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Move with the TIMES

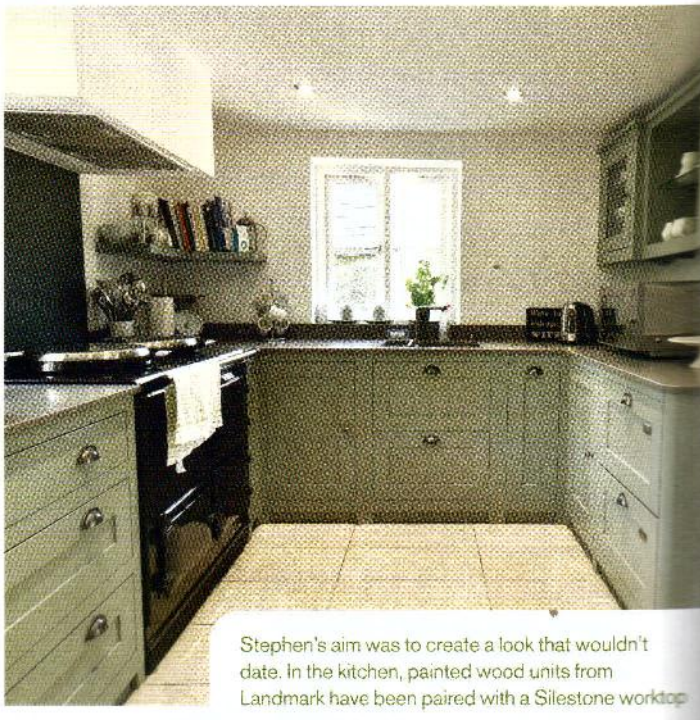
Stephen Chidgey first converted his Cornish barn a quarter of a century ago, but a major renovation has seen him futureproof it with eco technology and timeless design WORDS & PHOTOS **ALEX PRATT**

When Stephen Chidgey bought his barn in 1988, it was a derelict wreck with half the roof missing. Despite the misgivings of friends and family – "a lot of people thought I was bonkers, as I wasn't a builder," he says – Stephen rolled up his sleeves and converted the property into a home for himself within nine months. Some 25 years later he started to realise that some of the original fabric was beginning to fail, so rather than do a patch-up job he embarked on a major refurbishment that has made the barn fit for the next century.

As Stephen investigated the structural fabric, the problems multiplied. Damp was an issue, the roof was in poor shape and the windows and doors needed replacing, but worst of all was the property's energy consumption. "I had an old Aga that used oil at a huge rate," he says. "And the oil-fired central heating was drinking fuel and prices had gone through the roof. I worried that when I retired, I wouldn't be able to afford the bills. After a rethink, I decided to tackle everything at once. In a moment of madness I ripped it all out and started again," he says.

Stephen had several key objectives in mind when he began the recent work: making the property sustainable, reducing running costs, making it feel brighter and more spacious, and finally giving it a more contemporary look. His three-bedroom

Opening up the vaulted ceiling has made a dramatic living area. It conceals a wealth of insulation to keep the space warm



Stephen's aim was to create a look that wouldn't date. In the kitchen, painted wood units from Landmark have been paired with a Silestone worktop

home now feels much more spacious thanks to a new layout with additional windows and vaulted ceilings, and the introduction of a limited palette of simple materials, which include stone, glass and hardwood. The transformation has turned an old granite barn into a comfortable home with the feel of a chic urban pad.

Going it alone

As with the initial conversion, Stephen did much of the work himself, employing sub-contractors as and when he needed them. Although he consulted several architects this time around, he ultimately decided to do the project without one. "It's all about common sense," he says, although that's not to say he wasn't thorough – in fact, he did so much research into renewable technology that he was offered an unconditional placé at university to study for an MSc in sustainable building design.

