

DESIGNING A SUSTAINABLE HOME | Q&A: YOUR PROJECT PROBLEMS SOLVED | ADD SPACE & VALUE WITH TIMBER FRAME | SITE INSURANCE: WHY YOU NEED TO PROTECT YOUR PLOT

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Getting dormer windows right

Stylish open staircases

Luxury floors: wood, stone, vinyl & more

How architects create great homes on tricky plots

10 top tips every self builder needs to know

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Welcome

For many people starting out on a major project, there's one question that needs answering before anything else: how much will it cost? I'm often asked about this at our *Build It Live* shows (the next one is at Bicester, Oxfordshire, on 11th & 12th June) but it's always tough to give a hard-and-fast guide, because at the end of the day every self build, renovation and extension is bespoke. That's why we developed the *Benchmark House* concept, a unique virtual scheme that gives you detailed reference costings for every part of a new build home – plus indicative costs for popular variations. We've just finished pricing up the 2017 version, in partnership with the *Build It Estimating Service*, and you'll find the results bundled free with this issue. I hope it gives you a good starting point on which to base your sums!

Back to the main issue and we've handpicked a great selection of real-life projects for you, ranging across the whole gamut of budgets and styles. From a compact island holiday home built for just £77,000 despite access challenges (page 44) through to a striking new oak frame manor house (page 51) and an ultra-contemporary extension to a quaint farmhouse (page 20), there's sure to be something to inspire you to create your dream home.

There's plenty of practical advice to help you move your project along, too. A great starter for 10 is Mike Hardwick's tips on what you need to know before you build (page 101). You'll also find expert eco design guidance from architect Julian Owen (page 94), Nigel Griffiths' views on how battery storage might be about to reshape the solar PV industry (page 68) and the lowdown on what you should consider when choosing between bifold and sliding doors (page 73) for your project. And don't miss the latest in our design details series, focusing on how to get dormer windows right when extending into the attic (page 80).

MEET THE TEAM



EMILY SMITH is *Build It's* deputy editor. She has an in-depth understanding of the challenges self builders and renovators face. This issue she investigates the pros and cons of the most popular flooring options for your home (page 65).

REBECCA FOSTER

is *Build It's* features editor. Each month she tracks down the latest news, products and projects to inspire you (page 9). On page 73, she gets some expert advice on the subject of bifolds versus sliding doors.



TIM DOHERTY was the founding MD of the NSBRC and runs Dobanti property surveyors. He advises on a range of self build issues, including finance. On page 107 he navigates the world of product warranties.

MIKE DADE is a planning specialist and plot-finding expert. He's the author of several must-read books on land and planning. This month, a promising edge-of-village infill site in Kent is the focus of his regular Plot Watch (page 121).



JULIAN OWEN is *Build It's* design doctor. He is a self build architect and the founder of the Association of Self Build Architects. He explores how green features can have an impact on the design of a home on page 94.

ALAN TIERNEY is a historic buildings consultant and conservation specialist, offering hands-on advice to owners of heritage homes. Don't miss the opportunity to chat to him about your project at the upcoming *Build It Live* show.



MIKE HARDWICK is a consultant and project management specialist, and has been heavily involved in promoting self build with NaCSBA. On page 101 he shares the top 10 things you need to know before you start a project.

OPINDER LIDDAR

is director of award-winning practice Lapd Architects and a regular expert at the *Build It Live* shows. In this issue he explains how problematic plots can sometimes be great design opportunities in disguise (page 110).



NIGEL GRIFFITHS is a sustainability consultant and the author of Haynes' *Eco House Manual*. On page 68 he looks at solar photovoltaic technology, including the latest battery storage, and whether payback times are worth it.

EDITOR'S FAVOURITE FEATURES

Chris

CHRIS BATES, EDITOR



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Close range 27

Anne and Brian Wildey created a bespoke, traditional-style timber frame house on their garden plot in Herefordshire, overlooking stunning views of the Black Mountains

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Kate and Jon Slattery have successfully transformed their dated 1960s bungalow into a modern, light-filled abode

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Working to a shoestring budget, Saira Renny and George Carr enlisted the help of their friends and neighbours when they developed their sustainable new property

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Eco expert Nigel Griffiths explains how you can harness the sun's energy to generate and store electricity for your home

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This feature can boost brightness and add extra space to your dwelling. Emily Smith explores the various styles available

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From design considerations to materials, Anna-Marie DeSouza reveals how to get open staircases right



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Build It Live!
SELF BUILDING • EXTENDING • RENOVATING

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10 reasons to visit 99
Chris Bates reveals 10 ways a trip to *Build It Live* can help make your dream home happen. If you're self building, renovating or adding space, you won't want to miss it



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EXPERT HELP

Green building & house design 94

Architect Julian Owen provides his expertise on how to cut down energy consumption in the home by taking a sustainable approach to planning your project

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It's vital to put time and thought into the early stages of your self build scheme. Mike Hardwick shares his tips on what to consider before you get started on site

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Tim Doherty explains why it's so important to get to grips with the small print of these agreements, shining a light on what you might – and might not – be covered for

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Discover how you can turn a tricky site to your advantage with architect Opinder Liddar's in-depth guidance

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Matt Hudson has cleared a large area of scrubland on his property to reveal a space that could provide the perfect self build opportunity. Mike Dade assesses the best route forward

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We talk to planning expert Julia Riddle about permitted development rights



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Park life

Situated within south London's Brockwell Park, this striking 1950s dwelling has undergone a dramatic transformation. Keen to create a bright and spacious family home, the owners appointed Zac Monro Architects to develop a contemporary design for their renovation and extension scheme. The house was pared back to its original structural skeleton and re-dressed in materials that sit more sympathetically within the

green setting. The larger size of the revamped property has been cleverly disguised by breaking the structure down into three cube-like forms, each of which is covered in a different material. The new timber cladding blends well with the leafy surroundings, while blue-grey bricks complement the nearby urban properties. Large swathes of floor-to-ceiling glazing have also been incorporated to enhance the eye-catching modern look.

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PROJECT OF THE MONTH

Le Petit Fort by Hudson Architects

This striking new home in Jersey was designed by the team at Hudson Architects. While the owners of the coastal property were keen to develop a contemporary dwelling that would be suitable for family living, they also wanted to incorporate some historically-inspired aesthetic elements to reference other buildings in the surrounding area.

Set within the walls of the farmhouse that previously occupied the site, the new dwelling is formed of two main wings positioned around a granite entrance block that accommodates a helical staircase – creating a fort-like structure. A Flushglaze rooflight from Glazing Vision was installed above the winding flight of steps, allowing sunshine to flood the central area of the house with brightness. This element was manufactured to bespoke dimensions in order to maximise the amount of light being drawn in, as well as opening up the space to sky views for occupants to enjoy. Glazing Vision also fitted two rectangular roof windows in the master bedroom and its ensuite to ensure these zones are bathed in plenty of natural illumination, too.

CONTACTS:

Glazing Vision 01379 658300 glazingvision.co.uk

Hudson Architects 01603 766220 hudsonarchitects.co.uk



Mansfield launches self build mortgage

Mansfield Building Society (MBS) has joined forces with BuildStore to launch a new mortgage product aimed specifically at self builders. The package works on an advance stage payment basis, so money is released at the beginning of key stages of construction. Available exclusively through BuildStore, the minimum loan amount is £25,000 and the maximum is £500,000. "By providing mortgage finance in advance of each stage of the build process, our approach should encourage more people to consider self building," says Gev Lynott, chief executive at MBS.

15%

of new homes in the UK are designed by the owner, compared to 80% in Austria. These figures were revealed by Jon Sawyer, project director for the Heartlands custom build development in Cornwall. "Our model allows house buyers to work closely with a respected architect and obtain a higher quality bespoke property," says Jon. The company's Fruit Market custom build scheme in Nottingham has proved popular with buyers so far, with only one opportunity remaining in the first phase of development.

Quinn Estates brings forward serviced plots

The demolition of an old garden centre is now underway at Broughton Park, the site of a new mixed-use development by Kent-based house builder Quinn Estates. Situated close to Ulcombe in Kent, the scheme will include 14 fully-serviced self build plots for people who want to create their own homes. The project is a good example of how more developers are including a provision for self build properties into their plans. Quinn Estates has worked closely with the local community to plan a scheme that responds sensitively to the pleasant rural setting.

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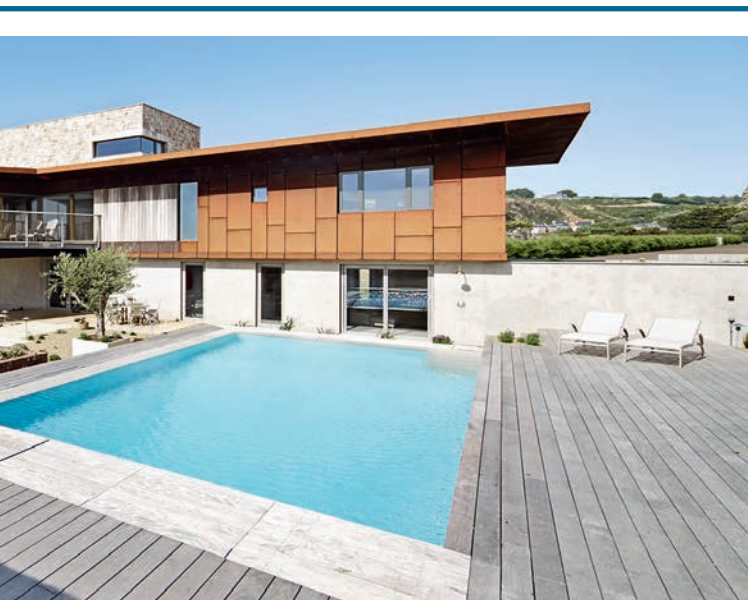
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Self build can deliver better-quality, more affordable homes

A self build showcase event has highlighted that this method of housing delivery could offer a more eco-friendly and cost-effective route to home ownership across England. Hosted by construction company Beattie Passive and business and research network Cleantech East, the event focused on how to design a bespoke dwelling, tips on funding the project and information on how to integrate smart technology. "We want to open up the Norfolk market to get people to understand what a custom build is, and stimulate more building and more choice," says Ron Beattie, managing director of Beattie Passive. "We are enabling a system which will allow houses to be constructed by anyone, anywhere." Speakers included South Norfolk MP Richard Bacon, who championed 2015's Self & Custom Housebuilding Act.

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need to know

Builders' merchants get to grips with self build market

I had an interesting morning with a group of builders' merchants recently. They'd asked me to give a presentation on self and custom build, focusing on how they could position themselves to meet the needs of the industry. It was a useful session, and I learnt a fair bit about how these firms operate. They also picked up a few tips from me about how to approach selling to self builders.

For old-school contractors and tradesmen, builders' merchants are a home away from home, often full of all sorts of weird materials and tools that few outsiders would recognise. You never see a price tag on a pallet of bricks and for most of us, the first time you know what the actual cost will be is when the printer spits out the sales receipt. Regular trade customers will be expecting a significant discount, while those of us who only venture in there occasionally will be paying full whack – or will possibly be delighted with 10% off.

Last year's introduction of the Right to Build (RTB) initiative has crystallised the government's stated aim to double the number of self and custom build projects from 10,000 to 20,000 by 2020. So there's potential for a lot of trade to head in the direction of builders' merchants. What retail establishment would turn away a customer with £10,000s to spend? Yet when I asked for a show of hands, not one of the representatives at the meeting was aware of the RTB legislation and the impact it will have. You won't be surprised to learn that I was able to correct that before they left!

The merchant sector is feeling the heat. Competition from the internet and trade counters at DIY outlets means the model that's worked in the past is under threat, and independent retailers are becoming rarer as they get gobbled up by chains. Autonomous businesses still have much to offer self builders – local knowledge, approachability and quick delivery, for instance. So I like to put as much custom as possible their way, in return for good service.

We have more choices now, and builders' merchants need to think about how to attract and keep our business. I explained to them that the typical self builder is a fairly switched-on client, but one that still needs help and advice. They will have done their homework on product and material options, and by the time they come to the merchant they'll be ready to talk money. Retailers who are hungry for your trade should be ready to capture your custom with the offer of trade accounts, technical advice and discounts based on both your current and future potential purchasing power.

To keep your custom throughout the project, the best ones should be thinking about offering an estimating service for free, or throwing in a subsidised Standard Assessment Procedure (SAP) test and airtightness package. If you receive service like that, you'll be far more inclined to show a bit of brand loyalty and keep business coming in. You have tremendous buying power, so make sure you exercise it to get the best deal you can.



MIKE HARDWICK

is a self build consultant and project management specialist. He has worked closely with NaCSBA and is a leading figure in the self build industry. He also delivers a self build course at Swindon's NSBRC.

Follow Mike's blog online:
self-build.co.uk/blog/mike-hardwick



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per m²



Manufactured from concrete using original stone tile moulds, this traditional range is perfect if you are keen to recreate the appearance of an authentic stone roof. These units are available in over 1,000 sizes. **Concrete tiles**, £38.50 per m², marshfieldstone.com

product news

Great shopping ideas for your custom home project

ALL IN THE DETAIL ↴

This range of drywall corner beads and accessories can be used to create an attractive array of decorative effects, including multi-layered square, bullnose and rounded edges. **Vinyl drywall beads**, from £3.50 per 2.4m, trim-tex.co.uk



SLEEK FINISH ➡

Suitable for balconies, roof terraces and patios, these porcelain floor tiles evoke the warm appeal of wood. They're also low-maintenance and abrasion-resistant. **Levato Mono paver system**, from £40 per m², thedecktile.co.uk



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Dremel 4,000-1/45 multi-tool, £98.27, dremeleurope.com



← HERITAGE LOOK

Hand-thrown and fired in a traditional kiln to create orange and red tones with a variable texture, these bricks are well-suited to conservation and restoration projects.

Bourton Manor Antique blend, £1,200 per 1,000, northcotbrick.co.uk

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1 Sliding sash timber window, from £664 per unit, jeld-wen.co.uk



2 PVCu sliding sash window with woodgrain finish, £390 per unit, quickslide.co.uk



3 Traditional hardwood sash window, from £970 per unit, brookeswood.com

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interiors notebook

It's never too early to start looking for the finishing touches for your self build



1



2



5



3



4

Shopping list

1 Handmade from white Carrara marble and chrome, this striking tap will add an elegant, spa-like flourish to your bathroom. **Marmo wall-mounted three-piece basin mixer**, from £809, cphart.co.uk

2 This modern suspended fitting oozes industrial Scandinavian style. It is the perfect accessory for areas that require smart task lighting, such as the living room or kitchen. **Mall Made pendant**, £101, nedgis.com

3 The delicate hand-painted pattern on these terracotta-base tiles is inspired by a 16th-century design. The units are suitable for use on both walls and floors. **Botany range**, from £749 per m², firedearth.com

4 This Shaker-style oak kitchen collection is the ideal choice for home owners keen to create a classic look in the culinary zone. Fittings are available in 18 shades. **Midsomer range**, from £10,000, crown-imperial.co.uk

5 A freshly painted floor can transform a space. This white shade contains a touch of red ochre for a warm tone, and creates a smooth scrub-resistant finish. **Belgravia no.6 floor paint**, £64 per 2.5L, mylands.com

your views:

Got a funny story, a gripe or some superb self build advice? Write to us at buildit@castlemedia.co.uk or the address below for your chance to win a prize



star letter

An eco transformation

The star letter writer wins an Einhell cordless drill, worth £119.99

We have been reading *Build It* magazine for several months and are finding it very interesting and useful for our upcoming project. My husband John and I are just about to embark on a scheme, along with our son, and are expecting to submit plans within the next few weeks. We hope to renovate and extend a 1950s house near Colchester in Essex, aspiring to as high a level of insulation and airtightness as we can achieve. Other sustainable features include solar panels and rainwater harvesting, while an electric car will complete our new lifestyle. It is a modest development compared to many, but a once in a lifetime experience for us.

Caroline Hall, via email

Editor's reply: *This certainly has the makings of an exciting scheme and it's great to see that you're taking a holistic approach. If your aim is a truly sustainable way of life, bear in mind the embodied carbon impact that your materials choices and build process will have, too. We've got plenty more eco renovation tips online at www.self-build.co.uk/10-steps-green-home. Good luck with the rest of your project.*

Period renovation

Anyone who has gotten hands-on with their own renovation project will know that it can often be a test in patience and perseverance – endlessly sanding and painting skirting boards and door frames. I've recently discovered that nothing quite compares to the arduous nature of restoring plasterwork. Having liberally applied a paste-based paint remover and left it for 24 hours, I was eager to see how the corbels and ceiling roses would turn out. I wasn't prepared for the best part of two days it would take to peel and chip away the remaining flakes of paint in the intricate design. In hindsight, perhaps another layer of paint stripper would have been wise. Regardless, I'm delighted with how much detail I've been able to restore to the original features. The hard graft was worth it.

John Perryman, via email

Editor's reply: *When it comes to decorating, some jobs can be monotonous and rewarding in equal measure. The cost savings that come with doing the work yourself are often huge – however, restoring plasterwork does require some skill and research. It's important to use the right products and not leave caustic substances on too long, as they could damage the details you're trying to restore. If in doubt, or if you're dealing with valuable period features, it's best to call in the experts.*

Designing for storage

I love reading about the cost- and space-efficient homes you feature in *Build It*, from chocolate box cottages and one-and-a-half-storey oak frame homes that have character to spare, through to contemporary dwellings that slot into impossible-looking infill plots. They look fantastic in the photos but I'm often left wondering where the owners store all their belongings. Perhaps I'm a bit of a hoarder but I simply couldn't live without ample attic space and rooms large enough to fit numerous cupboards and wardrobes.

