By addressing waste and using electricity carefully, annual consumption has been halved. High energy lamps have been replaced with low energy ones, particularly LEDs.

Recently, Claire and Ryan switched their energy supply to Bulb Energy as they are 100% renewable, competitive on price and have offered good service to date. Many of the renewable energy companies are much more competitive than most realise and the market

place is seeing many more interesting supplier deals for customers.

Carbon emissions

Energy Use: Electricity 2253 kWh pa, Gas 10,631 kWh pa

Net CO2 emissions: Total 3.7 tonnes (33% less than average UK dwelling), 38.3 kg/m² (40% less than UK average).

Other sustainable measures/ lifestyle decisions

Water conservation – rainwater from the house is collected in a 750 litre butt in the rear garden and there is another smaller one to collect from the shed, which has a green roof. No mains water is used outside. The shower also has an aerating head to limit flow.

Rainwater diversion – a downpipe shared with the neighbours previously discharged onto the ground and into the road. Rather than risk overloading the drains, the run-off is now diverted to a water butt in the front garden, with an overflow to a planter bed. This in turn overflows to a channel running to a new soakaway. All rainwater from the front of the two houses now goes back into the ground.

Organic food cultivation – food grown in the rear 'forest garden' is mostly fruit from trees and bushes, which includes figs, grapes, Ashmead's Kernel apple and a Medlar fruit tree which dates to Victorian times and is very easy to grow. They also grow plums, raspberries, blueberries and Juneberries. Additional to their garden growing, Claire and Ryan have an allotment where they grow vegetables – and more fruit.

Therapeutic gardens – Claire and her colleague Lisa Leach run a social enterprise, 'Breathing Spaces', to create or adapt gardens in places such as care homes and community centres, to give people with support needs the opportunity for constructive and/or pleasurable activity.

Transport – Both Ryan and Claire use cycles to get around. Car use is mostly limited to long



distance journeys not achievable by public transport.

Home sharing – One of the spare bedrooms is now rented to visitors via Air BnB, which makes more use of the space and generates income that can be invested in further improvements.

Lessons learned

Claire's Permaculture course caused a major shift in a perspective. Some of the 'pre-permaculture' decisions have been regretted, e.g. making two cosy rooms into one large hard-to-heat room, now reversed by installing folding doors.

They also regret the installation of the now unused, electric underfloor heating in the kitchen breakfast room.

Professionals/materials

Timber double glazed windows –
www.chartwellwoodenwindows.co.uk

VOC-free, compostable paint -
www.naturepaint.com

Thermal lining and curtain material -
The Fabric Shop, Chapel Road, Worthing

Green roof sedum mix (on bike shelter) -
www.nickys-nursery.co.uk

Chemical-free, durable, Thermowood decking – www.alsfordtimber.com

Secondary double glazing –
Standard Magnetglaze (bought online) and acrylic sheets from Worthing Plastics (01903 366862). For more information see www.transitiontownlewes.org/magnetic_secondary_double_glazing.html

LED dimmable light bulbs
www.ledhut.co.uk