One of the biggest jobs was repairing the roof, which included replacing the rafters and treating the remaining original beams

THE CHIDGEY FILE

NAME Stephen Chidgey
OCCUPATION Strategic business consultant
LOCATION St Columb, Cornwall
TYPE OF BUILD Renovation
STYLE Barn conversion
HOUSE SIZE 150m² (1,615 ft²)
LAND COST Already owned (barn converted in 1988)
PROJECT COST £111,265
COST PER M² £742 (£69 per ft²)
BUILDING WORK COMMENCED November 2011
BUILDING WORK TOOK 35 weeks
CURRENT VALUE £525,000

Left: Oak architraves and skirtings were crafted by the same local firm that made the staircase

for woodworm. The barn was then retiled with Brazilian slate, in part because local Cornish slate was prohibitively expensive but also because Stephen wanted a more sharp-edged contemporary look. He then stripped out the cement mortar from the previous rebuild and repointed the exterior granite walls with lime, which not only gives it a lovely warm, creamy tone but more importantly allows the old building to breathe, ensuring that the damp is unlikely to return.

Bespoke joinery

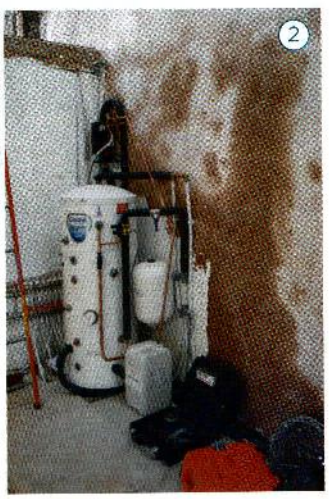
With the basic structure secured, Stephen commissioned local joiner DJ Newman to supply bespoke exterior doors and windows in iroko hardwood, which were then painted with a water-based sustainable satin gloss from Dulux. All the interior joinery – including the doors, architraves, skirtings and stairs are also bespoke, crafted from a sustainable European oak by the same firm. "The staircase is magnificent, as are all the oak frames and internal oak finishes," says Stephen. The staircase is in the dining room, and this zone suffered with limited natural light. To remedy this Stephen removed a section of ceiling and installed a Velux skylight, one of many in the property, which now floods the area with light.

With a vaulted ceiling on the upper storey and new open spaces, insulation became an even more important part of the equation. "In the old barn, all the hot air from the radiators was going into the ceiling or down into the floor," says Stephen. Determined not to lose any warmth this time, Stephen installed Celotex insulation in both the roof and the floors beyond the requirements of current Building Regulations, but decided against treating the solid granite walls, which are 45cm thick. "The walls are a thermal store. When the place is warm, it stays warm," he says.

Effective heating

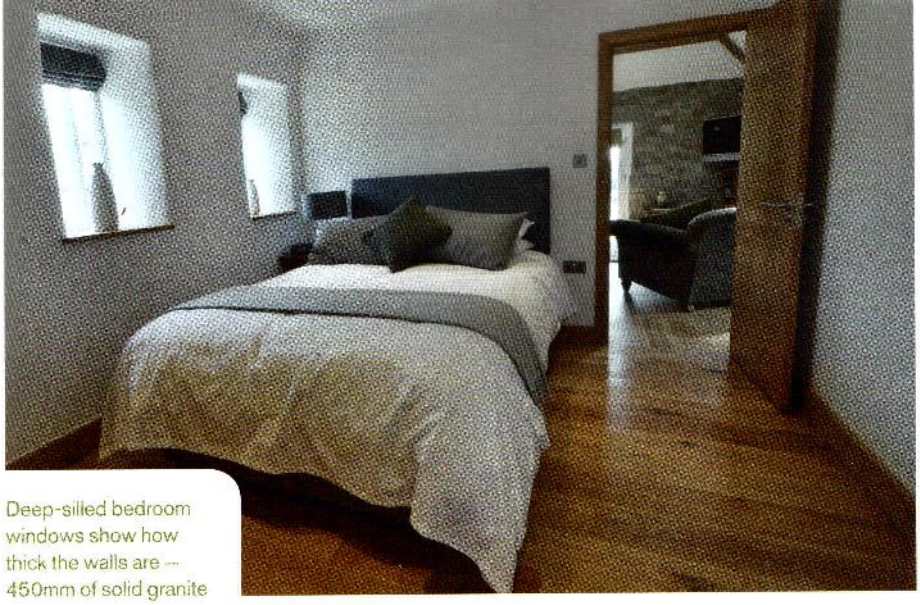
It is in the heating plan that Stephen's twin concerns for eco technology and good design met. "I hoped to see a reduction in energy usage, but I also wanted to avoid the use of radiators within the property to free up wall space and improve the aesthetics of the interior," he says. The barn is deep in rural Cornwall and therefore does not have mains gas, so the clear choice was a ground source heat pump (GSHP) with underfloor heating. "I studied all sorts of solutions, and I went for both GSHP and solar thermal, as I had the ideal south-facing roof and garden space," says Stephen.