Sarah Bowser, via email



Editor's reply: *One of the challenges of good house design is meeting the storage and other lifestyle needs of the occupants, while still creating an attractive and enjoyable place to live. When a scheme has a limited footprint or uses the roof space as a habitable area then the architect may have to get more inventive with how this is achieved. Solutions such as sliding containers hidden inside the eaves or cupboards integrated within the structural frame of a house are two examples that spring to mind. If you require more storage than most, good designers should bear this in mind, using the space to suit your personal needs.*

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HAVE YOUR SAY

Build It magazine wants to hear from you. Whether you have advice, a self build story or simply want to make us laugh, write with your name and address to: **Letters, Build It, Castle Media, 7 King Street Cloisters, Clifton Walk off King Street, Hammersmith, London, W6 0GY** or email us at buildit@castlemedia.co.uk

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27



35



44

20 THE BIGGER PICTURE

This couple have revitalised their 400-year-old former mill with a contemporary extension that brings in light and opens out to the garden

27 CLOSE RANGE

Anne and Brian Wildey have built a comfortable timber frame home in the garden of their cottage that maximises the dramatic mountain views

35 NEW LEASE OF LIFE

This 1960s bungalow has been transformed by a radical, yet affordable, contemporary renovation and extension

44 COMMUNITY SPIRIT

Saira Renny and George Carr have created a cosy sustainable house on a remote beach plot on the Isle of Eigg for just £77,000

51 OAK CHARM

Peter Crosdil was able to pursue the characterful oak frame home of his dreams when his renovation project had a change of course

MORE ONLINE >>

FOR MORE INSPIRATIONAL READERS' HOMES VISIT WWW.SELF-BUILD.CO.UK/READERS-HOMES

A growing family and a desire for a better connection between inside and out led **Roy and Marianne Stenhouse** to extend their 400-year-old former mill. It's now a light, open, child-friendly home

WORDS **CAROLINE EDNIE** PHOTOS **DAVID BARBOUR**





The bigger picture

THE STENHOUSE FILE

NAMES Roy & Marianne Stenhouse

OCCUPATIONS Director of an energy company & teacher

LOCATION Aberdeenshire

TYPE OF BUILD Extension

STYLE Contemporary

CONSTRUCTION METHOD Steel frame with timber & zinc cladding

PLOT SIZE 0.75 acres

BOUGHT 2006

EXTENSION SIZE 100m² (total house size 400m²)

PROJECT COST £161,000

PROJECT COST PER M² £1,610

BUILDING WORK COMMENCED August 2015

BUILDING WORK TOOK 22 weeks

Extending Stonehouse Mill, Roy and Marianne Stenhouse's home in rural Aberdeenshire, was a good idea from an aesthetic perspective: the modern addition has had a transformative effect on the somewhat austere and largely windowless front elevation of the 400-year-old building. More than that, though, it has totally changed the way the family lives. "We don't spend much time anywhere other than the extension now," says Roy.

What may appear at first sight to be a straightforward new-meets-old story, of an elegant contemporary addition to a traditional stone agricultural building, is only partly true. Although the origins of the mill go back centuries, it was essentially rebuilt and converted into a home by Roy and Marianne 10 years ago. It suited the couple well – until the arrival of their two children. They then realised that, as a family-friendly space, the dwelling had some major shortcomings.

"The main catalyst for the extension was the fact that we have a huge garden but the kids couldn't go out to play because we couldn't see them. There was no connection between the house and the outdoor space," says Marianne. "We also wanted to pull in more light, as there were no windows to this part of the property and it felt very dark inside. I suppose we could have just installed some new glazing, but we thought we'd be more ambitious."

Child-friendly design

The couple decided to approach local architect Nikki Ritchie of Hyve Architects. "We saw Nikki's other projects and thought that she could definitely help take our ideas forward," says Marianne. "And when she came to visit us initially, she said all the things that we'd already been thinking. Having her own family, she could see it from the point of view of a mother, managing a house with children, and how those spaces could work. She then came up with a few ideas and we mulled them over."

One of the schemes presented by Nikki captured the couple's imagination. "She presented us with a 3D plan and artist's impression and we fell in love with it immediately. It blew us away," says Roy. "What's now been built is almost exactly like that first drawing."

The starting point for the Hyve design was looking at how the house worked for the family. "We always begin by asking what works



Previously, the house had no direct connection to the garden, but the extension provides safe, easy access for the children. Inside, the double-height living space has transformed the old mill

and what doesn't work about the existing house," says Nikki. "It was very clear in this case that there was no direct access to the garden; there was also an issue with the main entrance, which was effectively on the first floor and reached via a tricky galvanised steel staircase. In fact, the whole of the front elevation was a bit of an odd scale – it was overly high and imposing, and not very welcoming. One of the main considerations of our design idea was to create an extension on a more human scale."

The somewhat unusual layout of the existing mill building was conceived during the rebuild a decade ago, which Roy describes. "The initial plans had a basement, ground and first floors," he says. "During the start of that build, there was a need to assess the foundations. While digging down to locate them, the stone of the original building was uncovered and it was felt that it'd be a shame to cover it back up." The layout was changed to accommodate this feature. However, the trade-off was that the main entrance was now at first-floor level, meaning that there was poor access to the outside space.

The big reveal

Hyve's design solution was to open up the front of the house at ground level and build an extension featuring an open-plan living, kitchen and dining area, with a direct connection to the garden via sliding doors. To create more drama, a double-height space incorporates an upper mezzanine level overlooking the family living area. The extension also features a new entrance, replacing the previous first-floor access.

While the new addition is a contemporary design featuring contrasting materials – timber cladding, a zinc roof and aluminium windows and doors – it makes reference to the proportions of the original building, repeating the gable widths and forms, and echoing the profile of the eaves.

The local planners initially expressed some scepticism. According to Nikki, however, the presentation of a detailed design statement smoothed the way for permission to be granted. Roy and Marianne then appointed the build team, with Roy managing the project in conjunction with a local contractor.

"We sometimes find if the architects aren't on site, builders can be inclined to go down a simpler route if they don't understand the reasoning behind the details," says Nikki. "We made sure we produced a full set of construction drawings and sections, and talked through all of the details with Roy, explaining that the contractor just had to do exactly what's on the drawings."



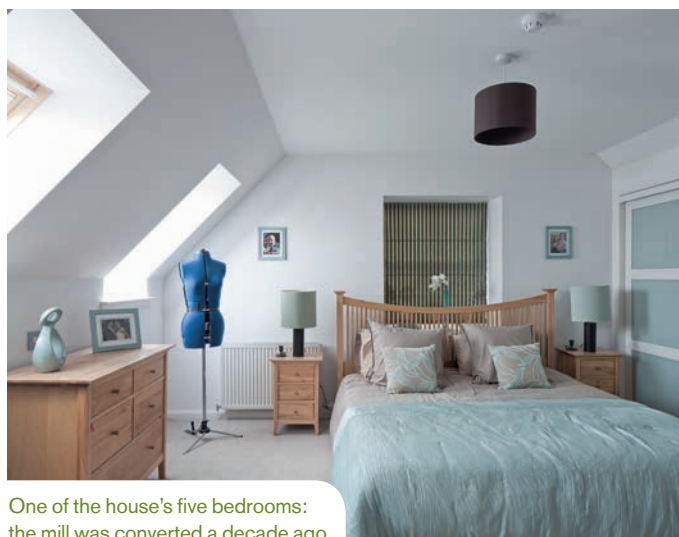
WE LEARNED...

SHOP AROUND for building quotes and work with a contractor who you think you'll be able to get along well with.

NEVER UNDERESTIMATE the time needed on site to make sure that everything is being done as per the plans. There may be tweaks needed, but getting the likes of the main footprint and steelwork in place is critical for planning approvals.

MAP OUT where every electrical switch or socket will go, and do an imaginary run-through of how you will live in the house – switch lights off here and on here, plug the Hoover in etc. Don't forget outside lights and gates and how you might want to control them: we wish we had done more planning in this area.

LOOK TO THE FUTURE and anticipate what further changes you might need. Wiring, plumbing and drainage are cheaper and easier to build into the original design than retrofit later on.



One of the house's five bedrooms: the mill was converted a decade ago

Roy says that the detailed drawings were key to the success of the build. However, the project experienced an unforeseen delay early on when the original contractor was tragically killed in a traffic accident a week or so after the start of construction. It took the couple a further two months to find a replacement builder.

The cable guy

Once construction resumed, Roy then took on all the gadgetry in the property. "There's an integrated, fully automated system throughout the house with the exception of the lighting. So all the heating, music (via a Sonos system) and TV distribution can be controlled through a phone or iPad," says Roy. "I did all the cabling myself because it was easier for me to know where everything was going to go. It took up every weekend for around six months." This wasn't simply about keeping costs down – Roy enjoyed every moment of it, describing it as "pure pleasure". With the cabling already installed to automate the lighting, this is his next project.

Despite the potential disruption it would cause to daily life, the family remained in the main house during the building work. "We managed to live in our upstairs living room, and the kitchen was unaffected because we weren't planning to move it until later," says Marianne. "The contractor was also very good at not taking parts of the building down until it was absolutely crucial. Our youngest was 12 months old and crawling when the project started, and the team were brilliant at putting up temporary gates and partitions. They made it as comfortable for us as possible."

High standards

The structural and carpentry work went smoothly, as did the installation of the zinc roofing. "The joiner and his team finished it to a very high standard," says Roy. "And the zinc installers never stopped during the week or two they were on site. They were eating their breakfast on the roof! But the finishes are amazing."

Roy also upped the insulation to 140mm in the new extension, compared to the 120mm that he installed when the main house was first converted. But he chose not to go down the route of underfloor heating. "The plumbers said it wasn't as effective as you might think, so we went for big stylish radiators instead. We have a Honeywell Evohome automated heating system, which is very efficient. It can detect when you come home and turn on the system, and if it goes below a certain temperature then it can switch on automatically. The house is so cosy and very energy efficient."

Now that the project has been completed, Roy and Marianne are thrilled with their expanded home. "We spend all our time as



Clean-lined, neutral decor links the new and old parts of the house

a family in the extension, only leaving it when we go to sleep," says Roy. "But we're also tweaking some of the rooms in the existing house, for example we're converting our former upstairs living area into a gym and den. And we intend to move the kitchen into the new extension at a later date – all the plumbing has been carried out in preparation – and create a formal dining area in its place."

But that's for the future. For the moment the family are happily ensconced in the new-look Stonehouse Mill. "The increase in light in the building has totally transformed the house – it's so bright

and airy now. Plus the kids can go out and play in the large patio area directly outside the sliding doors," says Roy.

"I'm so glad that we went down the route of having an architect plan the new extension," he continues. "Left to my own devices I probably would have come up with something in stone with a slate roof. But now we have a beautifully designed modern addition that sits perfectly with the traditional building. When I come home from work at night, driving down the hill and see the new extension all lit up, I still pinch myself"

closer look

Shielding the railway...

Stonehouse Mill sits adjacent to a railway line, right next to a level crossing, so architect Nikki Ritchie made sure that the new work done to the building wouldn't draw any additional attention to this, focusing all her efforts on transforming the garden side.

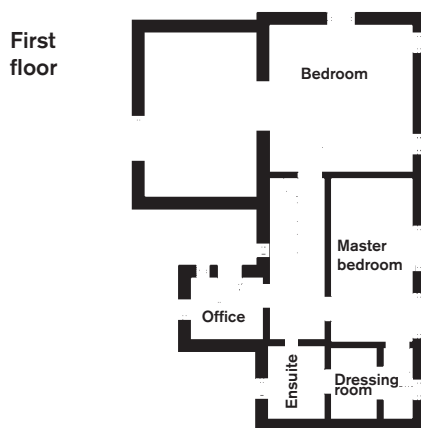
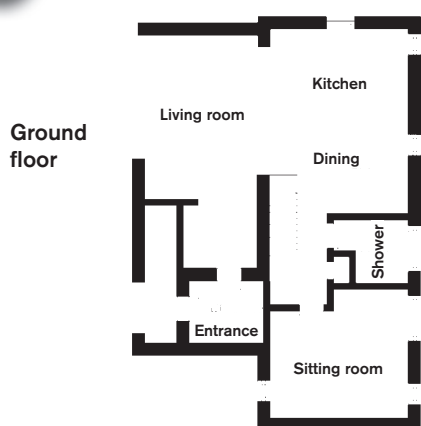
"I was keen to make sure that the new extension created a private family space, so we purposely made sure that there were no openings facing the railway line," she says.



Close to the tracks



Floor plans



House plans re-created using
Build It 3D Home Designer software.
www.buildit.co.uk/3dsoftware



TOTAL BUILD COST BREAKDOWN

Elements	Cost m ²	Cost %	Total cost
Professional fees	£110	7%	£11,000
Groundwork & clearance	£25	2%	£2,500
Foundations & brickwork	£100	6%	£10,000
External walls	£250	16%	£25,000
Windows & doors	£150	9%	£15,000
Roof structure & covering	£300	19%	£30,000
Plumbing	£75	5%	£7,500
Electrics	£100	6%	£10,000
Joinery	£300	19%	£30,000
Miscellaneous	£200	12%	£20,000
Grand total for extension			£161,000

Useful contacts



ARCHITECT Hyve Architects 01569 763579 www.hyvearch.co.uk
MAIN CONTRACTOR GF Bisset Inverbervie 01561 361303 www.gfbissetinverbervie.co.uk
ELECTRICS Cabrelli Electrical 01674 830178 www.cabrelli-electrical.co.uk
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Close range



Anne and Brian Wildey's dream plot was hidden in plain sight, as their own garden offered the perfect setting for a new timber frame home that makes the most of beautiful mountain views

WORDS **SOPHIE GALE** PHOTOS **CAMILLA REYNOLDS**

It was during a quiet stroll in their garden one summer's evening that the idea for a self build project first took shape in the minds of retired couple Anne and Brian Wildey. They had recently relocated to the peaceful village of Garway, Herefordshire, near the Welsh border, with no plans to build from scratch. But as they ambled round their 1.3 acres, the old croquet lawn presented an obvious opportunity and inspiration struck.

The patch of land was large and level, plus it faced towards the Black Mountains and was conveniently clear of shrubs and trees. Anne and Brian were finding their 200-year-old cottage a touch dark

and damp, so building a new home offered a way to stay in the location they loved, while providing the light and space they craved.

The couple found it easy to envisage the new house; they imagined airy, open-plan living spaces with large windows that soaked up the surrounding mountain views. They wanted it to have a traditional feel, with a brick and render facade to remain in-keeping with other properties in the area. It would have a conservatory, solar panels and a wetroom to wash down their golden retriever and new puppy after muddy walks in the countryside. They even knew what they were going to call it: Gardd y Ffin, which means 'garden on the border'.



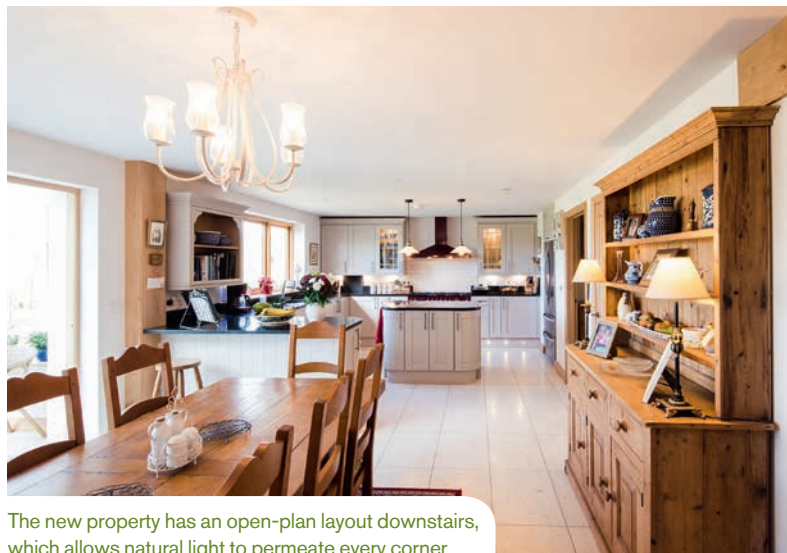
Having previously self built in Dorset 20 years earlier, the couple had no qualms about taking on the practicalities of another project. Back then, day-to-day works were managed by a specialist building company, but the couple still gained useful insights. “We always said there were things we’d do differently, such as using local trades and keeping a closer eye on works,” says Anne. “Now was our chance.” They decided to go with a timber frame construction method, which had proven to be efficient and good value in their last scheme.

Waiting game

In 2011 Anne and Brian took the first steps towards turning their hopes into reality by visiting a planning surgery in Ross-on-Wye,

but they left feeling downhearted. “The officer got his book out just to show how we didn’t fit the criteria,” says Anne. “Basically, there seemed to be no hope.” Infill sites between two houses were getting the go-ahead, but not standalone, four-bedroom dwellings – even though the site wasn’t visible from the road.

