

Henry House, 189 Heene Rd Worthing, BN11 4NN

Overview

Owners: Karen Simportis and Rolf Londal

Type: Detached conversion into therapy clinic and house

Age: 1913

Beds: 4

Walls: Brick, solid

Area: 200m²

Residents: 2 adults

Features

Condensing boilers (three; house, pool water & air)

Double Glazing

Food cultivation

Grey water recycling

Low energy appliances

Low energy lighting

Rainwater harvesting

Solar PV (4 kWp)

Solar thermal

Introduction and approach

This building is unusual in being both a clinic and a home, with a hot (35°C) hydrotherapy pool. Consequently it has three boilers and a high heat demand, which presents a lot of challenges.

Since taking over in 2007, Karen and her partner Rolf have striven to make the operation as sustainable as possible by introducing rainwater harvesting and grey water recycling to limit water demand. At the same time, they have installed solar thermal to help supply the high shower demand and a substantial PV array to help offset electricity demand. Just about every initiative possible has been undertaken to recycle and minimise consumption, which has won Karen the Worthing Green Business of the Year award in both 2009 and 2012.



Being a keen organic gardener, Karen has worked on food production from the garden, which is also a beautiful wildlife haven in an urban setting.

During the event, there will be tours of the gardens, tea and cakes, and activities for children, including art, workshops and an eco competition. To celebrate the return of the stolen six-foot inflatable bananas there will be a repeat of the Bike for Bananas Campaign- anyone who cycles to Henry House with receive a free fair trade banana!

Energy efficiency measures

Heating and hot water

The main house has conventional radiators with TRVs and programmable controls.

Hot water use for pool showers is extremely high and this is effectively managed by input from the solar thermal panels.

Insulation

Walls – the walls are solid brick, with decorative timber panels and dado, which makes insulation impractical.

Windows – all windows are either double glazed or secondary glazed. The pool

extension has old double glazed sliding doors which are being replaced with modern high performance timber framed ones.

Roof – the main house has just 100mm insulation between the ceiling joists, which have been boarded for storage. This is a common situation and hard to improve, without emptying the contents and raising the floor to accommodate more insulation. The pool extension roof, however, is 300mm high performance solid fibre insulation.

Renewables and low carbon technology

Solar PV – the pool roof has 4kW of Solyndra panels, installed by Suntrader in 2011.

Solar Thermal – A large array on the south facing roof of the house supplies hot water to both the house and the pool area. This was fitted by Karen's son, James, in 2003 after completing a LILLI training course.

Electricity

Lighting – one of the biggest uses is for lighting, as this is on for most of the day, even in summer. Lamps have mostly been replaced with LEDs or CFLs. In the pool area even strip fluorescents have been changed for LED panels.

Carbon emissions

Emissions and energy consumption are larger than for a typical house due to the heavy demand of the hydrotherapy pool. However, measures introduced have progressively whittled energy use down over the years.

Other sustainable measures/ lifestyle decisions

Water conservation

Rainwater harvesting – water use is a major headache, as the pool water has to be regularly replaced. This is mitigated by rainwater recycling, which is collected from the large roof area and stored in 4 linked recycled former fruit juice transportation barrels. This is used mainly for the weekly pool top up.

Grey water recycling – when part of the pool water is changed each week it is stored in two further recycled barrels and used to provide flush water in the toilets throughout the building, which have quite a heavy use by the public of up to 1600 litres/day.

Vegetable cultivation – the house has an extensive garden which spreads over a plot behind the terrace. Karen has been an allotment holder and organic gardener since the 1970's and makes good use of this land for organic food produce, as well as creating a beautiful garden.

Ecosanitiser – pool sterilisation is via and Ecosanitiser, which uses minimal chemicals, making it kinder on allergies and also kinder on the environment.

Pool covers – insulated pool covers are used to limit heat loss when the pool is not in use.

Recycling – All office materials are recycled where possible and other non conventional recycling, such as sculptures, are encouraged and exhibited.

Paperless office – as far as possible, business is transacted using internet and email to keep it paperless.

Transport – clients and visitors are encouraged to avoid car use, particularly by cycling, with promotions such as rewarding cyclists with a free trade banana to compensate for the energy expended!

Lessons learned

With an older building there will always be limits on what can be done toward energy conservation, but that does not mean a great deal cannot be achieved by concentrating efforts on all aspects of sustainability, particularly where significant inroads can be made.

Professionals

Solar PV – www.suntrader.co.uk/