"I went to Kensa for the tech. They are based in Cornwall and are really very helpful; they work with self builders a lot and their online instructional videos are a great resource. Each room is zoned on a thermostat, which can be programmed remotely if required. I love



1 Manifolds for the underfloor heating are concealed in the lower part of an old door opening in the living room **2** The tank for the heat pump is fitted **3** To compensate for the vaulted ceiling Stephen installed Celotex insulation above Building Regs standards **4** The coils for the pump get laid in the garden

Original stonework has been left exposed in places, but to atmospheric effect in the ground-floor bathroom, where it's mixed with contemporary tiles and spotlights. Right: A slipper bath sits under the eaves in the first-floor bathroom



Deep-silled bedroom windows show how thick the walls are – 450mm of solid granite

I LEARNED...

START WITH a plan, cost it, schedule it – and then do another that assumes rain!

PLANNING is key. Otherwise you won't have everything on site when you need it.

WHEN WORK is finished each day, clean up. It makes things more efficient, and as the property owner, it helps you to see it all coming together.

LANDSCAPING is very important – don't forget to budget for it and factor it into your wider plans.

the gentle radiant heat that the underfloor heating gives off, too. It makes the place feels uniformly warm."

Although Stephen could have run the domestic hot water off the heat pump, he chose to also install solar thermal panels to ensure the pump always works at maximum efficiency by not placing constant high demands upon it. It also means that even on a dull day there is always plenty of hot water in the tank. In winter, an immersion heater switches on at night to ensure the water reaches a suitably high temperature. Both the panels and the heat pump were part paid for with grants from the government's Renewable Heat Incentive.

Combined with a new electric Aga and a log burner, the barn is now wonderfully cosy, but Stephen has further ambitions when it comes to renewable technology. The piping is in place for rainwater harvesting, which will take run-off from the roof for use in the washing machine and loo. "The next stage is a 6kW wind turbine. Then, I'll be pretty self-sufficient," says Stephen.

Functional & timeless

When it came to the interior, Stephen's philosophy was to make the most of the building's raw materials and incorporate them as key elements of the interior. "In terms of design I really believe that less is more," he says, and in testament to this the barn features exposed granite walls and window embrasures with the plaster cut back to reveal the original stonework.

Stephen did spend more than he anticipated on a kitchen from Landmark, but he has no regrets as the painted wooden door fronts and Silestone worktops create a stylish look that works well in the period building. "I wanted the kitchen to be timeless, so it wouldn't need replacing later on" he says.

It is the floors, however, that Stephen is most proud of. The downstairs is laid entirely with porcelain tiling, which is both a highly effective conductor for the underfloor heating and also has the advantage of having no thresholds. "A seamless join makes the

space appear and feel a lot bigger," he says. "The finish looks great and I'm really proud of it."

Despite his experience and attention to detail, not everything ran smoothly, and in Cornwall the one thing that upsets even the best-laid plans is the weather. Stephen experienced "relentless" rain during the construction process, and in hindsight, he believes he should have used scaffolding to put a waterproof shell over the building during repointing. Not doing so led to a wall getting soaked, which then needed time to dry out.

Not giving enough consideration to landscaping was another issue. With the garden largely dug up for the heat pump coils and the rainwater harvesting pipes, Stephen realised he hadn't budgeted enough for the work to restore it. Although he ultimately designed the landscaping and gave it the same attention to detail as the building itself, he thinks there is still at least £900 to spend before the exterior looks as good as it could.