A couple of years had passed when a conversation with a local friend and parish councillor indicated the mood was changing because the council needed to hit housing targets. So, in January 2014, Brian and Anne spent £260 applying for pre-planning advice, which meant their case had to be considered by a local officer, including a site visit. “Two weeks later, there was a knock on the door and a planner appeared unannounced,” says Anne. “Within minutes,



The new property has an open-plan layout downstairs, which allows natural light to permeate every corner

“It’s wonderful to throw open the glazed doors in the summer and enjoy the hazy colours of the mountains”



he told us we should go for it – this was music to our ears!”

Delighted by the news, the couple readily accepted the one caveat – their dream L-shaped design had to go. The original plans included a garage with an art studio above, attached to the main house. The officer argued that this footprint would be too large, so insisted the zone remained separate from the dwelling. For Anne, this seemed ridiculous, as detached or not, the house and garage occupy the same ground space. In a project that has otherwise exceeded expectations, this is the one change the Wildeys regret. “I have to use outside stairs to get to my studio,” says Anne. “It’s okay now, but could become a problem as I get older. Looking back, we should have dug our heels in and appealed later.”

Money saved

While they kept quiet about planning stipulations, Anne did question the advice of some experts – an approach that paid off.

Bifold doors can be opened back to connect the dining area with the adjacent conservatory



THE WILDEY FILE

NAMES Anne & Brian Wildey

OCCUPATIONS Retired

LOCATION Herefordshire

TYPE OF BUILD Self build

STYLE Traditional

CONSTRUCTION METHOD
Timber frame

PLOT SIZE 0.75 acres

LAND COST £540,000 (for land & cottage – which was later sold for £492,000)

BOUGHT 2010

HOUSE SIZE 213m²

PROJECT COST £375,983

PROJECT COST PER M²
£1,765

VAT RECLAIM 14,000

BUILDING WORK COMMENCED
September 2014

BUILDING WORK TOOK
14 months

CURRENT VALUE
£749,000

Their architect recommended a long list of surveys. Many proved useful, especially the topographical assessment (which cost £1,600) as it revealed that the seemingly flat croquet lawn actually sloped by a surprisingly substantial 3m. This meant the house could be raised at the front, further enhancing vistas towards the Black Mountains. However, other surveys struck a more incongruous note. “Among the rather familiar requirements for airtightness and Standard Assessment Procedure (SAP) reports, something called a CSH registration stood out,” says Anne. “I did some digging and discovered this was no longer mandatory, saving us over £1,000.”

They also had doubts about the architect’s assertion that two layers of reinforced concrete were required for the foundations. This appeared odd for a timber frame house, which is typically a lightweight structure. “I rang building control, who said they didn’t need reinforced concrete at all,” Anne says. “So, in the end, we compromised with one layer – another good saving.”

In August 2014, with these wins behind her and full planning consent in place, Anne (an engineer’s daughter) felt confident to take on the role of project manager. Her advice to self builders thinking of doing the same is to keep a construction diary. Hers ran to an A4 page every day, for the duration. It helped to ensure Anne was never fazed, even during the more frenzied times towards the end of works, when many elements had to come together at once.

Team building

Brian and Anne used the electricity and water supplies from their cottage while the garage-studio was constructed. After services to the site had been arranged, they sold the house to finance the main build and were able to move into the studio in the meantime.

Good weather aided progress, but exemplary workmanship was the main driver. The couple sought contractors who lived nearby wherever possible, sometimes in Garway itself. “Our team of three local builders were old-fashioned in the best way,” Anne says. “They were reliable, hardworking and always happy to hold my hand through the process, if needed. Each day started with a meeting in



Views towards the mountains can be enjoyed from the conservatory, which cost £21,593

the tin shed on site, when we would run through everything. Perhaps it was down to the tea and cake we provided, but they were a delight to work with. So were all the trades."

Timber frame specialist Taylor Lane, based in Hereford, was equally stalwart throughout. The scaffolding went up fast and 80 factory-assembled timber frame panels – all made from sustainable

Scandinavian wood – were delivered in three lorry loads before being craned into position. The house skeleton took shape within 10 days, leaving a waterproof structure only three weeks into the build. The roof was in place, while a breathable foil membrane protected the external panelling, ready for internal trades to begin.

An added attraction of a pre-assembled timber frame is the ease with which it lends itself to heat retention. Taylor Lane's standard insulation only required an extra 30mm of Rockwool on the inner walls and 30mm of rigid insulation to the outer walls to achieve the couple's strict requirements. Before the plasterboard lining was fixed, the whole house was cocooned in polythene – even beneath



The master bedroom benefits from floor-to-ceiling glazed doors. When open, an external glass balustrade ensures safety



the screed floors. "This amazing bubble technique, which is part of Taylor Lane's airtightness package, envelops the entire structure," says Anne. "It means we get no draughts at all. Our EPC rating is A and while we're not quite at Passivhaus standards, we're not far off."

A mechanical ventilation and heat recovery (MVHR) system ticks over in the loft to ensure fresh air with no loss of warmth. "The house is never stuffy and there's no condensation," says Anne. "We turn up the power when we have a shower, but there's no need for extractor fans, which would have compromised airtightness." Other energy-efficient features include an air source heat pump – "not cheap to install but less expensive to run than oil," says Anne – along with solar panels and underfloor heating. These technologies were all supplied by one company, which helped to keep things simple.

WE LEARNED...

DON'T BE AFRAID TO QUESTION THE EXPERTS. We saved money and got the features we wanted, all because we weren't thrown off-course by the confidence and bluster of professionals.

GET THE PLOT RIGHT and everything else will follow. In our last project, we regretted building on a second-choice site. We had to wait on this patch, but it's exactly where we want to be.

USING A SPECIALIST self build warranty provider is great for peace of mind. We went with Build-Zone. The firm organised checks for building regs compliance at every stage and awarded a 10 year structural warranty that will make the house easier to sell in the future.

GO WITH YOUR GUT when choosing designs. We were persuaded to opt for a conservatory roof that we weren't sure about, and hated when it was up. We ultimately decided to change it to a pitched structure. This was an expensive mistake.

BUILD MORE CUPBOARDS because they are a neglected element in many self builds. We didn't realise how much storage would be set aside to house underfloor heating manifolds, wiring etc.

Below: The neutral interior decor scheme enhances the bright and airy ambience throughout the new property

Final touches

With the house complete, the couple could turn their attention to their garden – an aspect they thoroughly enjoyed. "We inherited





An art studio is positioned above the detached garage; the structure came in at a price of £50,000

a sum of money from my mum. She was a passionate gardener, so it felt appropriate to use this on a beautiful pond feature, one feeding the other with a waterfall," Anne says. "I love to watch the birds enjoying it – I even saw a kingfisher the other day."

The long driveway that leads to the dwelling (instated to avoid encroachment on the common land around the property) has turned out to be one of Anne and Brian's favourite features. "The approach to our home is lovely," she says. "We both feel a lot of satisfaction every time we drive up and see the house in full view."

For the Wildeys, perhaps the best outcome of their self build venture is that they now live somewhere that's filled with light throughout all seasons of the year – which was their main goal for their new home. "It's wonderful to throw open the glazed doors in summer and enjoy the hazy colours of the mountains," says Anne. "But even on winter's foggiest days, the house has no lack of healthy natural brightness. My husband used to yearn for sunshine, so now he's a happy man; we've banished the winter blues forever."



closer look

Unconventional fire escape...

When the project was nearing completion, a building control officer threw an unexpected spanner in the works. They wanted an unsightly fire door to be added to the first-floor gallery, near a striking chandelier on the double-height ceiling – not quite the look Anne and Brian had hoped to achieve. However, the officer had legitimate concerns that occupants of one bedroom, where the window was directly above the conservatory, would not be able to escape a downstairs fire. Anne spent a sleepless night trying to come up with a solution. At four in the morning, she had a Eureka moment – adding a small hatch, big enough to crawl through, in the middle of an adjoining bedroom's wardrobe could perhaps provide an alternative escape route. Escapees could go through the closet and emerge into the next bedroom, with its large windows providing a fire exit. Building control was satisfied with this neat little solution and the fire door was happily forgotten.



Namia-style passage

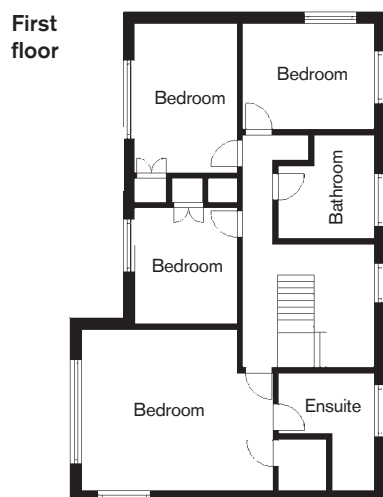
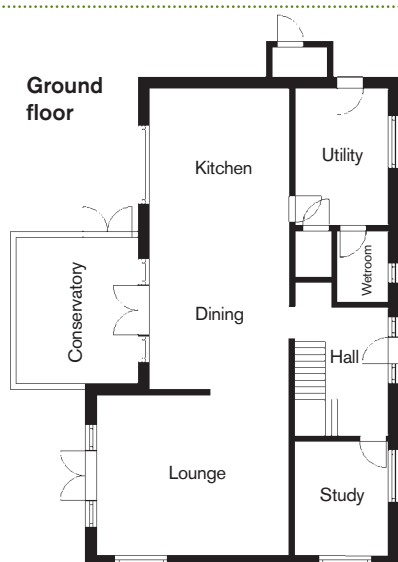


TOTAL BUILD COST BREAKDOWN

Elements	Cost m ²	Cost %	Total cost
Fees	£48	3%	£10,150
Structural warranty	£8	<1%	£1,585
Electrical connection	£22	1%	£4,646
Water connection	£4	<1%	£894
Building regs	£4	<1%	£960
Prelims (incl. scaffolding)	£77	4%	£16,408
Outbuildings demolition & drive hard standing	£46	3%	£9,870
Sewerage treatment plant installation	£70	4%	£14,940
Service trenches, rainwater soakaways, pipes & wiring	£48	3%	£10,244
Timber frame	£133	8%	£28,347
House construction (incl. decorating & fitting joinery)	£551	31%	£117,431
Glazing	£90	5%	£19,258
Stairs	£8	<1%	£1,700
Internal doors & joinery	£39	2%	£8,255
Porch & internal feature beams	£15	<1%	£3,170
MVHR	£25	1%	£5,335
PV panels (incl. installation)	£29	2%	£6,176
Underfloor heating	£8	<1%	£1,700
Air source heat pump	£24	1%	£5,154
1st and 2nd fix electrics (incl. lighting)	£95	5%	£20,216
Plumbing & sanitaryware (incl. bathroom units)	£107	6%	£22,825
Kitchen (incl. units, range cooker & worktops)	£76	4%	£16,129
Floor & wall tiling	£80	5%	£17,000
Landscaping (incl. patio walls & slabs, boundary fencing & gate)	£158	9%	£33,590
Grand total			£375,983



Floor plans



House plans re-created using
Build It 3D Home Designer software.
www.buildit.co.uk/3dsoftware

Useful contacts



MAIN CONTRACTORS KH Watts & Sons 07721 041785 **TIMBER FRAME Taylor Lane Timber Frame** 01432 271912 www.taylor-lane.co.uk
WARRANTY PROVIDER & BUILDING CONTROL Build-Zone 0345 230 9873 www.build-zone.com **GLAZING Acorn Glass & Glazing** 01633 246050 www.acornglazing.co.uk **DOORS & JOINERY Jeld-Wen** 0845 122 2890 www.jeld-wen.co.uk **PORCH, WINDOWS, STAIRS & BEAMS RJ Evans Carpentry & Joinery** 01981 580152 **ELECTRICIAN Inti Electrical Solutions** 07815 677128 **PLUMBER Parr Plumbing** 07866 631841 **SANITARY & PLUMBING SUPPLIES Aqua-Heat** 01989 762990 www.aqua-heat.net **KITCHEN Howdens** www.howdens.com **WORKTOPS Mayfair Granite** 0800 432 0267 www.mayfairgranite.co.uk **TILING AP Natural Stone Tiling** 07974 099740 **CONSERVATORY Monmouthshire Conservatory Company** 01989 730551 www.monmouthshireconservatorycompany.co.uk **LANDSCAPE Tony Webb Services** 01600 750224

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New lease of life

Kate and Jon Slattery have transformed a dated 1960s bungalow into a striking house on the outskirts of Leeds

WORDS **HEATHER DIXON** PHOTOS **DAVID BURTON**

THE SLATTERY FILE

NAMES Kate & Jon Slattery

OCCUPATIONS Housewife & meat wholesaler

LOCATION Leeds

TYPE OF BUILD Renovation & extension

STYLE Contemporary

CONSTRUCTION METHOD Brick & block with render finish

PLOT SIZE 0.75 acres

PROPERTY COST £550,000

BOUGHT December 2014

HOUSE SIZE 279m²

PROJECT COST £198,200

PROJECT COST PER M² £710

TOTAL COST £748,200

BUILDING WORK COMMENCED June 2015

BUILDING WORK TOOK Eight months

CURRENT VALUE £900,000



Before the renovation



The old rear elevation

When Kate and Jon Slattery took on the renovation of their 1950s semi-detached home, it wasn't long before they caught the building bug. They soon started looking around their neighbourhood for another, bigger project to tackle. "We knew it was going to be harder to get a mortgage the older we got, so it became a case of now or never," says Kate. "We were keen to stay close to our friends and family, which narrowed down our choices somewhat, but we were happy to wait to find the ideal plot or property."

The right moment

Despite the fact that Kate and Jon were prepared to be patient until the perfect opportunity came along, they didn't bargain on having to wait quite so long. It was two years before they spotted a dated 1960s dormer bungalow for sale, sitting in a large garden a mile from where they were living. The first time Jon viewed it he barely gave it a second glance, writing it off as a non-starter – but Kate saw its potential. "Jon wasn't convinced," she says. "He didn't like it and thought it was far too expensive, especially taking the renovation cost into account. But I felt it could work with the help of the right designer – someone who could really see the scope of what we could achieve."

Glazed internal partitions allow natural light to flow throughout the ground floor of the property



The curves of the kitchen island are reflected in the drop-ceiling detail above, which is set with feature lighting

“We’re both pretty chilled – if you get stressed you stop enjoying the process. Plus, we always kept our eye on the final goal and the home we wanted to create”

and a wide terraced area. He also suggested that Jon and Kate demolish the garage and single-storey garden room, and replace them with a two-storey extension comprising a bright, open-plan kitchen with a master bedroom above. A ski slope-style roof and first floor walls would be covered with zinc cladding and the remaining areas finished with a white render.

“James’s vision really helped us see the house from a totally different perspective,” says Kate. “Jon is keen on clean lines, symmetry and a modern aesthetic. James could relate to this and develop a design that was unique. By this point in the project, we had already bought and lived in the bungalow for three months, so we knew that his ideas would work excellently.”



The couple’s architect came in the form of James Butterworth of Leeds-based Studio J. He understood Jon’s reservations and was able to translate his concerns into a radical – and affordable – redesign.

The original bungalow consisted of one large open-plan zone on the ground floor, with a bedroom extension and a detached garage, and further rooms in the roof space. There was a separate annexe comprising a fifth bedroom, utility area and shower. The interior was dated and disjointed, and there were discussions – quickly dismissed – about knocking the property down and starting again from scratch. But Kate and Jon thought it would be easier to get planning consent if they worked with the original building and footprint.

In addition to reconfiguring the interiors, one element Jon was particularly keen to incorporate as part of the exterior works was a zinc roof. “They look fantastic and I’ve always been drawn to them,” he says. “Although I hadn’t appreciated how expensive they were.”

Radical transformation

Taking all of the couple’s ideas on board, James came up with a plan that made better use of the existing space. The design linked the property with the large garden via bifold doors, expansive windows

and a wide terraced area. Planning consent to remodel the building was granted readily by Leeds City Council, who said the couple would be enhancing the original property. “It was just what we’d hoped for,” says Kate. “It would probably have taken a lot longer to get permission had we knocked it down and started again – but we didn’t want the delay or the hassle. As it was, the planning department was really encouraging.”

The only compromise Kate and Jon had to make was regarding a proposed roof terrace from the main bedroom, which the planners thought would overlook neighbouring properties. However, losing this element was a small price for the couple to pay when it came to achieving what they wanted overall. “Our neighbours were really supportive of what we were doing and we made a lot of new friends as a result,” says Kate. “It helps to meet people living nearby and to let them know what you want to create before you start building. That way you can discuss any concerns with them so there are no unpleasant surprises further down the line.”

For Jon and Kate, one of the most challenging aspects of the scheme was tracking down a builder they could trust to be reliable, good quality and affordable. “We interviewed quite a few firms before we finally settled on PDS Construction, who came highly

WE LEARNED...

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INFORM YOUR NEIGHBOURS

about your plans and discuss any concerns with them. It's much better to have them on side from the start.

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SHOP AROUND FOR BARGAINS.

Look online for ex-display deals, sales and second hand products, which could save you a fortune on fittings and fixtures.

Below: The stairs were repositioned and redesigned to create a bright, open entrance hall, with rooflights drawing daylight onto the landing



recommended," says Kate. "There was the added benefit that they also owned a steel company, and our remodel was going to need a lot of steel girders to support the open-plan design."

