

Rena, The Street Shoreham-by-Sea BN43 5NJ

Overview

Owners: Anna and Jack Walton

Type: Semi

Age: 1930's

Beds: 3 beds + loft conversion = 4 now

Walls: Cavity walls

Area: 130sq m.

Residents: 2 adults, 2 children aged 9 & 11

Key Features

Biophilic design

Lifestyle

Energy and water saving

Other features

Zero waste goals

Natural materials

Composting

Triple Glazing

Whole house insulation

Low energy lighting

Introduction and approach

Anna and Jack's ground floor extension has that real "wow!" factor when you walk into it – a perfect example of Anna's native Swedish influences – light, stylish design, strong connection to nature indoors and out, wooden sculptures (created by Jack's step grandfather) and the use of natural materials throughout their home. Anna says, "it's the natural way of life for a Swede - we don't even think about it, and we try to live what we preach". Anna runs Chalk and Moss (www.chalkandmoss.com), a sustainable, nature connected online shop and blog for wellbeing – chosen by Elle Decoration as one of the UK's best online shops in 2018.

Inspired by Biophilic Design (our need to connect with nature for our wellbeing), with air purifying plants throughout for wellbeing and health, even the new ceilings in this house have been designed to have natural curves as there are no corners and straight lines in nature. This home



is energy and waste efficient, beautiful and calming.

Not everyone can afford some of the more expensive eco features but as Anna can demonstrate, we can all make simple, achievable lifestyle changes to fit our budget. Their home is a fantastic example of the small things we can all do that collectively make a real difference.

Examples of biophilic design principles

Create open space, looking out onto greenery. Placing plants both inside and outside a glass window or door draws the eye outwards. But also create a special refuge space for comfort and privacy. This could be done with a dividing wall filled with greenery. Having these two spaces will allow the mind to rest, reducing anxiety and stress.

Avoid heavy curtains and instead let in natural light, which will help your circadian rhythm, allowing for the production of sleep inducing melatonin hormone as darkness falls. Try to keep your calm areas tech gadget free, instead focusing on decor made from natural materials, plants and high quality candles. Use the space for calming activities. Menopause can affect concentration and memory, as well as stress. So if possible, keep a space free where you can practise some gentle meditation or yoga stretches.

Recognisable patterns in nature have a calming effect, so we play with the number, colour and height of plants, pots and hangers, noticing the pattern they form.

House plants can have these positive effects:

- Improves heart rate and blood pressure
- Improve concentration & alertness
- Improve feelings of wellbeing
- Improve productivity
- Boost immune system
- Faster recovery from illness
- Reduce anxiety

Energy & water efficiency

Efficient gas combi boiler, with the heating run at a comfortable temperature 1 hour in the morning, 3 hours afternoon/evening, with some additional heating when needed.

Rear extension has Keylight triple glazed wooden windows and sliding, folding aluminium patio doors that Anna and Jack found on eBay, saving £4,000 on the usual price. The rest of the house has double glazing.

Energy provider was a local company based in Shoreham (deliberately chosen because of that) - Affect Energy, who have since been bought out by Octopus, but what they provide is still 100% renewable.

Thermal insulation offers significant improvements in comfort and energy efficiency. The house is insulated throughout, in the roof, under the floors, and in the wall cavities. The biggest difference that any one thing has made to the cosiness of the house is the underfloor insulation to the entire ground floor. The floor is always warm.

This household uses 228 litres of water a day for a family of 4, equivalent to two thirds of the average use for a family of 2.

The washing machine is run twice per week (30 degrees), using a laundry Eco Egg, the dishwasher every 2 days. Grey water is collected to water plants.

Lifestyle & waste reduction

The household produces one, or maximum two bags (re-purposed compostable packaging) of rubbish per week. Some of the steps taken to minimise waste include composting, making good use of leftovers, and avoiding the use of plastic to wrap, store and transport food and packed lunches. Think beeswax wraps, stainless

steel lunchboxes, organic cotton bags, buying loose fruit, veg and dry goods.

Consideration goes into the sustainability of food sourcing, opting for local or home produce, organic and sustainable production where possible, and reducing meat consumption.

The garden is left relatively wild, with many plants to encourage pollinators, and with rainwater harvesting and grey water recycling in use.

The school run (1.5km each way) is completed on foot, or by bicycle or scooter.

Heavy use of electronic devices is discouraged in this household, for purposes of health and wellbeing, combatting the impact of 'living online' on social interaction, and minimising exposure to blue light which is often emitted at relatively high levels from most LEDs and screens. Blue, indigo and violet light sit towards the high frequency, short wavelength end of visible light on the electromagnetic spectrum, right next to ultra-violet light. High frequency, short wavelength radiation, the most extreme being Gamma rays, is harmful. Lower frequency, longer wavelength radiation, infra-red, red, orange, yellow, is far more benign and indeed essential to life on Earth. In addition to minimising exposure to screens and light from LEDs, one can also be selective regarding screens and LEDs used, and blue light can be filtered to avoid the negative impacts on circadian rhythm, melatonin production, healthy sleep and mental wellbeing of over-exposure to blue light.

Anna and her daughter support Just One Tree – Anna by donating to the project some of the proceeds of her business, and her daughter who has locally raised funds for them. Anna feels that teaching her children to care for the environment is of prime importance.

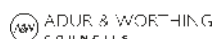
Lessons learned/further improvements

Anna and Jack are now thinking of moving to Sweden, so their plans around finding a way to incorporate solar panels have been put on hold, but they wish they had found a way to add solar panels to the house roof during the rebuild. This was not possible due to the loft conversion roof lights.

Use an architect and builder who specialises in eco builds

Consider options for eco-friendly insulation such as hay bales or recycled plastic bottles

Look at underfloor heating options that work effectively with solid wooden flooring.



Make sure the builders weather the wood planks for the loft bedroom floor before laying it! They ended up with gaps needing to fill with thin wood strips.

Next steps

Anna and Jack want to build a DIY, well-insulated eco-office in their garden, made from second-hand/recycled materials and are trying to decide between a green roof or solar on the roof. An electrical supply is already in place.

Professional team and technical information

<https://www.keyliteroofwindows.com/product-options/energy-efficient-glazing/>

www.justonetree.life

<https://www.chalkandmoss.com/blog/>

<https://www.chalkandmoss.com/shop/>

Biophilic design resources

<https://www.chalkandmoss.com/biophilic-design/>

How they used Biophilic design in their home:

<https://www.chalkandmoss.com/natural-interiors-biophilic-design/>

Useful further information, an in depth report on 14 patterns of Biophilic design:

<https://www.terrapinbrightgreen.com/report/14-patterns/>

Social media links

<https://www.instagram.com/chalkandmoss/>

<https://www.facebook.com/chalkandmoss/>

<https://www.pinterest.co.uk/chalkandmoss/>

<https://twitter.com/chalkandmoss/>

<https://www.linkedin.com/in/annasjostrom/>