Now the barn is completed, Stephen is justifiably proud of what he has achieved. "I spent a long time planning and costing the refurbishment to be sustainable, and I also wanted more space and light. I've achieved both those things." When he began the work, Stephen expected the barn to become his home, but very sadly, his partner died during the project. For now he lives for part of the year in a converted studio elsewhere on the property, and lets out the barn as a high-spec holiday property. He plans to move in permanently when he retires and reap the rewards of all that future-proofing. "Ultimately, my feeling about the barn now is that you can't beat something that's been made with a bit of love," he says.

Useful contacts

THE CORNISH BARN HOLIDAY LET **Unique Homestays** 01637 881183 www.uniquehomestays.com SOLAR THERMAL/DOMESTIC HOT WATER TANK **Celtic Renewable Energy** 01566 781509 www.celticre.co.uk ROOF **Cornish Roofing Company** 01208 816991 www.cornishroofing.co.uk KITCHEN **Landmark** 01208 73285 www.landmarkkitchens.co.uk WORKSURFACE **Silestone** 01256 761229 www.silestone.co.uk OAK FLOORING **Woodstock** 01326 370020 www.wood-stock.co.uk BUILDERS MERCHANT **P Glanville** 01637 880325 www.pgbm.co.uk UNDERFLOOR HEATING **UK Underfloor Heating** 0800 232 1501 www.ukunderfloorheating.co.uk GROUND SOURCE HEAT PUMP **Kensa Engineering** 0845 680 4328 www.kensaheatpumps.com JOINERY **D J Newman Joinery** 01726 890464 www.djnewmanjoinery.co.uk ELECTRICS **Davey Electrical Services** 01208 815323 BATHROOMS **Wadebridge Bathroom Studio** 01208 815251 www.wadebridgebathrooms.co.uk TILES **Tileworld** 01726 65434 www tileworldcornwall.co.uk TOOL HIRE **PD Hire** 01726 69104 www.pdhire.co.uk DIGGER AND DRIVER **Dial a Digger** 01637 872937 www.dialadigger.biz INTERNAL DOORS **Door Solutions** 01326 218796 www.door-solutions.co.uk WOODBURNING STOVE **Allen Valley The Fire Place** 01208 852000 www.allenvalleythefireplace.co.uk UTILITY UNITS **Howdens** www.howdens.com

TOTAL BUILD COST BREAKDOWN

Elements	Cost m²	Cost %	Total cost
External works & drainage	£23	3%	£3,500
New roof and insulation, inc. roof light	£132	18%	£19,800
Internal plastering	£20	3%	£3,000
Internal doors	£6	1%	£880
Oak flooring	£21	3%	£3,200
Floor & wall tiles	£10	1%	£1,480
Joinery inc. windows, doors, conservatory and stairs	£60	8%	£9,000
Plumbing	£13	2%	£2,000
Solar thermal panels & hot water tank	£32	4%	£4,750
Ground source heat pump	£40	5%	£6,000
Underfloor heating	£17	3%	£2,480
Kitchen & utility room, inc. Aga	£148	20%	£22,200
Bathrooms	£13	2%	£2,000
Electrics	£55	7%	£8,200
Woodburning stove	£11	2%	£1,675
Tiles	£4	1%	£600
Carpenter	£27	4%	£4,000
Other on-site labour inc. plastering/decorating	£40	5%	£6,000
Digger & driver	£8	1%	£1,200
Plant & tool hire	£5	1%	£800
Misc. building materials	£40	5%	£6,000
Landscaping	£17	3%	£2,500
Grand total			£111,265

closer look

DIY underfloor heating

The floor trays are laid

Stephen's favourite feature is the underfloor heating, but after he was quoted up to £9,000 to supply and install a system, he decided to do it himself. He sent UK Underfloor Heating his specifications and planned heating zones, and in return it supplied him with the plans, piping and manifolds for just £2,480. Stephen laid the UFH system in a sand and cement screed on the ground floor, and on a 25mm dry sand mix beneath the oak flooring upstairs. The system is powered by a ground source heat pump (for more on this subject, see page 74).