As they wanted to live close to site during the build, the pair opted to buy a £10,000 caravan, which they were able to park on their home's drive for the duration of the works. "We looked after it really well and sold it at the end for almost the same price that we paid originally. This worked out much cheaper than moving into rented accommodation," says Kate, who project managed the renovation while Jon continued working in his meat business.

Making a start

When construction began, the first task was to knock down the single-storey annexe and dig the footings for the two-floor extension that would be erected in its place. The foundations for the new addition were built to follow the boundary hedge, which runs at an angle to the main part of the house. By approaching the design in this way, the series of disjointed rooms and the disconnected annexe could be turned into one clear, spacious kitchen, utility room and study, with a master bedroom suite above.

The layout in the remainder of the bungalow also changed radically, starting in the entrance hall where the original staircase and an ensuite bathroom were removed to create a wide, open hallway. The old kitchen became a spacious bathroom and the upstairs was reconfigured to create three further bedrooms. Bathrooms were positioned in the eaves along one side of the property so that services could be easily installed.

The striking zinc roof unites the original and new sections of the bungalow. "This element of the project is quite complicated, with a mix of flat sections and steep pitches," says Jon. "We really wanted to have the zinc roof, but the intricate structure made it a particularly expensive luxury and ended up taking us over budget by about £50,000 – but it was worth it!"

The build itself – including the installation of several long steel lintels between the main ground floor living area and adjoining rooms – was straightforward. New wiring, plumbing and insulation were installed throughout. The old roof had no protective thermal layer at all, while some of the timbers were rotten and needed replacing. These additions cost a further £5,000 before the zinc could even be laid. A flat section at the centre of the structure was laid with a polythene membrane and also double insulated.

The only real delay arose because the window suppliers insisted on manufacturing the aluminium-framed fenestration once the build was complete, so that all measurements could be exact. This led to a six-week holdup that Jon and Kate could have done without. "We understood their reasoning because there are lots of strange angles," says Jon. "Even then, there were still a couple of issues with the way the zinc roofing and the windows work together. However, it worked out in the end and we're delighted with the results."

The finishing stretch

With the building watertight, Kate and Jon moved back into the house just in time for Christmas, camping out in the master bedroom until the interior works were complete. Outstanding jobs at this stage included plastering, laying the underfloor heating and tiles, fitting the bathrooms and installing the new kitchen. "We enjoyed every minute of it," says Kate. "We're both pretty chilled – if you get stressed you stop enjoying the process. Plus, we always kept our eye on the final goal and the home we wanted to create."

While the couple admit that opting for a zinc roof added a big chunk to their overall spend, they have no regrets. "After all, if the worst came to the worst we could have lived without a kitchen for a

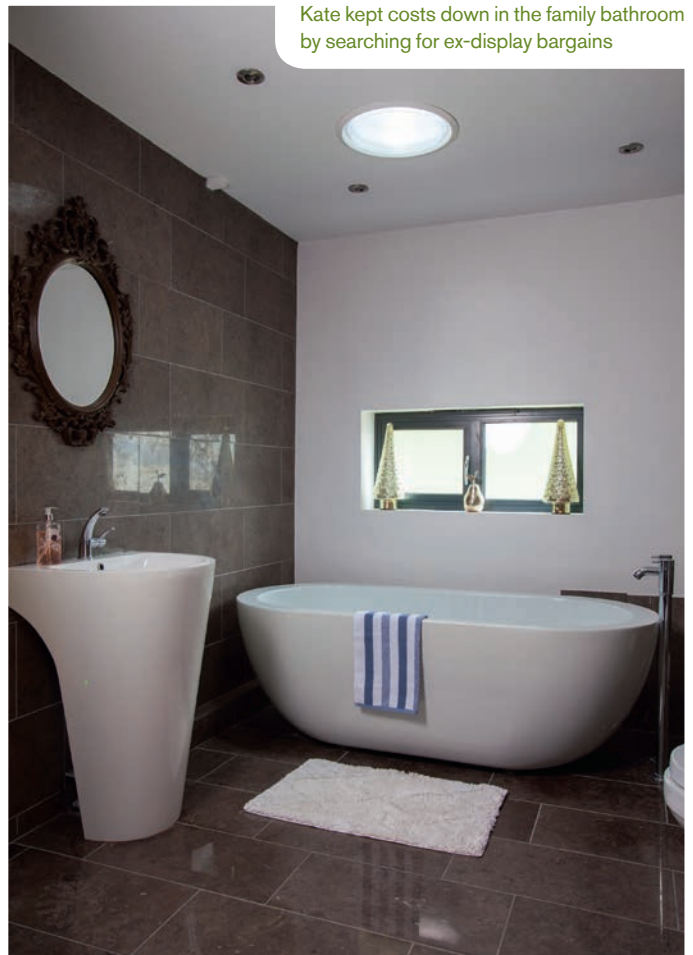
while. Fortunately, we made a good saving on the bathroom fittings," says Kate. "I had £12,000 in my head as the budget for this area, but by shopping around and looking at ex-display items, we spent around £3,500 instead. You just have to be prepared to compromise."

Kate and Jon's dream for the kitchen was to have a bank of cupboards within a large central island, with lights in a lowered ceiling section above it. They also wanted to incorporate two different kinds of worktop to break up the expanse, choosing wenge wood and Silestone to create an attractive contrast.

The final job for the couple to tackle was landscaping, which was completed in June 2016. "We have large swathes of glass and glazed bifold doors that open out onto the garden," says Kate. "We created a sizeable patio because we really enjoy sitting outside in the summer. Arranging the space in this way has created a direct link between the house and the outdoor area. Although the dwelling isn't much bigger than the original bungalow, it is so radically different we feel as though we have a new-build home that ticks all our boxes."

Even Jon, who had so many doubts at first, admits the result of the scheme is better than he could ever have imagined – to the extent that the couple are now offering their home as a television and film location. "When I first saw it I couldn't visualise anything beyond the dated bungalow," he says. "Fortunately Kate and James could see its potential and the spacious modern home it could become."

Kate kept costs down in the family bathroom by searching for ex-display bargains



closer look

Zinc roof...

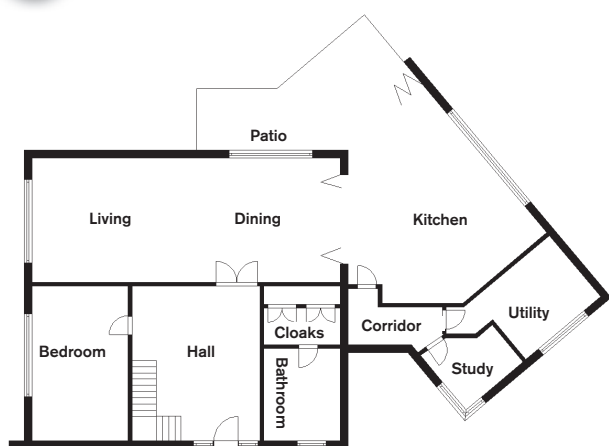
Often specified for commercial buildings, metal roofing is growing in popularity for domestic schemes, too. Offering a striking finish and corrosion-resistant properties, it was an element that Jon knew he wanted to incorporate right from the outset of the renovation project. Unlike other metals, zinc is widely-specified for its self-healing attributes – this essentially means that it rejuvenates if it's scratched. It is also low-maintenance and extremely resistant to harsh weather conditions. Architecturally, it can be formed into a wide range of shapes and curves to add extra visual appeal. Fitted by experienced zinc roof specialists, this metal covering can last a lifetime with virtually no upkeep required, so Jon and Kate have no regrets about their decision to specify this element for their build.



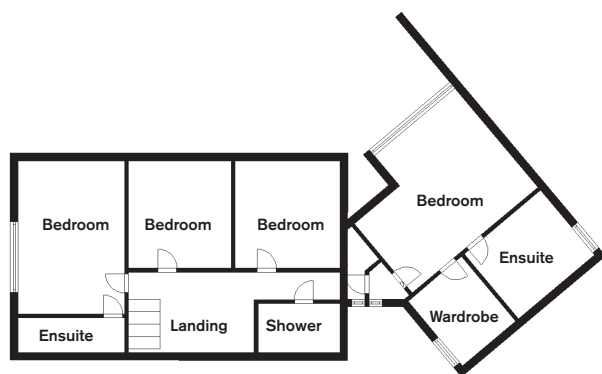
Contemporary covering



Floor plans



Ground floor



First floor



House plans re-created using
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TOTAL BUILD COST BREAKDOWN

Elements	Cost m ²	Cost %	Total cost
Zinc roof	£90	13%	£25,000
Bathroom fittings	£12	2%	£3,500
Tiles	£18	2%	£5,000
Windows & bifold doors	£90	13%	£25,000
Internal doors	£7	1%	£2,000
Radiators	£4	< 1%	£1,200
Fire (incl. installation)	£11	2%	£3,000
Music system	£5	< 1%	£1,500
Landscaping	£36	5%	£10,000
Chandelier	£7	1%	£2,000
Labour & materials	£430	61%	£120,000
Grand total			£198,200

Useful contacts



ARCHITECT Studio J Architects 0113 244 9905 www.studio-j.co.uk
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Community Spirit

Saira Renny and George Carr have made the most of a spectacular beach setting on the Isle of Eigg with their new energy efficient, sustainable house. The couple's first self build came in at an impressive £77,000 thanks to a little help from their friends

WORDS **CAROLINE EDNIE** PHOTOS **DAVID BARBOUR**

THE RENNY & CARR FILE

NAMES Saira Renny & George Carr

OCCUPATIONS Farmers & holiday home owners

LOCATION Isle of Eigg

TYPE OF BUILD Self build

STYLE Contemporary

CONSTRUCTION METHOD Timber frame

HOUSE SIZE 50m²

PROJECT COST £77,000

PROJECT COST PER M² £1,540

BUILDING WORK COMMENCED January 2015

BUILDING WORK TOOK 16 months

The Hebridean Isle of Eigg is famous for its dramatic views of sunrises and sunsets overlooking the nearby Isles of Rum and Skye to the northwest, and across towards the Ardnamurchan Peninsula to the southeast. When island farmers Saira Renny and George Carr decided to tackle their first self build project, the venture wasn't without its challenges. But the participation of many of their friends and neighbours (only 100 or so people live on this small Scottish island, which was bought by the residents around 20 years ago) meant it has become something that the whole community can celebrate.

Saira and George's family have run a 1,000-acre stretch of farmland since the 1950s, but when George took charge of the business in the late 1990s, the couple were keen to maximise its potential. They decided to build a new property on a spot that enjoys some of the most spectacular vistas on the island. The dwelling would help to augment their income, as they planned to rent it out as short-term holiday accommodation for visitors and tourists once built. "We chose the patch of land based on the views across the sea towards the nearby island of Rum," says Saira. The site also benefits from access to a pre-existing road, which meant it wasn't too difficult to get materials and supplies delivered for the build.



All hands to the pump

The couple worked alongside an architectural technician friend to come up with a suitable design. “Embracing renewables and building a super-insulated house were central to the scheme,” says George. Green living and low carbon emissions are a core part of the island community’s ethos, and they generate their own renewable electricity supply from hydro, wind and solar power. “Including renewables in the scheme also made sense as it will make the house cheaper to run in the long term,” he adds. “We were helped by a 70% green grant from the Eigg Trust; this allowed us to install the solar thermal array, which warms the property’s water.”

In addition to making the structure as energy efficient as possible, the main idea was to exploit the site position. “The exposed location experiences very high winds, so we wanted to place the house at the base of a rocky hill to provide some shelter,” says Saira. This spot also allowed them to frame views of the sea. “We decided to include big windows facing the water and a double-height, open-plan living area that extended straight out to a flush decking zone,” she adds.

Saira and George jumped into action by commissioning an engineer’s structural report and archaeological survey, as there are ancient Pictish graves in the area. Happy with the results, the couple



WE LEARNED...

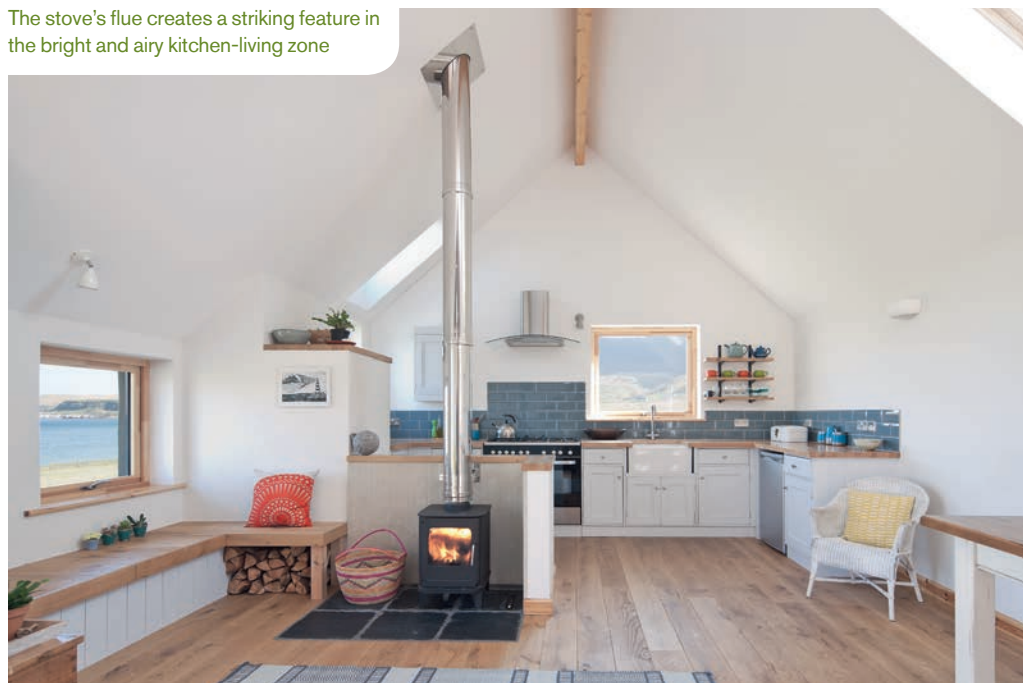
OUR REMOTE LOCATION had its challenges. We found that forward planning is incredibly important because it can take weeks to have even the smallest thing sent to the island.

ADDITIONAL DELIVERY COSTS to the Isle of Eigg were also a concern. We estimate that we spent around £4,000 to £5,000 in extra freight fees.

SELF BUILDING HELPED us to develop new skills. We were able to get hands-on with every aspect of the project, which also meant we could ensure each item was the best spec possible.

BEING ABLE TO TRUST in your workforce is important. We are very lucky to have such skilled friends and family here on the Isle of Eigg who could help us achieve a high-quality finish.

The stove's flue creates a striking feature in the bright and airy kitchen-living zone



sought outline planning consent, but the process took a long time, so they decided to cut to the chase and submit a full application.

Once they were ready to build, it was all hands to the pump to get the digger to the site and create the concrete foundations. The first load of timber for the frame then arrived via landing craft from a

local builders' merchant in Fort William. "We've got a big shed up at the main farmhouse, which is where two of our friends pieced together the wooden skeleton," says George. "We put down the foundations, but it came at a busy farming time for us, so there was a gap of six months before we could get on with the rest of the build."

Things picked up again after Christmas, with the frame going up in March 2015. "We held a house-raising event, where all our friends came over to help us get the timber skeleton into place. This was good fun and we had a party afterwards," says George.

With highly skilled neighbours assisting with the construction and joinery, the couple were in good company throughout; however, they did have to bring in plumbers and electricians from the mainland. "A friend that has built houses before acted as the gaffer during the build," says Saira. "The most nerve-wracking part of the construction was bringing in the large windows along the bumpy, single track road. Although it took around a dozen people to put these in, we fitted them all without any breakages."

Sourcing & shipping

Most self build projects come with obstacles to conquer, but the remote location added an extra layer of complication when it came to sourcing products. "Buying building materials is tricky here – you can't just pop down to B&Q; we had to order everything in as there are simply no suppliers on the island. We did most of the specifying online, but had to work hard to find companies that weren't going to charge us extortionately high delivery charges," says Saira. "Here, even if you want something really urgently, you sometimes have to wait weeks for it to be delivered. But luckily, everybody in Eigg has a shed full of stuff that can be borrowed. That's the way it works here – the community really pulls together. There were a lot of phone calls asking around for odd bits and bobs!"

Despite the challenges, Saira and George were pleased that they were responsible for overseeing all aspects of the build as this meant they could guarantee quality and finishes at all times. "We wanted the best products in the fabric of the building," says George. "For instance, we could easily have sourced cheaper, plastic windows, but we went with aluminium units to ensure excellent long-term performance alongside our high-spec insulation." The exposed location also meant that the facade needed to cope with the extreme

A bespoke ladder in the open-plan living room leads up to the mezzanine area



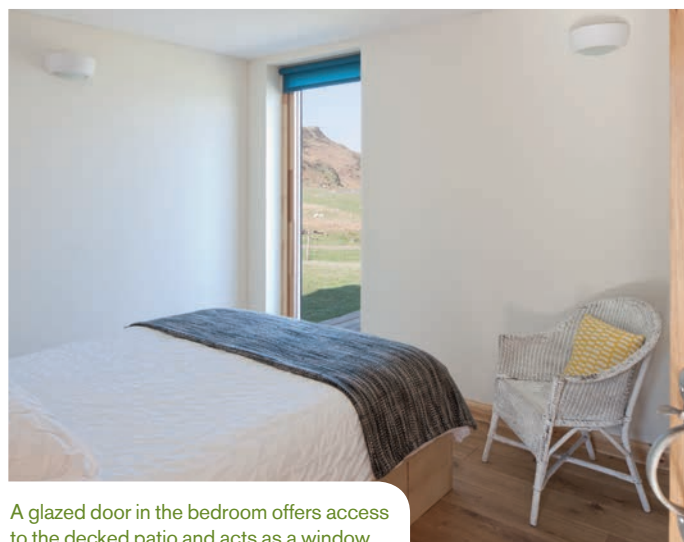
conditions and withstand the elements. "The timber decking has been treated and the powder-coated stainless steel guttering had to be marine grade to avoid rusting," says Saira. "There's always a sea breeze here, but at least there are no midges."

