

THE £250,000 ECO SELF-BUILD

A two-bedroom stable in Godalming has been turned into a rustic-modern beauty with an improved energy rating

The greenest building is an existing building. So a true eco-house isn't a new-build, but a sustainable retrofit of an old house. And it needn't cost the earth. Ed Martin, 34, has just completed a green retrofit and extension of a converted Victorian stable in Godalming, Surrey. The cost? A mere £250,000.

In 2019 Martin and his wife, Becky, were living in Peckham, southeast London, but wanted to upsize in anticipation of the birth of their daughter, Ellodie, now aged one. Competition was fierce for family homes in their area, so they looked in the commuter belt and found the run-down two-bedroom stable, a probate sale that had been languishing on the market since 2015.

HUGH GRAHAM

@HughGrahamST



The house had no insulation, the windows were single-glazed and it had the lowest EPC (energy performance certificate) rating: G. But Martin, a director of Delve Architects, saw its potential. In December 2019 the couple sold their property in Peckham for £630,000 and bought the stable for £480,000.

Martin received planning permission to create a three-bedroom house. "The council had said they were happy for us to demolish it and start again, but we liked the

historical value of the property and wanted to preserve it," he says. The result is a rustic-modern beauty – all exposed brick and stone walls, timber-framed windows and wood joinery; Arts and Crafts for the 21st century. They extended the house from 95 sq m to 120 sq m. There's a large open-plan kitchen/living room under vaulted ceilings, and they have added a dining room, playroom, utility room, larder and courtyard. A master suite will come in the next phase – when they can afford it in a few years. Normally planning permission expires after three years, but they needn't worry. By building this phase, they have activated permission so can finish whenever they want. Oh, and they have brought the EPC rating up to a B.

Ed and Becky Martin with Ellodie in the kitchen of their energy-efficient three-bedroom home, which was a Victorian stable



Matt Bowerman at Mud Finishes to cover them in lime – it comes in different colours from natural dyes – with clay used on the ceilings (it is less suitable on walls because it is more prone to wear and tear. It cost £12,000 for 160 sq m of walls and 125 sq m of vaulted ceilings. No further decorating is required.)

4 Go electric Martin swapped gas for electric and installed an air source heat pump, with a wet underfloor heating system. "An air source heat pump cannot perform well with existing radiators," he says. "It works at higher pressure, but much lower temperatures, so is better with underfloor heating."

The air source heat pump makes a low humming noise, so it sits outside in an alleyway. "It sounds a bit like a quiet tumble dryer, so it is best to keep it away from window openings," Martin says.

The family use a Nest thermostat system, which can switch on when it senses human activity, although Martin keeps the temperature at 19C rather than letting it dip and reheat.

In the future he will install two solar panels and link them with battery storage, which allows you to collect electricity by day and use it in the evening – this will save 80 per cent on bills. All the wiring is in place for future installation of the battery in the utility room.

(It cost £8,000 for a 12KW air source heat pump. "We have signed up to the renewable heat incentive scheme, which will pay us back up to £7,000 over seven years," Martin says.)

5 Green roof Martin put in a sedum roof to reduce surface water run-off into sewers, improve thermal performance and help wildlife. "Sedum can be laid directly on top of a single-ply membrane, only needs a small amount of soil and is lower-maintenance than a wildflower roof. Most of the year it looks after itself." (Cost: £2,000 for 20 sq m of flat roofs, Sedum Supply Ltd.)

Martin advises homeowners to use architects and builders who are comfortable working with eco-materials. "The construction industry has a duty to reduce its carbon footprint, and retrofitting existing buildings can play a part," he says. "We saw value in keeping the existing historical stable and adding to it. This could be potentially the only move we make. We want this to be our home for a very long time." delvearchitects.com



10% OFF
YOUR NEXT ORDER
with code
Times1121b
Valid until 21/11/2021

Henry Large Sofa in True Linen Sage and Grace Snuggler in Basket Weave Anise. Terms and conditions apply | Delivery charges apply

Arlo & Jacob
Sofas for life

arloandjacob.com | 03300 945 855 | Islington | Fulham | Marlow | Bristol | Harrogate



HERE IS HOW THEY DID IT

1 The right insulation Martin wanted to use a wood-fibre insulation such as Povatex because it allows historical buildings to breathe. However, their engineer suggested an even higher-performing insulation because they were installing an air source heat pump, leaving the stone walls exposed and have several flat roofs. "We switched to foil-backed insulation to keep in more heat. After [the] Grenfell [fire disaster] we made a conscious decision never to work with companies like Kingspan and Celotex. So we chose EcoTherm, which is made with recycled materials." (The EcoTherm Eco-Versal general purpose insulation board cost £11,000).

For the floor insulation they used recycled glass pellets under a concrete sub-floor, which they covered in limestone, all from Mike Wye Sustainable Building in Devon. "The recycled glass has incredible thermal properties," Martin says. "It resembles little pieces of coal, so has good permeability. Any water or ground moisture after rain drains away, preventing rising damp." (The Geocell foam glass aggregate cost £9,000).

2 Build with timber To avoid using energy-hungry concrete, cement, steel and brick, Martin opted for a timber-framed extension. Not only is it a more sustainable building material, but leaving the beams exposed adds character and makes the ceilings feel higher. The extension was built by

the Timber Workshop in its factory, then dismantled, transported and reassembled on site – two men built it within a week. To keep costs down, Martin opted for Douglas fir rather than oak. "Every few years we will need to sand the wood and re-oil it, but we are happy to do that," he says.

3 Natural walls "Conventional plasterboard is filled with nasty chemicals and we wanted to bring up our daughter in a healthy home," says Martin, who used Savolit Plus wood wool board (15mm thick), a natural recycled option. "It has greater thermal and acoustic properties than standard plasterboard. We didn't want echoey rooms, and it really absorbs sound." Instead of plastering the walls, Martin worked with