

Inside the UK's first passive house in Camden: super energy-efficient with fuel bills less than £100 a year

The UK's first passive house blazes a trail in Camden with triple glazing, solar panels, green roofs and cleaner air inside than out.

PHILIPPA STOCKLEY | Thursday 31 March 2016 10:27 BST |  0 comments

Inside the UK's first passive house



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A UK first: the super-energy efficient home in Camden. Images by David Butler

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Fancy a light, warm, draft-free, fresh and airy house, with energy bills of less than £100 a year? That's what we would all have if architect Justin Bere — who built London's first fully certified passive house in 2009-10 — had his way.

Called passivhaus in Germany, where the trend started, a passive house is built to exceptional standards of airtightness and is triple-glazed and super-insulated, with heat-exchange systems and solar panels, so that it requires almost no heating and has cleaner air inside than out.

As yet, very few British builders are trained in passive house construction. But if Germany can do it, surely London can, too...



Fiona Terry at her super-energy efficient home in Camden

In Camden in 2009, property developer Malcolm Terry and his wife Fiona, an interior designer, wanted to build a brick house in an area of large, detached houses, but their planning application was rejected. The plot they wanted to develop was at the end of a long lawn belonging to a house they owned.

With independent road access, it was a dream site, on which they had decided to build their retirement home. However, they had reckoned without Camden council being against building over lawns.

Malcolm knew of Justin Bere's determination to build the first UK passive house, a trailblazer for ecological design nationwide. Camden was interested in this, so when the Terrys hired Bere to design a passive house on the plot instead, permission was granted.

HIGH HOPES AND HEIGHT RESTRICTIONS

There was one big constraint: the new house couldn't be taller than the neighbour's garage. In order to achieve two storeys with good ceiling heights, the house would have to be partly sunk nearly 10 feet below ground level. This is done so cleverly that once inside you simply cannot tell. The planners also insisted on two green roofs.



Upper floor: The heat efficient window glazing ensures the open plan kitchen and living area stay pleasantly warm

Passive houses are prefabricated offsite. This one has a timber frame, of larch, and extremely thick insulation. The parts fit super-closely, which is vital for energy retention. Since the UK didn't have factories making such timber kit houses, Bere hired as an intern the son from an Austrian family firm that made them. Though only 1,300sq ft, the house has two bedrooms with en suite bathrooms downstairs, while the upper floor is one huge living area plus open-plan kitchen, and soars into the pitched roof space at the north-facing back.

At the front, looking out to a full-width terrace, a wall of highly heat-efficient windows creates

wire frame, but the Terrys chose a lighter fence instead.

BUILT IN A JIFFY

The construction process is very different from that of a brick house. "One day a huge lorry arrived, loaded with prefabricated timber walls," Fiona recalls, "and before you could look round, there was a house."

Not only is there a large solar panel on the roof, which feeds energy into the system, but the two green roofs are covered with wild flowers and sedum, which look good from the rear. The powerful heat-exchange system was intended to tuck under the stairs, but since the family wanted storage space it was put in the bike store, and connects to the house via well-lagged ducts. A rainwater tank under the house collects reusable water.

This house wears its eco-credentials lightly. All you see is a modest, modern home clad in gently weathering horizontal slats of timber that give it an ethereal quality. Inside, all the finishes and joins are immaculate, down to the white oak floor that runs throughout.

Originally the internal ceilings were designed to be made of larch, too, but this was changed to plasterboard — "in case it looked like a sauna", laughs Fiona. She says that the heat-exchange system is so efficient "that there are no more old-sock bedroom smells, and the air is cleaner inside than out." This was important, since their daughter is asthmatic. London-born Fiona, 55, met Malcolm soon after drama school, while working as an actress. They set up a small estate agency in their flat. "On our wedding day, someone rang up to view a property and Malcolm said: 'Sorry, I can't stop, I'm getting married.'"



Immaculate finishes: white oak floors run throughout the home

As the business grew and developed, the couple moved a few times and had three children, now in their twenties and thirties. They bought a proper office and Fiona set up the front as an interior design shop, which flourished. In 2001 they moved into a house in their current road, then bought another property — the one with the long lawn — a few doors down. Without their property background, they might not have taken the plunge to get involved in a pioneering project. But it has paid off in a beautiful environment. This is a standard that deserves to be followed — if only for the energy it saves. Imagine that multiplied by millions.

WHAT IT COST

Plot of land: already owned.

Total cost of build: £550,000 (in 2009)

Value of house now: £1.3 million

The Terrys' tips on finding a plot:

Scour auctions, ask estate agents, drive around the streets, leaflet people, speak to locals – and track down owners of old garages, overgrown small plots or big gardens with access from the back. Infill sites that won't make enough money for big developers could work for one house.

GET THE LOOK

Architect: Justin Bere of bere:architects (bere.co.uk)

Timber frame: Kaufmann Zimmerei (kaufmannzimmerei.at)

Heat-recovery ventilation system: Green Building Store (greenbuildingstore.co.uk)

Paul Thermos 200 heat recovery unit: paulheatrecovery.co.uk

Floor-to-ceiling windows: Bayer Schreinerei (bayer-schreinerei.de)

Airtightness champion: Dominic Danner (dominic@zero6energy.co.uk)

Green roof expert: Dusty Gedge (dustygedge.co.uk)

Interiors: designed by Fiona Terry (fionaterrydesigns.com)

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