The couple faced a dilemma when it came to placing the water tank somewhere that wouldn't impact on the open-plan layout of the small dwelling. The solution was to cleverly conceal it behind the stove against the front wall and create a useful shelf space above the boxed-in area. This has also helped to form a backrest for the bespoke seating area (created by a local joiner and carpenter friend) that follows a stretch of glazing that juts out from the main facade. This section has been finished externally in blockwork and render, which helps to soften the massing of the timber facade. "We like that it forms an aesthetic break," says George. "If the house was all timber it might have looked too agricultural."

Rather handily, Saira's brother had just finished a carpentry apprenticeship, so he was able to contribute to the bespoke internal timber details. "My mum was also great; she's got really good style. I'd focused so much in the building part of the project, that I really appreciated the help she offered when it came to finishing the



A large rooflight fills the bathroom with natural light, without having to impact on precious wall space



A glazed door in the bedroom offers access to the decked patio and acts as a window

interiors," says Saira. "We bought lots of stuff from Habitat, along with furniture and crockery from vintage stalls, all of which we piled into a van. To be honest, we weren't certain that it was all going to work together, but we're thrilled with the result."

Worthwhile venture

Now the build is finally over, there is little about the property that Saira and George would change. "We would definitely have incorporated a porch at the back door so that you can take off muddy boots and wellies before stepping into the house," says Saira, who is currently constructing a timber bike shed at the rear of the property. "It was really tricky to work this into the plans at the time – but I think we can resolve this and add something on at a later date."



“Buying building materials is tricky here – you can’t just pop down to B&Q; we had to order everything in as there are simply no suppliers on the island”

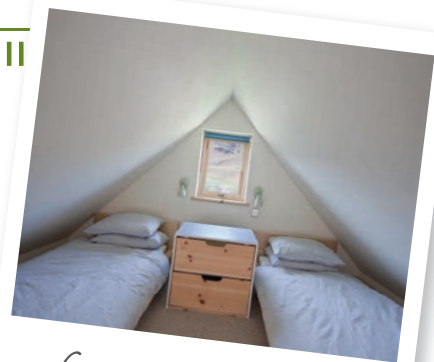
"Overall, everything has turned out much better than we thought it would and nothing's been problematic – there aren't even any teething issues," says Saira. "The most difficult part for us was making sure all the materials arrived at the right time. Sourcing everything and organising delivery to our remote island was tricky."

They've called the property Laig Beach Bothy and it's now part of Eigg Time – an island-run initiative that was set up to promote holiday hideaways for island visitors. "Self building is hard work, but extremely rewarding – many visitors keep coming back to stay, which is such a positive endorsement," adds Saira.

closer look

Mezzanine sleeping area...

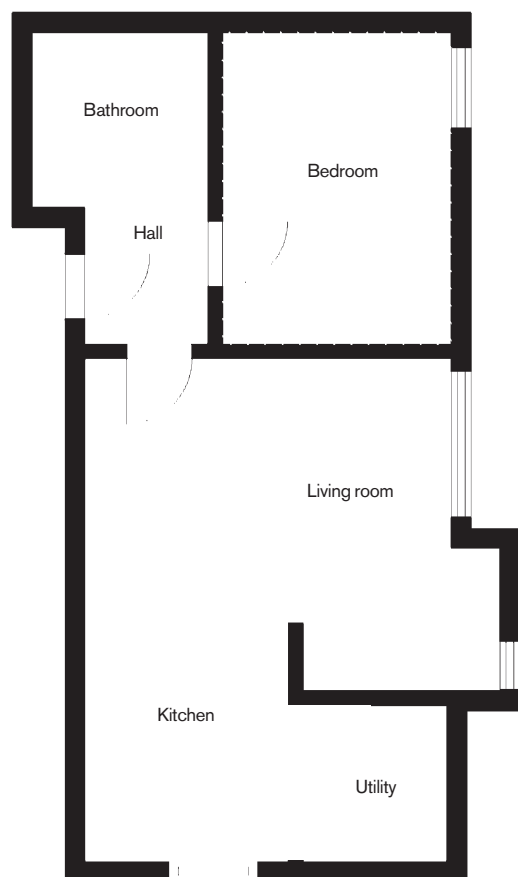
With such a small building, a well-considered design was essential to ensure that every inch of space would be maximised. One clever addition is the low-height mezzanine space above the bedroom and bathroom. Tucked into the vaulted ceiling, the area provides a neat second sleeping area for holiday home guests. The zone can be accessed via a bespoke wooden ladder, which Saira's brother made for them. "We sent him measurements and he created it; he also built my bedside tables," she says. The ladder fits neatly beside the exposed timber beam and creates an attractive focal feature in the rustic interior scheme.



Compact bedroom



Floor plans



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TOTAL BUILD COST BREAKDOWN

Elements	Cost m ²	Cost %	Total cost
Substructure/foundations	£20	1%	£1,000
Frame/plasterboard for internal walls/taping & filling	£200	13%	£10,000
External cladding & joinery	£220	14%	£11,000
Windows	£240	16%	£12,000
Roof	£200	13%	£10,000
External guttering finishes	£40	3%	£2,000
Doors	£20	1%	£1,000
Insulation	£160	10%	£8,000
Electrics & lighting	£80	5%	£4,000
Plumbing	£80	5%	£4,000
Woodburner & heating system	£80	5%	£4,000
Wall & floor finishes	£80	5%	£4,000
Bathroom	£40	3%	£2,000
Kitchen	£40	3%	£2,000
Furnishings & finishes	£40	3%	£2,000
Grand total			£77,000

Useful contacts



BUILDING SUPPLIES Travis Perkins 01397 705195 www.travisperkins.co.uk
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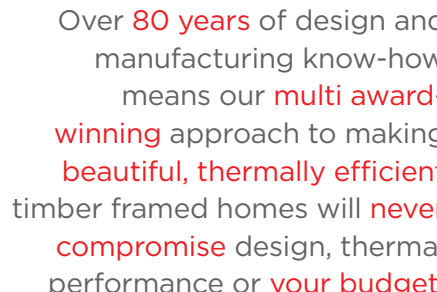


Siberian Larch

Photography: Andrew Lee

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Oak charm



A renovation project evolved into a self build opportunity, allowing **Peter Crosdil** to create the oak frame house he'd always wanted

WORDS **JANE CRITTENDEN** PHOTOS **ALISTAIR NICHOLLS**



The desire to build an oak frame home first struck Peter Crosdil when he saw a client's new house whilst at work. "I have a swimming pool business and I was on a job for a customer who had just created a new oak frame dwelling," says Peter. "I saw the character and warmth of the material first-hand, and decided that this was the type of property I wanted to develop for myself one day in the future."

The opportunity manifested itself out of the blue two years later, when Peter spotted a dated 367m² farmhouse for sale near his home in Pulborough, West Sussex. The dwelling came with 20.5 acres of farmland, a converted barn and an annexe. Initially, Peter viewed the property as a possible business venture. "The site was great value for money and the location was fantastic, with far-reaching views across Sussex. It was also close to work," he says. "The original idea was to update the agricultural conversion and annexe and rent them out. We also planned to set up a riding school, as my ex-wife had horses. However, we parted ways during the project so I didn't take this element of the scheme any further."

Change of plan

At this point a self build wasn't on the cards at all, as Peter had envisioned renovating the main house. However, during the purchase process, a survey revealed cracks in the walls and

THE CROSDIL FILE

NAMES Peter Crosdil
& Joanne Jones

OCCUPATIONS Owners of Crosdil
Leisure, a swimming pool company

LOCATION West Sussex

TYPE OF BUILD Self build

STYLE Traditional oak frame

CONSTRUCTION METHOD
Oak frame

PLOT SIZE 20.5 acres

LAND COST £1,175,000

BOUGHT May 2012

HOUSE SIZE 613m²

PROJECT COST £900,000

PROJECT COST PER M² £1,468

TOTAL COST £2,075,000

BUILDING WORK COMMENCED
September 2012

BUILDING WORK TOOK
16 months

CURRENT VALUE
£3,200,000



All of the wood inside the house is oak, including the stairs and doors

foundation problems caused by subsidence. It quickly became clear that starting from scratch was going to be the best course of action. "I was really pleased because I could design a home to really make the most of the views," says Peter. "On a clear day, we can see as far as Portsmouth in one direction and across to Devil's Dyke in the other – that's a view of nearly 60 miles."

Peter hit the ground running, wasting no time in getting on with the design of his new abode. In fact, he started this part of the process in March 2012 – before the sale had even gone through. "I suppose there was a risk that the purchase wouldn't complete or that I might not get planning permission, but you don't get on in this world if you don't take a gamble sometimes," he says.

Peter did his homework before forging ahead. He had a long conversation with the planning officer and invited the parish council and local residents' association to the site. He explained his goal to create a family home with similar proportions to the old house, meeting Level 3 of the now-defunct Code for Sustainable Homes. "The site is quite obvious on the corner of the land and the tired buildings didn't look very pretty," says Peter. "Local people were supportive of my plans and no one raised any objections."

Realising the dream

Peter turned to Ed Hamilton, owner of oak frame specialists Oakmasters, to help create his home. The firm is local to the area and the pair had already worked together on an indoor swimming pool project. Peter appointed the company to design, manufacture and erect the frame, taking on the project management himself and employing trades from his own business to finish the house.

"I did some research, but I already knew Ed and the team well. Their £159,000 price for the frame came in much lower than others I spoke to," says Peter. "Some of the quotes I received were silly numbers – one firm wanted £1,300,000 to build the entire house."

Peter started the process by showing Oakmasters' architectural designer, Jenny Turner, a photo of the oak frame dwelling that had inspired his self build dream. "I had a vision for a substantial manor



house with a timeless look, brick features and plenty of glazing to showcase the views," he says. "I talked Jenny through my ideas and gave her a rough drawing of the layout I wanted."

Oakmasters came back with a design for a 613m² house. Although larger than the original dwelling, some of the extra floor space was hidden in the basement. Peter made a few tweaks to the drawings, opting to incorporate an open-plan kitchen-diner and enlarging the



entrance hall and landing area. He also played around with the positioning of the windows and other glazed elements to ensure the views and sunlight were maximised.

The house isn't built directly onto the footprint of the original property. Peter was keen to make the best of the sun's orientation throughout the day and therefore decided to twist the front elevation through 30° so it now faces north east. The previous farmhouse had also been positioned closer to the road and on top of a fault line in the ground, which had caused the subsidence. "We dug holes so that we could see where the problems lay and decided to move the new house as far back as we could within the envelope of the garden boundary," says Peter.

“I had a vision for a substantial manor house with a timeless look, brick features and plenty of glazing to showcase the views”

Good progress

By the time the sale of the property was agreed in May 2012, Peter had meticulously put together a detailed budget for the works. He had also submitted the plans for the project to the local council, and these were approved within two months. During this period, his workforce carried out the renovation of the barn and the adjoining annexe also positioned on the site, so he would have somewhere to live once the main building project got underway.

In September that year, work began with the demolition of the old house. Peter bought in machinery to excavate 500 tonnes of soil for



The traditional oak frame house has lightly-rendered in-fill panels and features handmade red clay tiles on the roof

WE LEARNED...

PAYING LABOUR on a daily rate is unpredictable. While I was able to control the materials I bought and what I paid for them, I couldn't guarantee how long it would take trades to finish each stage.

HIGH SPEC MATERIALS AND FINISHES like my handmade Flemish bond brickwork cost three times more than standard bricks. This was because I had to factor in the extra labour time required to create this particular pattern. While it's important to maintain a clear vision of what you want, it's vital to do your homework thoroughly as well so you know what to expect.

ALWAYS DIG TEST HOLES where the footings are going to go. Make sure they're deep enough so you know what you're getting into before you make your budget for the foundations.



The fireplace in the sitting room is made from 400-year-old reclaimed bricks

the basement, which was later re-used to form the new garden. The retaining wall is 600mm thick and the whole area is tanked with a Sika tanking system. "Groundworks are what we do in the swimming pool business, and this was similar – the process just worked in reverse," says Peter. "The tanking is a tried and tested

setup for us, and we decided to overkill on the specification because we did not want any problems to arise later on."

During the works, Peter's structural engineer indicated that the fault line would cross below the corner of the new structure. "I knew this might be a problem but I couldn't move the house any further



The picture window in the bedroom benefits from far-reaching country views



back on the plot because of the garden boundary," Peter explains. "My team had to dig out the area and put in extra reinforcement, as well as £2,000-worth of concrete. In total, this ended up costing me £10,000 more than I had budgeted."

Next came the brickwork plinth that the oak frame would sit upon. This was constructed with handmade bricks, laid in a Flemish bond pattern. A team of eight people from Padwick Builders were able to complete this element of the scheme within about four weeks. "This wasn't the cheapest way to build, because the handmade units alternate between one brick and half a brick, so they had to be hand cut," says Peter. "They're also expensive at £1 each, when you think that 36,500 of them went into this house." The brickwork had to be built to a precise tolerance level in order for Oakmasters to fit the frame. The firm came to site to check the progress and in mid-November large parts of the structural skeleton were delivered by lorries and put together by hand on site.

Once the oak frame was raised, Peter's trades followed by hanging the 27,000 handmade red clay tiles that had been imported from Poland for the roof covering. Wind, rain and snow made this part of the process extremely challenging and the team struggled to get the building to weathertight stage. "The site is on a hill and the rain used to funnel in through the house and hit the far wall," says Peter. "Five lads worked here continuously and they managed to get the structure to watertight phase by the spring."

The scheme suffered a minor setback when the scaffolding firm Peter had employed went bankrupt, and he discovered the temporary structure they'd erected had been cross-hired from elsewhere. "This only came to light when a different company turned up to take the scaffolding structure down," says Peter. "There was a fraught moment when I had to negotiate a new deal. It meant I had to pay twice, costing me an extra £2,280."

Design tweaks

As the interior of the house progressed, Peter decided to make a few changes to the layout. He turned a Jack and Jill bathroom into separate ensuites and the family bathing zone into another bedroom, as well as incorporating more oak rafters into the rooms. "I ended up adding twice as much oak to make the rooms look more authentic," he says. "I also put in more windows in the hall and changed the fenestration in the rear bedroom so there's floor-to-ceiling glass, with views from the bed. By the time the project was completed, I think we'd used a total of 187 panes of glass throughout the property."

Looking to get the best value for his money, Peter did his homework and ended up sourcing the oak for the internal and wardrobe doors from Northwood Forestry. The timber boards were cut to size and then delivered to site, ready for the carpenters to craft them into doors and fit the ironmongery accessories.

Finishing off

By January 2014, Peter was keen to move in. He also wanted to get his team back to working full-time in his swimming pool business, so he spent the following nine months finishing off the decorating himself. "I'd chewed through more money than I'd expected to, and I'd been juggling my company and the self build for too long," he says. "It probably would've been cheaper for me to have paid a project manager for the scheme – but instead I did both. Having said that, I wouldn't necessarily do things that differently if I took on a similar endeavour in the future."

The final result of the project is a stunning oak frame house packed with character and featuring far-reaching views across the Sussex countryside. It more than lives up to Peter's expectations. "I had a vision of what I wanted and I'm pleased that I have achieved it."



Peter hasn't ruled out the possibility of taking on another self build. "I don't sit on my laurels," he says. "There's an opportunity on the cards that means I might be able to take on another project with my partner Joanne, so we've put the house on the market." He is also confident that he wouldn't do things differently a second time round. "I definitely want to build another Oakmasters oak frame house, and this time I'll put in more oak uprights and beams to create the characterful aesthetic I'm after."

closer look

The oak frame...

Peter was inspired by the characterful beauty of oak frame buildings long before his own self build journey began. Each of Oakmasters' structural skeletons is manufactured and pre-constructed in the company's workshop. Homeowners can choose a wall build-up system that complements their project aims, in addition to a material finish that creates the desired aesthetic.

