

Adopt Passivhaus techniques to save up to £900 a year on bills

Passivhaus is a world-leading design technique that could make your bills progressively cheaper year on year...

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<p>Passivhaus principles: minimise energy loss with triple glazing and insulation</p>

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As we face another winter, the idea of slashing heating bills to almost nothing sounds like a fantasy. However, it is possible – and not just for modern, new-build homes, but for the majority of London’s classic brick houses.

This is because of a rigorous design system called [Passivhaus](#). Developed in Germany, it is the world’s leading low-energy building standard.

The system uses triple-glazed, immaculately fitting windows, photovoltaic panels, plus other building techniques such as good insulation, in a bid to cut energy use by 90 per cent compared with a typical home.

PASSIVHAUS TECHNIQUES

Passivhauses also rely on solar gain, which means lots of glazing, particularly in south-facing areas, and opening doors and windows to let heat in when it is hot, with really good blind systems so that those rooms don’t overheat.

To date, there are more than 250 certified Passivhauses in the UK.

Camden trailblazer

In north London, architect Justin Bere has been designing ecologically sound homes for years. But when he came across the German system, he says it answered every question he had, so he adopted it.

He persuaded a London couple to build a new Passivhaus in Camden and, when it was finished in 2010, it was the first in the UK to be accredited.

The larch-clad, 118 sq metre two-bedroom home by Bere Architects became a trailblazer. Bright and airy, with sliding doors on to a south-facing terrace, it harvests rainwater underground, uses a solar panel and has a tiny back-up boiler. Annual heating costs are 10 per cent of equivalent homes.



Groundbreaking: the larch-clad house in Camden, designed by Bere Architects, was the first accredited Passivhaus in the UK

Not surprisingly, Bere says that “now most of our clients want one”.

“Every house should do it,” he says. “Over 50 years, a single home can save thousands. If the Government took a long-term view, this could save the country billions.

“Instead of investing in nuclear energy, it could do the right thing and contribute £10,000-£15,000 to mortgages to cover the cost of achieving these standards – a small thing which future generations will be grateful for. Let’s put our hands in our pockets now. Our kids will thank us.”

Retrofit wonder

In west London, Octavia housing association has proved it’s possible to retrofit a three-storey Victorian terrace house in a conservation area to save energy.

Octavia’s architect, Marion Baeli from PDP London, says that with a retrofit the results are still brilliant, but to a slightly more relaxed specification.



Period property upgrade: this large property in west London has triple-glazed windows and a solar thermal panel on the roof

Insulation was attached to the inner faces of the walls, which were then re-finished to hide works. Windows were triple-glazed, and a solar thermal panel on the roof makes enough energy to heat almost all domestic hot water.

The large building, which houses six people, needs no radiators and uses a small air-source heat pump to boost heating. “If you are going to do a refurb of roof repairs and windows, doing it this way will only cost four to 10 per cent more, but you’ll make huge savings,” Baeli says.

Going upmarket

Bigger developers are also getting in on the act. Upmarket developer Grosvenor Britain & Ireland finished two classic two-bedroom Georgian terrace houses to rent in Passmore Street, Mayfair this year – the first private rental homes in the UK to comply with Passivhaus’s stringent “EnerPHit” standard for retrofitting.



Perfect fit: a house in Passmore Street, Mayfair uses Passivhaus principles and keeps its traditional look externally

Grosvenor has also finished two more homes to rent, in St Barnabas Street, SW1. Director of development Anna Farnes says: “We’ve been impressed with the results, reducing energy use and saving tenants about £900 a year on bills. We will deploy what we have learned from our pilot projects elsewhere in Mayfair and Belgravia.”

To enquire about renting in St Barnabas Street, call 020 7312 6449.

What does it cost?

Building to Passivhaus standards rather than standard UK regulations costs from about 10 per cent more – for example, a “normal” build costing £75,000 might, if done to the highest Passivhaus standards, cost £110,000.

However, research by Bere Architects in association with the Building Research Establishment, which advises the Government on building regulations, found that, if energy rates rise at five per cent each year, the Passivhaus costs would equal the regular build after 14 years, and after that, become progressively cheaper year on year.

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