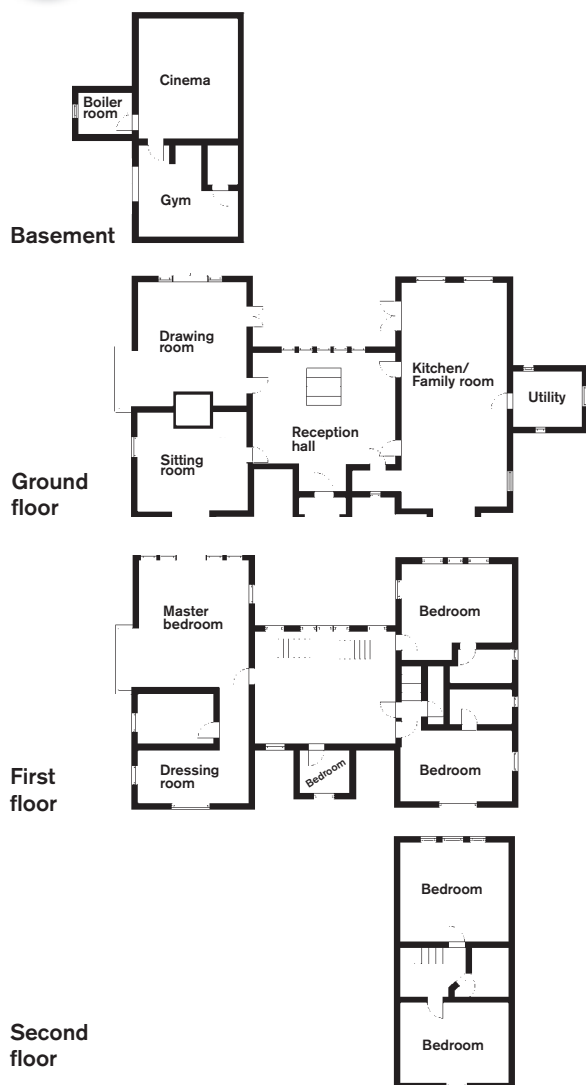
The glazed gables in Peter's home flood the interiors with natural light, and were made possible via the firm's encapsulated glazing system. This setup is resistant to the natural shrinking and twisting of the oak, and allows the glass to meet the structural frame whilst ensuring a watertight building envelope.



Glazed gable



Floor plans



House plans re-created using
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www.buildit.co.uk/3dsoftware



TOTAL BUILD COST BREAKDOWN

Elements	Cost m ²	Cost %	Total cost
Labour	£241	17%	£148,000
Scaffolding	£26	2%	£16,000
Up to damp proof course (incl. brickwork)	£152	10%	£93,000
Oak frame	£259	18%	£159,000
Roof (incl. handmade tiles)	£240	17%	£147,000
Additional oak beams & oak for doors	£160	11%	£98,000
Windows & external doors	£78	5%	£47,500
Bathrooms	£63	4%	£39,000
Kitchen	£49	3%	£30,000
Tiles, flooring & underfloor heating	£60	4%	£36,500
Decorating	£47	3%	£29,000
Landscaping	£93	6%	£57,000
Grand total			£900,000

Useful contacts

OAK FRAME **Oakmasters** 01444 455455 www.oakmasters.co.uk
 TRADES **Crosdil Leisure** 01798 875275 www.crosdil-leisure.co.uk
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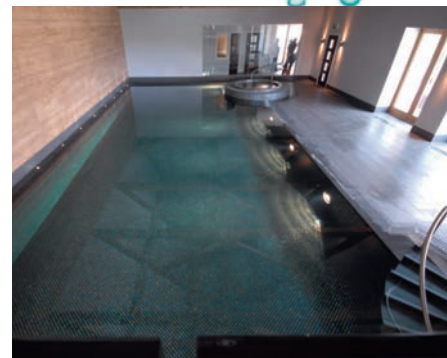
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Emily Smith explores how you can increase living space and bring in natural light with this prevalent architectural feature

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Add wow factor to your interiors with Anna-Marie DeSouza's guide to flights that make a real impression

PLUS: INSPIRATIONAL STAIRCASE GALLERY (PAGE 88) >>

Why timber frame makes sense for self builders

Chris Bates explains the pros and cons of this speedy structural system, and why it could be a good fit for your project

Timber frame is hugely popular among self builders, offering a raft of benefits that can help you achieve an efficient, attractive dream home on time and on budget – but it's not right for everyone. Here's what you need to know.

What is timber frame?

Fundamentally, this system consists of storey-height timber panels. These are made up of a network of vertical studs and horizontal noggins, which are sheathed on either side with a sheet material (such as OSB – oriented strandboard) to create a strong walling element.

The space between the studs is packed with insulation, which is either added on site or in the factory, depending on whether you go for open or closed panels. On most projects, you'll also buy the roof structure, intermediate floors and internal partitions from the same supplier – so you get a neat whole-house kit for your site team to erect.

What are the advantages?

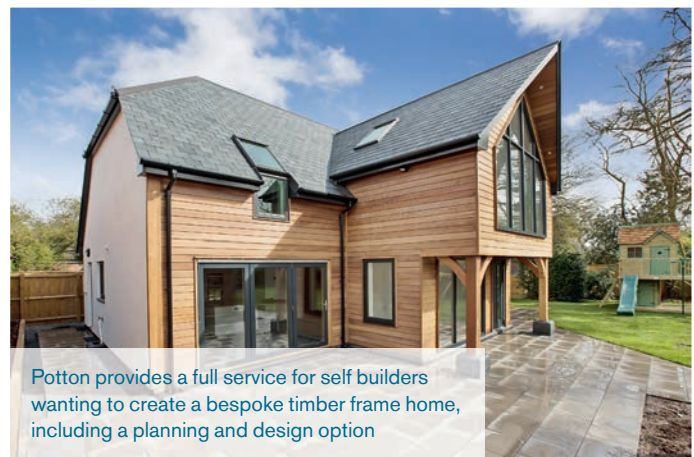
The final decision on structural systems will come down to exactly how they match up to your project profile. Your design team will be well placed to help you make that call, but there are plenty of reasons to consider timber frame:

1 You get real design choice

Whether you use an architect or take an in-house route, you'll get all the benefits of bespoke design when you opt for timber frame. Features such as vaulted ceilings,



As well as the wall panels, a typical timber kit will include the roof trusses, internal partitions and other major structural elements. This project is by Vision Timber Frame



Potton provides a full service for self builders wanting to create a bespoke timber frame home, including a planning and design option

cantilevers, storey-height glazing and open-plan interiors can all be integrated easily at the planning stages. What's more, you can use all manner of claddings and finishes – from brickwork through to stone, render, metal and timber. The only caveat is that you need to nail down the plans at the start: the engineered nature of this system means it's much more challenging (and expensive) to alter on site than if you were working with masonry.

2 Shell builds are cost-effective

It's widely accepted that masonry and timber frame are the leading contenders for self builders looking to achieve good value for money. But with panelised systems you also get the advantage of cost certainty.

The core timber frame kit includes everything you need to create an efficient weathertight house shell, ready for the infrastructure and finishes to be completed inside and out. In most cases, the structure will be provided as a fixed price, supply-and-erect package – so you know exactly what you're getting and what it will cost. This makes it easy to plan the rest of your spending and scheduling, which will be a boon to bringing your project in on budget.



This 1.5-storey timber frame home by Scandia-Hus has been clad in brick to blend into the local area

3 You can package everything up

Many timber frame suppliers can do far more than just supply the shell of your house. They are able to provide a suite of design and follow-on services to choose from. This means you can have full control over the spec of your home, but leave as much or as little of the rest of the work as you want in the hands of a single specialist firm, which can take a lot of stress out of the self build process.

4 It's super quick

The fabric of your new home will be manufactured off-site in controlled factory conditions – and delivered to your plot in the sequence it needs to be built. You'll have to wait 8-12 weeks for the delivery of the frame (during which time you can prep the site and get the foundations in place). But once on site, a typical project can reach weathertight shell stage in under a week.

5 It's not weather dependent

One of the big downsides of masonry is that it's a wet construction method. This means it needs to be allowed to dry out, so work can't progress in frozen conditions or heavy rain. Timber frame, meanwhile, is a dry setup that can be erected in double-quick time, making it more or less immune to the fickle British weather.

6 Follow-on trades are easy to schedule

Even if you take the entry-level shell build route, you'll still see real benefits to your construction programme. Knowing the weathertight shell will be up by a certain date means you can book in materials deliveries and labour for the next stage of the works with confidence.

7 It's energy efficient

What timber frame lacks in thermal mass (see the box, above right) it makes up for elsewhere. The panels will be packed with insulation to the depth and quality you require to meet your performance expectations. The system can be used to achieve U-values (a measure of heat loss) down to as low as 0.09 W/m²K and is regularly specified for low-energy projects such as Passivhaus builds.

8 You get as-sold performance

It's all well and good planning and designing an energy efficient home, but it's another thing backing up that philosophy during the construction phase. The industry refers to this potential shortfall as the performance gap – and it's something everyone is striving to narrow.

Timber frame has the edge over masonry in simplifying this process. The technique's accuracy means you're less reliant on site operatives to guarantee that the fabric of your new house is fully insulated and airtight – and some suppliers, such as Beattie Passive, specialise in eco builds.

9 It can maximise space

The accuracy with which high-grade insulation can be incorporated into the panels

3 THINGS TO CONSIDER...

No structural system is perfect, so making the right choice for you and your scheme is about weighing up the potential pros and cons and understanding which option ticks the most boxes. Here are three things you should bear in mind before you settle on building with timber frame:

Cashflow is front-heavy. Timber frames are bespoke engineered to suit the project in hand, so you'll need to put down a hefty deposit to green light production. The rest of the money will typically be due on delivery of the frame – which makes this a much more peaky cashflow situation than you might have with masonry. If you're using a stage release mortgage to fund the works, be sure that it reflects your spending pattern.

Sound insulation will need a boost. Panelised framing elements are innately lightweight, which means they don't resist noise transfer particularly well out of the box. This is especially prevalent in partition walls and intermediate floors – but it's fairly straightforward to avoid. For example, you can stuff stud partitions with mineral wool and finish them with good-quality plasterboard (double skinning or switching to an acoustic dry-liner will enhance performance). Using engineered floor joists will reduce issues such as creaking.

There's not much thermal mass. Block-built walls will absorb and store energy, releasing it back into the internal environment when temperatures start to fall. This can help to cut down overheating and ensure a more even heating cycle. Timber frame is relatively poor in this respect as it lacks the density of masonry – but there are ways to achieve some thermal mass, for instance by opting for a concrete ground floor slab, adding a blockwork partition in a south-facing room or investing in tiled floors.



means timber framing can give excellent performance even with relatively thin wall profiles. This has a very real practical advantage for self builders: the thinner the walls are, the less they'll encroach on usable floorspace in your new home (for more on how this could benefit you, check out Ian Loughnane's advice overleaf).

10 It uses sustainable materials

For those of you concerned about the environmental impact of your projects, timber frame offers the opportunity for peace of mind. Provided the wood is sourced from properly-managed, sustainable forests (check for FSC or PEFC certification), then this system is effectively a carbon neutral construction method. What's more, it can be combined with other natural products such as sheep's wool or wood fibre insulation to further underpin your eco credentials.

Above: This project by Frame Homes uses a closed-panel system, with insulation and service runs incorporated during the factory manufacture stage. Below left: Val-U-Therm closed panels are craned into position on a Scotframe build



CONTACTS

Benfield ATT 01291 437050 www.benfieldattgroup.co.uk **Frame Homes** 01209 310560 www.framehomes.co.uk **Frame Technologies** 01544 267124 www.frametechnologies.co.uk **Potton** 01767 676400 www.potton.co.uk **Scandia Hus** 01342 838060 www.scandia-hus.co.uk **Scotframe** 01467 624440 www.scotframe.co.uk **Timber Innovations** 0121 314 7735 www.timberinnovations.co.uk **Turner Timber** 01482 218945 www.turnertimber.co.uk **Vision Timber Frame** 0118 971 2181 www.timber-frame-suppliers.co.uk

Could timber frame give you more space?

Kingspan Timber Solutions' Ian Loughnane reveals how high-performance framing could help you maximise value and floor area

If you're just setting out on the journey to creating your own home, there's a good chance you're quickly starting to understand three key rules in housebuilding. Namely that the market value of your home is driven by the floor area (the internal living space); the size of your project will be limited by the plot and planning permission (external footprint); and space comes at a cost.

The amount of internal floor area you build into your home is critical to its finished value. There are other considerations but the more usable space there is, the more it will be worth. Given that typical construction costs can start from around £1,400 per m², it's easy to see how simply building bigger will inflate your budget. Thankfully, there are ways to maximise space without breaking the bank. One smart way to do this is to use technology and advanced structural systems to release extra 'free' space within the overall house plan.

How can you find free space?

The answer is surprisingly simple: it's in the walls. When choosing a construction method, many people focus on cost alone rather than factoring in the thickness of the walls and how well they perform. There are many structural systems to choose from, and they can all easily achieve reasonable levels of thermal efficiency. You could do this simply by making the walls thicker and packing in more insulation. Alternatively, you might turn to renewable technologies to reduce your reliance on grid-based heating – but this is an expensive option, and the products can take up quite a lot of room.

If you want to improve performance without losing out on living space (and lowering your home's market value) then a better approach could be to invest in high-performance materials. Building improved thermal efficiency into the fabric

of your new home often represents excellent value-for-money when compared to alternative routes.

For example, using cutting-edge products such as Kingspan's Kooltherm within a slim timber structural wall build-up will deliver strong energy performance that can pay lifelong dividends. To understand how, let's look at some typical examples of wall fabrics with a heat loss U-value of 0.17 W/m²K. The below includes service zones and internal finishes where applicable:

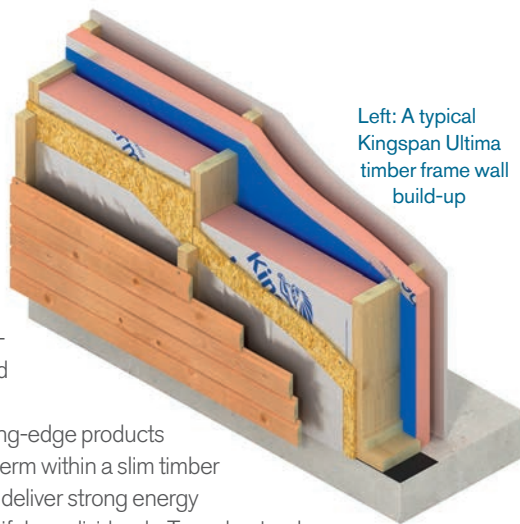
Construction type	Insulation type	Wall thickness to achieve 0.17 W/m ² K
Masonry (medium dense block)	Cavity blown bead	435mm
Masonry (medium dense block)	Cavity PIR board	380mm
Insulating concrete formwork (ICF)	EPS permanent formwork	451mm
Timber frame	Kingspan Kooltherm	312mm

This shows that both the construction system and type of insulation can have a big impact on finished wall thicknesses. The timber frame setup would give you 139mm more space around the external wall perimeter than the ICF walling, and 68mm more than the best of the two masonry options.

So on an 8m x 10m, two storey house, using 312mm-thick timber frame with high-spec insulation could net you almost 9m² of extra living space (137.9m² in total) compared to opting for a 435mm-deep masonry structure (129.5m²).

What could you do with the extra space?

The obvious option would be to live in it and take the chance to potentially increase your home's worth. In Cambridge's CB2 postcode, Zoopla* values detached houses at £6,437 per m²; so an extra 9m² of free space could add £58,000. At a rate of £1,400 per m², building this extra internal area would cost just £12,600 – potentially yielding a profit of £45,400.



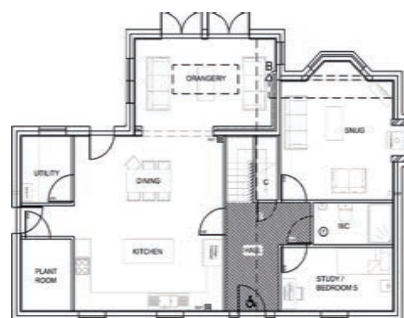
Left: A typical Kingspan Ultima timber frame wall build-up

Take the Kingspan Space Test and see how much space you could gain

The client for this Kingspan Timber Solutions project wanted to build a heritage-style new home. Taking the space test showed that using Kingspan Ultima insulated timber panels to achieve a U-value of 0.17 W/m²K on this 210.99m² project would allow for walls as much as 122.5mm thinner than a masonry solution. Given average house prices of £3,401.39 per m² (according to Zoopla*), this 10.547m² of extra room could yield a further £35,874.49 in the house's finished market value (adding 5% to its overall worth).

SPACE TEST RESULT:

Floor space in m ²	210.99
Linear metres of external wall	87.2
No. 90° corners	11
No. 270° corners	2
Extra space per 1m of external wall	0.1225m²
Total additional space attainable	10.547m²



Kingspan Timber Solutions provides professional support and high-quality systems for self builders who want to work with an external architect or house designer. **To get a quote and take the Kingspan Space Test call 01767 676400 or visit www.kingspantimbersolutions.co.uk/space**

*Correct at time of collating data

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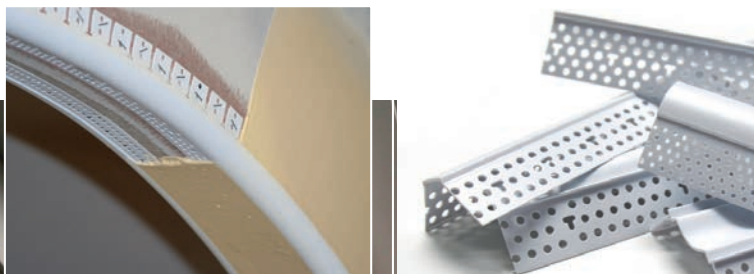
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FLOORING:

The main options

Emily Smith takes a look at the pros and cons of popular flooring solutions for your home



WOOD

Benefits: It offers character, style and a high quality finish – plus it's a good sustainable choice, if responsibly sourced. "Solid timber is hardwearing, easy to clean and maintain and offers excellent strength and durability properties," says Naomi Russell from Russwood. "Engineered flooring has superior stability and can be used in bathrooms and kitchens." Bamboo is another robust alternative to hardwood that's strong and eco-friendly.

Style options: You can choose solid or engineered boards (usually available with a lacquered or oiled finish). While the former has the timber running through the entire board, the latter features a multi-layer format, with plywood at the core and a genuine wood veneer on top (up to 6mm). Both are available in a spectrum of colours, widths, lengths, grades and finishes, and can be used to create patterns. "Before you buy, always see a sample and fully understand the level of variation that will occur across the surface," says Vanessa Garrett from Broadleaf Timber. "Grey wood floors, both contemporary and rustic, remain at the top of the trend charts, along with parquet, particularly vintage styles in block and chevron designs."

Maintenance: While engineered wood can cope with water better than solid products, both can be damaged by exposure to excessive moisture, so avoid steam cleaners and soaking mops. "Use a vacuum, flat mop or regular brush," says Naomi. "Then keep clean using a specialist wood product such as Osmo Wash and Care, which will remove dirt and refresh the floor without leaving a residue." Avoid dents and scratches by putting pads under furniture – and don't walk on the floor in stilettos. While solid wood can be sanded down to remove blemishes, the thin top layer of an engineered floor can only be sanded a few times, so it's best to take care.

Cost: Be aware that the species you choose will affect the price. Engineered wood floors are generally cheaper than solid, starting from around £25 per m². Expect to pay between £55 and £95 and beyond per m² for well-machined boards with a high-quality finish. Bamboo surfaces start from around £24 per m².

The tartan style on Brintons' Abbotsford range looks good in traditional and modern settings. Shown here is the Heather Kilgour pattern – an 80% wool and 20% nylon mix that costs £69.99 per m²



CARPET

Benefits: Soft, warm and cosy underfoot, this covering continues to be a staple flooring choice, as it has been for decades. It keeps its shape well, the fibres maintain heat, and it offers good acoustic insulation. There are many varieties available, meaning there's bound to be something to suit every budget, room and aesthetic preference.

Style options: Carpet comes in a plethora of colours, patterns, weaves and thicknesses. There are two main types of materials used: manmade/synthetic (such as polypropylene) and natural fibres (such as wool). The pile relates to how the carpet is created and its thickness. Go for a deep weave and you'll have a luxuriously soft floor, popular for living rooms and bedrooms.

Alternatively, a short weave is better for high traffic areas, like hallways.

The tog rating refers to the heat retention it provides (higher numbers mean it's more insulating), which is important to know if you're installing UFH. "When buying and installing a carpet, consider the room, colour scheme and whether you want a plain or patterned design," says Natalie Littlehales from Brintons. "Leave the measuring to the experts and make sure you buy a good quality underlay."

Maintenance: It's fairly easy to keep carpet looking brand new – regular vacuuming does the trick, plus there are many affordable stain removal products available. "Lots of carpets now come with stain and wear warranties," says Mark Canning from Flooring Megastore. "A competitively-priced manmade carpet is likely to have at least a five-year warranty, up to top of the range products backed with as much as 20 years' protection."

Cost: Prices for synthetic carpets range from as little as £6 per m² for a budget product from a DIY store, up to around £25 per m² for a high-end option. Natural fibres generally cost more – between £15 and £50 per m² for wool carpets. Check if the underlay is included in the quote.

Underfloor heating: You'll need a specific type of underlay if you're pairing carpet with UFH. Plus it's always worth checking what tog value the heating can support before you buy the covering.

Underfloor heating: Not all wood flooring is compatible with underfloor heating (UFH), so always check with the supplier. "There are just as many unsuitable engineered wood floors as solid ones when it comes to pairing with this technology," says Vanessa.

Top left: The Italian Collection engineered wood flooring available from Havwoods is FSC certified and costs £41 per m². Here it's placed in a chevron pattern

TILES

Benefits: Hardwearing, robust and low-maintenance, tiles look great in both traditional and contemporary homes. They can be used across floors and walls for a seamless look that's great for high-moisture areas. "Tiles won't trap dust and they're easy to clean, so they're a practical option for allergy sufferers or households with pets," says Colin Roby-Welford from Fired Earth.

Style options: Porcelain and non-slip ceramic tiles are robust, so work wonderfully in high-traffic areas. Porcelain is denser and less porous, making it suitable for external applications. Stone, slates and terracottas are naturally porous and will require sealing to protect them from stains. "Marble products are a glamorous and tactile choice for bathrooms, while travertines and limestones work well in kitchens, living rooms and hallways," says Colin. Pattern is another key consideration, but this doesn't have to relate to the look of the tile itself, as you can create interesting layouts with the units themselves. "Shaped varieties, such as hexagons and chevrons, are really popular; even the simplest units can be configured in different and imaginative ways to add visual interest and a sense of texture to a room," adds Colin.

Maintenance: "Tiled flooring will require regular vacuuming or sweeping; make sure that anything with the potential to stain is wiped up quickly. But as long as it's cleaned with non-abrasive products and is regularly maintained, the surface can last for decades," says Dan Morris from Mandarin Stone.

Cost: Prices range drastically, from as little as £18 per m² up to £100 and more for high-end products.

Underfloor heating: Tiles work wonderfully in partnership with this tech, meaning you won't need to worry about a cold floor. But it's always best to check with the manufacturer before buying.

The Auvergne Grigio Porcelain range from Mandarin Stone has a distressed surface that offers rustic charm. It costs from £27 per m²



Available in a range of colours, Harvey Maria's Neisha Crosland Parquet vinyl floor tiles cost £44.80 per m² and come with a 25-year warranty



VINYL & LINO

Benefits: Luxury vinyl tiles (LVT), lino and cushioned vinyl are all extremely easy to clean and maintain, plus the covering is warm and comfortable underfoot, and less slippery than ceramics. "Vinyl is a type of resilient flooring that's particularly known for its durability, pattern and colour range. The term lino traditionally applied to linoleum, but has now become associated with cushioned vinyl products available on a roll – generally less durable than LVTs, but cheaper," says Mark Findlay from Harvey Maria.

Style options: These types of surface offer fantastic versatility when it comes to appearance, whether that means mimicking the intricate detailing of other covering options or offering a vibrant hue or pattern. "LVTs are generally engineered to look like wood or stone flooring, meaning you get the visual benefits of a natural product without

the maintenance of wood or the potential breakage of stone or ceramics," says Mark Canning from Flooring Megastore.

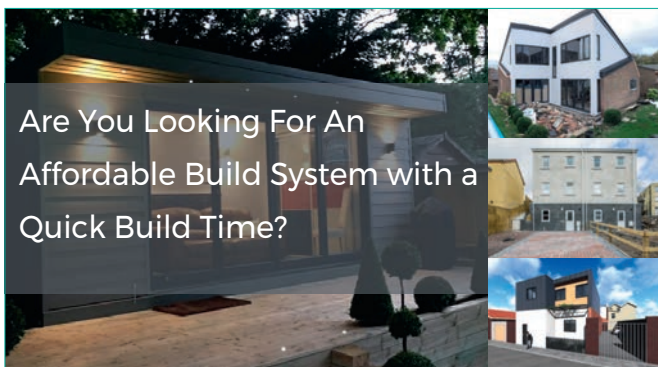
Maintenance: Vacuum, brush or use a damp mop to clean. "We recommend that you avoid using steam cleaners with LVTs. Plus it's always advisable to stick to maintenance products that have been specially formulated for use with associated products," says David Bigland from Moduleo.

Cost: LVTs can be affordable, but be aware that the price will vary dramatically depending on the style, thickness and intricacy of design; costs range from approximately £20 per m² up to £70 per m². Expect lino and cushioned vinyl to come in much cheaper.

Underfloor heating: All of these flooring types are compatible for use with underfloor heating, but double check with the supplier.

CONTACTS

Bamboo Flooring Company 0116 274 1050 www.bambooflooringcompany.com **Brintons** 0800 505 055 www.brintons.co.uk
Broadleaf Timber 01269 851910 www.broadleaftimber.com **Domus** 020 8481 9500 www.domustiles.co.uk **Fired Earth** 0113 243 0748 www.firedearth.com **Flooring Megastore** 01622 790356 www.flooringmegastore.co.uk **Floors of Stone** 01509 234000 www.floorsofstone.com
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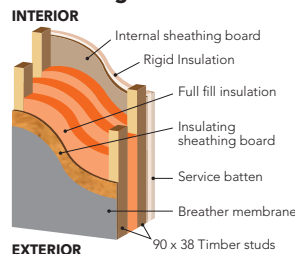
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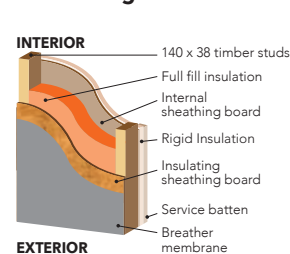


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Guide to solar PV & battery storage



Converting natural light into electricity, photovoltaic panels reduce reliance on fossil fuels, with battery storage further extending their benefits. Nigel Griffiths looks at whether they're worth the payback times

From an environmental point of view, photovoltaic (PV) systems seem instinctively attractive. By taking light (photons) and transforming it into electricity (volts) – hence the name – we can generate electricity from the sun's rays. This method of electricity production is clean (in use) and displaces fossil fuels, reducing but not eliminating reliance on the grid. PV can in theory provide power anywhere, which is known as distributed or local generation.

Photovoltaic cells produce very small amounts of electricity so they are grouped together into modules. A panel consists of several modules linked together. Panels that are grouped are known as an array.

The power generated by PV cells is direct current (DC) at low voltage. Unless the power is being used solely to run low-voltage DC appliances, it needs to be converted to 240V AC (alternating current, ie normal domestic electricity) by means of an inverter. A cable hooks the panels up to the inverter and the system is then connected into the mains. Unused electricity can be exported to the grid.

Generation is silent and, once the array has been installed, the electricity produced is free. Panels may

be expected to last 25-30 years and require little or no maintenance, although inverters may need to be replaced once or twice during the life of the panels.

Output from PV systems is measured at the peak rate of production (usually at around midday), and described as kWp (kilowatts produced at peak). A 1kWp system in a good location may be expected to produce 800kWh (kilowatt hours) of usable electricity per year. This is equivalent to approximately 25% of the average annual consumption of electricity per household in the UK (not including heating uses). The maximum size of domestic installations is governed by the size of single-phase supply cables and thus generally limited to 4kWp.

The optimum site

Solar PV is normally mounted on south-facing roofs, although any orientation south-east to south-west will perform relatively well. However, be aware that over-shading from trees or surrounding buildings could reduce the power output. The ideal angle for mounting panels at this latitude is 30°-40°, which works well with the roof pitches commonly used in the UK. Arrays can also be installed on flat roofs, using suitably angled mounting brackets. Apart from the inverter and perhaps a meter, PV generation systems do not take up any internal space.

How effective is PV?

Most sites aren't appropriate for wind turbines, and a hydro resource is very rare, so PV is really the only option for people keen to generate their own electricity. However, the solar resource in the UK is somewhat limited (the

Above: Solar PV panels should ideally be sited on a south-facing roof at a 30°-40° angle

output from PV systems is 50% higher in California than it is here, for example), though arrays in the south of England will fare rather better than Scotland.

For obvious reasons, PV can only generate power during daylight hours, plus it's only really effective when the sun is well above the horizon. Cloud cover can reduce output, as will the shorter days in winter months. What this means is that power is not produced when domestic demand for electricity is at its highest – ie, in the morning and evening.

Without battery storage, and unless you are at home during the daytime using power for washing machines and other electrical appliances, a significant proportion of your PV array's output would be exported to the grid. By the same token, you will still need a connection to the grid to provide power in the evenings and early mornings.

The Feed-in Tariff (FIT)

PV has been widely deployed in the UK in the last few years thanks to the subsidy provided through the Feed-in Tariff (FIT). This was initially set very high (41.3p/kWh), which provided a huge boost to the market, but the rate has been sharply reduced due to the cost of the scheme.

For installations below 10kWp, the FIT currently provides a fee of 4.14p per kWh generated, guaranteed for 20 years. This is known as the 'generation tariff'. To qualify, your house must have an EPC rating of D or better (check out the Ofgem website for a list of eligibility restrictions).

In addition, a further subsidy is paid for any energy exported to the grid. In most cases this is not measured

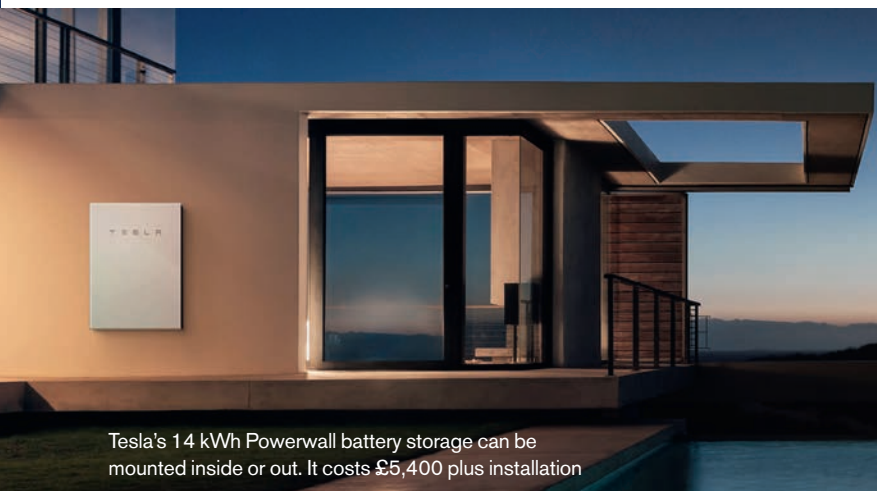


the export tariff of 5.03p/kWh on half that energy (£80), the combined income and saving would be £452, which reduces the payback period to a more palatable 13 years.

Battery storage

The timing mismatch of electricity demand and PV supply can be partly solved through the use of battery storage. Instead of exporting excess generation to the national grid, the power can instead be stored on site and used

Above: This Staffordshire renovation includes a sizable solar PV array. Unused energy is diverted to the water tank, so it's used for hot water instead of being diverted to the grid



Tesla's 14 kWh Powerwall battery storage can be mounted inside or out. It costs £5,400 plus installation

but 'deemed' to be 50% of the amount generated – in other words the government assumes that you will use 50% of what you generate and export the rest to the grid. For each kWh assumed shipped off site, the scheme pays an additional 5.03p – known as the 'export tariff'.

Payback periods

This is the amount of time it takes an investment to be repaid by the savings (or income) it achieves. For example, a good quality 4kWp system may cost £6,000. Based on an output of 3,200kWh per year, 50% being used on site and a price of 15p/kWh for imported power, this would save you 1,600 x £0.15 = £240 per year in electricity bills. Without subsidy, you'd therefore get payback in 25 years.

However, taking into account the FIT generation tariff of 4.14p/kWh for all 3,200kWh being produced (£132), plus

in the evening and at night when the panels are not generating. Battery technology has improved recently and prices have fallen, so storage has the potential to improve the effectiveness of PV systems significantly. However, it does substantially increase this technology's costs – and of course batteries take up space, too.

Battery storage systems can be supplied with new installations or they can be retrofitted to existing arrays, depending on whether they store at low voltage DC or higher voltage AC – ie after the inverter. They are rated in terms of how many kWh of electricity they can store, and domestic setups range in size from 2kWh to 16kWh.

The output is also important – if your main usage at night is short bursts of high power uses, such as kettles or electric showers, then a battery with a low power output won't reduce your grid demand that much. But it will still be

EXAMPLE PAYBACK CALCULATIONS

Size of system	4kWp
Cost	£6,000
Output (@800kWh per kWp)	3,200kWh per annum
Cost of electricity	£0.15 per kWh
Proportion of generation used on site	50%
Energy saved (50% of 3,200)	1,600kWh per annum
Financial saving (£0.15 x 1,600kWh)	£240
Generation tariff at £0.0414 on 3,200kWh	£132
Export tariff at £0.0503 on 1,600kWh	£80
Total saving	£452 per annum
Payback with subsidy (£6,000/£452)	13 years

Integrated systems, like this one on a Hampshire housing development from GB-Sol, allows the solar array to be installed from verge to verge – or the whole roof, if required



able to satisfactorily supply devices with a lower power demand, such as fridges or lighting circuits.

Batteries are expensive, so when buying one it is essential to know how long they are expected to last.



Above: Powervault's home energy storage system is the size of a washing machine, and costs between £2,100-£5,400 (plus installation) depending on capacity and battery type

Some manufacturers warrant their products for a fixed number of cycles (which refers to a complete charge up and discharge of a battery). By dividing the cost of the battery by the number of cycles it's warranted for, you can work out how much this will add to the cost of generating your electricity. This relates to a complete cycle, so if a battery is only 50% charged and discharged (say, from 25% to 75% and back again) then this would only be 50% of a cycle.

For example, if a £4,000 system is warranted for 4,000 cycles then this would add £1 to the cost of each cycle (although, of course, the battery may last longer than its warranted number of cycles). If the storage capacity is 4kWh, this equates to an extra cost of up to 25p per kWh, which is higher than the price of buying in grid electricity at around 15p per kWh.

Although battery costs have come down recently, it is not clear whether they will deliver a saving; unless you are completely off-grid. Battery storage systems may make more economic sense if you have a definite use for the excess power, such as running an air source heat pump or an electric car. Surplus energy generated during the

daytime could be used to recharge an electric car overnight, eliminating exports to the grid completely.

The addition of battery storage to a PV system does not currently affect the export rate payable under the Feed-in Tariff – it is still assumed that 50% of the energy produced is exported. The whole idea of battery storage is to increase the proportion of self-generated power that is consumed on site and reduce the amount exported to the grid, so this is an extra win for owners of storage systems.

The environmental impact

In addition to the financial returns, it is also important to consider the environmental impact of PV and battery storage systems, both in their manufacture and in their recycling or disposal at end of life. For example, research indicates that it will take three to four years for a small PV system in mid Europe (the location matters because the latitude determines output) to repay the energy cost of manufacture and installation, although some estimates are higher. Research is only now being carried out on how



Garages and outbuildings can make useful sites for a solar PV array, particularly if you can construct them facing south. This project is by Environment Logic

spent modules should be recycled at the end of their life. The impact of recycling is generally excluded from calculations of the energy payback period, as is the effect of reconditioning or replacing the inverter at least once.

Batteries add further to the environmental ramifications, especially as they are not expected to last as long as the generation system. Lithium iron phosphate is the type of battery most commonly used: happily, they take up less space than lead-acid versions and are less toxic.



Pictured here are tile-width solar panels used in a Barratt eco-development in Northamptonshire

CONTACTS

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Powerwall www.tesla.com

NIGEL GRIFFITHS



Nigel Griffiths is director of the Sustainable Traditional Buildings Alliance (www.stbauk.org) and a consultant working mainly on energy efficiency policy and evaluation. He specialises in sustainable construction and building performance and is the author of the Haynes *Eco House Manual*.

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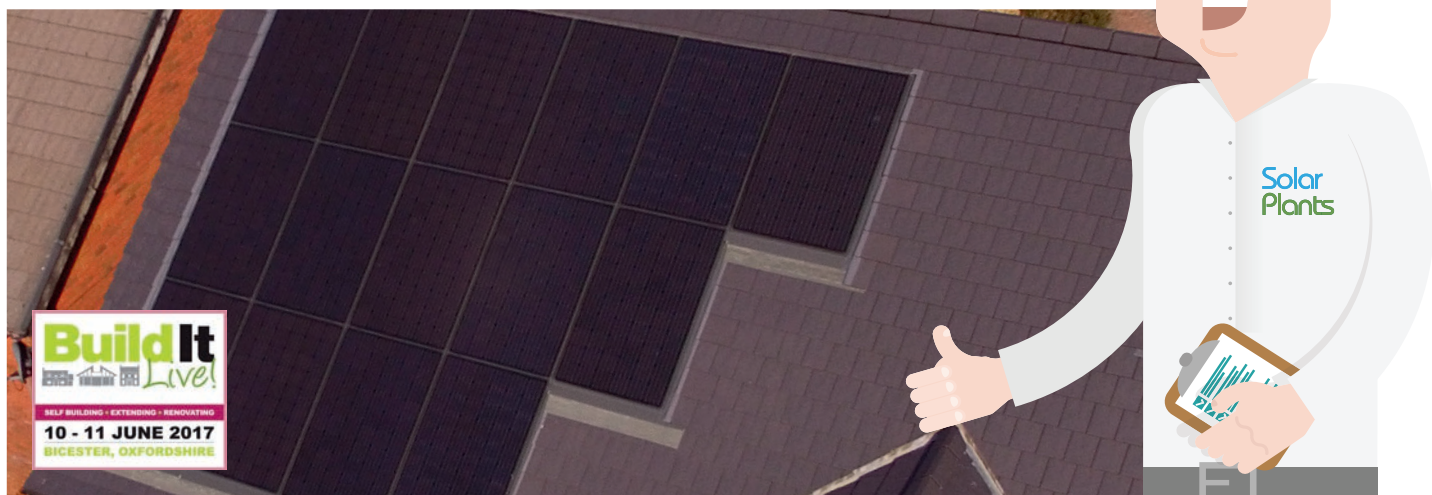
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Bifolds vs sliders: which option suits your project?

Sun-soaked interiors, garden views and a harmonious connection between inside and out are just a few of the benefits glazed doors can bring – but which setup is right for your project? We speak to the experts to find out

A vibrant living space bathed in natural light is something that many of us fantasise about when it comes to planning our self build, renovation or extension scheme. As well as drawing plenty of sunshine inside, a glazed entrance can help you frame prized vistas and establish an unbroken connection between inside and out.

Sliding and bifold doors represent a straightforward route to accomplishing all three goals at once. However, there's more to choosing between these two options than just aesthetics – functionality, thermal performance and cost all play a vital role, too. We've rounded up a panel of industry experts to answer key questions and help you decide which solution is best for your project.

Above: The owners of this house specified sliding doors from The Caulfield Company to make the most of the garden views. Minimal vertical mullions, measuring 34mm across, ensure that the vistas are not broken up by bulky sightlines. Priced from £15,000, the Cero range of sliders is available with double or triple glazing

MEET THE EXPERTS

- Peter Watkins** General manager of Centor Europe
Tony Wiggins Managing director of Folding Doors 2 U
Carl Farrow Technical development manager at IDSsystems
Matt Higgs Sales director and co-owner of Kloeber
Neil Ginger CEO at Origin
Mike Lane Managing director of Schueco

Q: I WANT TO CREATE A SEAMLESS CONNECTION WITH THE OUTDOORS – SHOULD I GO FOR BIFOLDS OR SLIDERS?

Tony Wiggins says: As they can stack back to reveal an opening of up to 90% of the full door frame, bifolds are probably still the most popular option when it comes to creating an unbroken flow with the garden – but the demand for sliders is growing. The latter can be formed of wider glass panels, which means there are fewer mullions to interrupt the views. The development of lift-and-glide mechanisms also provides effortless opening for the heavier swathes of glass that form sliders.

Matt Higgs says: If you really want to create one space inside and out, then it's good to open up the whole aperture when possible. For that reason, I'd go with folding doors for gaps up to 4m or 5m wide. However, it all depends on the context and how you want to use that zone of the house. For example, if you're going to have the doors closed most of the time and seldom use the outside space then sliders might be better – but only if the opening is a large one that can take full advantage of using broader panes of glass.



Supplied by Origin, these bifold doors stack back to reveal an opening that spans almost the entire width of the aperture. The company's bifold systems cost between £1,000 and £1,400 per door leaf, depending on the size and number of panels used

Q: WHICH OPTION WILL MAXIMISE THE INTERIOR FLOORSPACE TO ACHIEVE A SLEEK, MINIMAL LOOK?

Mike Lane says: Bifolds take up floor space if they fold inwards. If they open outwards, more care must be taken when using the entry in windy conditions – this applies particularly to the access leaf. On the other hand, sliders take up no room internally. Also, there are no potential problems concerning open panels being blown by strong gusts. Schueco's sliding doors are offered in single, double and triple track versions, so it's possible to have the leafs glide back from one half to two thirds of the aperture.

Carl Farrow says: It's true that the frames of sliding doors have a slimmer profile, so when you're sat inside looking out at the garden, this option would seem more minimal in its appearance. However, it's worth bearing in mind that the bottom-running tracks on folding doors are usually smaller than their sliding counterparts. So when it comes to creating a threshold with reduced visual impact, folding doors win.

Q: OUT OF BIFOLDS AND SLIDERS, WHICH SETUP WILL DELIVER THE BEST THERMAL PERFORMANCE?

Matt Higgs says: That's a hard one to answer! There are lots of different systems out there that will achieve varying levels of airtightness. In terms of U-values (a measure of heat loss, where smaller numbers are better) the outcomes are very similar for both sliders and bifolds and would really be determined by the kind of glass the panels can accommodate.

If you're working with very large expanses of the material – as you might be with sliding doors – it can be difficult to incorporate triple glazing due to the extra weight involved. With very broad swathes of glass there's also more flex in the pane and frame, so some larger sliders can present issues with airtightness if the surrounds aren't beefed up to cope with the extra stress. In terms of Kloeber's range, which includes both products, bifolds have the edge when it comes to U-values.

Q: IS THERE A SIGNIFICANT DIFFERENCE IN COST BETWEEN BIFOLDS AND SLIDING DOORS?

Neil Ginger says: Cost is often the deciding factor in any purchasing decision. On average, to buy, glaze and install high performance aluminium bifold doors, it can cost anywhere in the region of £1,000–£1,400 per door leaf. This will depend on the size and number of the panels, but with a good quality product, you will be getting what you pay for.

Carl Farrow says: Our sliding doors start at £1,200 per linear metre and our bifolds are from £1,250 per panel (each leaf can be up to 1.2m wide), so there's very little to differentiate between the two systems.

Q: WILL BIFOLDS OR SLIDING DOORS PROVIDE THE MOST CONVENIENT ENTRY POINT TO THE DWELLING?

Mike Lane says: For everyday access, a sliding door is not as easy to use as a hinged door. This is because the panel is generally heavier to push back. However, sliders do offer a wider opening than conventional patio doors that can be useful for moving large objects, such as furniture, in and out of the home.

Peter Watkins says: Folding doors will work as an effective entry point, as long as the panel configuration is considered carefully in advance. It's worth discussing this with your supplier or architect, who will be able to help you put together a solution that's right for your scheme. Arrangements with an odd number of panels can be installed with a single access door at one end to allow occupants to pop in and out quickly. Even-numbered configurations do not have a standalone access leaf, so entry from outside through closed doors is not possible.



This four-panel Visofold 1,000, supplied by Folding Doors 2 U, features aluminium frames in anthracite grey. A similar setup would cost within the region of £3,600

Q: WHICH OPTION HAS THE EDGE WHEN IT COMES TO EASE OF INSTALLATION?

Peter Watkins says: As a supplier of both types of glazed entrance, we'd always recommend consulting a structural engineer to get the right advice for your project. On one hand, folding doors can be top-hung or bottom-rolling. If you're opting for the former, a steel lintel is required to support the panels and ensure they'll work well for years to come. Because of the extra structural work involved, this solution makes more sense if you're tackling a large extension or renovation project. Bottom-running products only require support for the weight of the head of the door in the structural beam, so are often specified for smaller schemes. Sliding doors are supported on this kind of track too, so it could be argued that they're more straightforward to install than folding versions.

CONTACTS

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CLOSER
LOOK

Bifolds add the wow factor

Kloeber worked with Harvey Norman Architects on the extension and remodel of this semi-detached Victorian dwelling in Cambridgeshire. Keen to boost the sense of light and space inside their home, the clients briefed the designers to develop a bright and airy living and dining area.

In addition, a new playroom has been positioned off the dining zone, which can be partitioned off from the rest of the house. To the rear of this area, the homeowners added a downstairs

external doors to establish consistency. As the clients were keen to create a flexible living area that could be adapted to suit the needs of the family, the panels can be drawn shut to zone off the room when less space is required. Obscured glazing screens the children's toys from view.

The upper-storey of the extension accommodates an ensuite bathroom. A projecting feature window has been added to the bedroom, with a seat incorporated into the bay. Made from aluminium, this casement unit was



TOP TIPS FOR CHOOSING BIFOLDS



Matt Higgs, sales director and co-owner of Kloeber, shares his expert advice on how to specify the right bifold doors for your project

- When choosing your bifolds' configuration, it is vital to consider how you use the room they're going to be in, and how the entry point functions. An odd number of panels that stack to one side will automatically give you one leaf that operates on its own as a master door. This is usually the preferred arrangement to provide access from outside. If you install an even number of leaves that all fold one way, this will mean you can't access the door from outside when it's locked inside. You can still have a master door with an even number of panels, but this will need to open in the opposite direction to the rest of the units.
- It is important to get the threshold right. The beauty of being able to open a large space up to the outside can be completely lost if this surface isn't flush with the floor. Try to get the flooring inside and outside as level as possible to give you a seamless flow between inside and out.
- Choose a frame material that suits your project. Whatever you specify could be based on something as simple as personal preference, performance or budget. However, generally, the more you spend the better the product you'll get. Timber is solid, strong and a natural insulator. Aluminum is low-maintenance and slimmer frames are available because of its innate strength. Composite goods (timber inside with aluminum outside) are strong and require little upkeep – but bear in mind that they will be more expensive.



cloakroom and utility room in order to accommodate the washing machine and tumble dryer, opening up more cupboard space in the existing kitchen.

On the ground floor, two sets of Kloeber's aluminium Kustomfold bifold doors have been positioned at right angles. These were specified to be 2.4m, as opposed to the standard 2.1m, to complement the high-ceilinged Victorian rooms and to draw in the maximum amount of light from the courtyard garden. Both sets of doors were manufactured in a three-unit configuration. Each features a single access door that can be used when occupants want to nip in and outside.

Inside, Kloeber's timber Interfold bifolds were chosen for the new playroom. These were manufactured to the same height as the aluminium

supplied by Kloeber and matches the one in the utility area on the ground floor. The upper-level window features a striking lead surround to add aesthetic interest to this elevation of the house. Aluminium frames were chosen for all of the new glazing products to offer easy maintenance, as well as to provide a contrast to the traditional appearance of the original property.

"Working closely with Harvey Norman Architects on a local project like this was absolutely perfect for us," says Matt Higgs from Kloeber. "The contemporary design-led scheme was also well-suited to our range of aluminium products. The result is a clean, understated yet stylish property, with close attention to detail underpinning a high-end finish throughout."

For more information about Kloeber call 01487 740044 or visit www.kloeber.co.uk

**CLOSER
LOOK**

Sliding doors bring the outside in

David and Theresa Beckett had always loved the idea of transforming a traditional house into a modern, light-filled home. Located on the edge of woodlands in the rural Hampshire countryside, their 1950s semi-detached cottage simply wasn't suitable for modern living, offering the perfect renovation opportunity.

The Becketts approached Adam Knibb Architects to review the property and produce ideas for a whole house renovation and extension. The revision called for the existing structure to be completely gutted and transformed from a house filled with small, dark rooms into a contemporary open-plan home. The ground floor was extended and a 10m wide, five-panel sliding door setup by IDSystems was installed across the rear. This works to fill the space with natural light, while offering clear views of the garden and beyond from inside the kitchen-living zone.

The teams at IDSystems and Adam Knibb Architects worked closely together to create a glazed door configuration that worked efficiently with the layout of the house. The open-plan area is split into living space and kitchen, so the way the glazed span opens reflects this. An innovative three-left and two-right arrangement offers flexibility for the large room – whether that means creating an aperture for just the kitchen, lounge or opening it out completely for the whole zone.

The sleek, aluminium profile of IDSystems' Grand Slider doors offers a clear and defined break between the glass and the white, solid wall surround. These units are priced from £1,200 per linear metre, including fitting.

Upstairs, the side return extension has been used to form a master suite. David and Theresa took advice from IDSystems about how to maximise dual aspect views in their new bedroom – over the woodlands to the rear and towards the open farmland at the front. They decided to include a second Grand Slider system; the two-leaf setup maximises light and vistas, while



breaking down the divide between house and surroundings.

"The property's transformation has been dramatic, but the finished home perfectly meets David and Theresa's original requirements," says Adam Knibb. "The open-plan living space

"We are incredibly grateful to Adam Knibb Architects and all those involved for their fantastic help in transforming our home," says David. "We wanted contemporary, clean spaces that maximised natural light and we were delighted they were able to bring this to



TOP TIPS FOR CHOOSING SLIDING GLAZED DOORS



Simon Ball, senior project advisor at IDSystems, advises on how to successfully include sliding doors in your home

- As sliders glide from side-to-side rather than stacking back-to-back (like bifolds do) the glass panels can be bigger and the door frames smaller. This setup will help to maximise views of your garden and beyond from inside, working to connect your house with its surroundings, even when closed. The minimal frames also allow as much natural light as possible to pour into your property.
- The width options for sliding doors are almost limitless. IDSystems' Grand Slider or theEDGE glazed doors can achieve an

overall span of 24m. Each panel can be as narrow as 600mm wide and as broad as 3m, making them a versatile solution for almost any size and type of project.

- The most common configuration of multi-panel sliding door systems is for leaves to glide in one direction to stack flush behind a fixed unit. However, there is a huge variety of arrangements available depending on the size of the opening and the requirements of the project – from panels that slide back on both sides from a central point through to those that glide into a pocket in the wall to create a complete aperture.
- Given the size of the panels and the weight of the glass, we always recommend for sliding glazed doors to be bottom-running, rather than hung from the top.

is unrecognisable compared to what it was and the Grand Slider glazed doors work perfectly for connecting the house and its garden. Achieving the Becketts' vision of how their finished property would perform wouldn't have been possible without the large glass panels we introduced via sliding doors. IDSystems' team offered innovation and created the perfect configuration; their support was invaluable."

fruition, while also being a supportive guide from start to finish. At the outset, I'm not sure we really appreciated the true value that a talented architect and the advice from experts such as IDSystems would bring to the project – we certainly understand that now."

For more information about IDSystems call 01603 408804 or visit www.idsystems.co.uk



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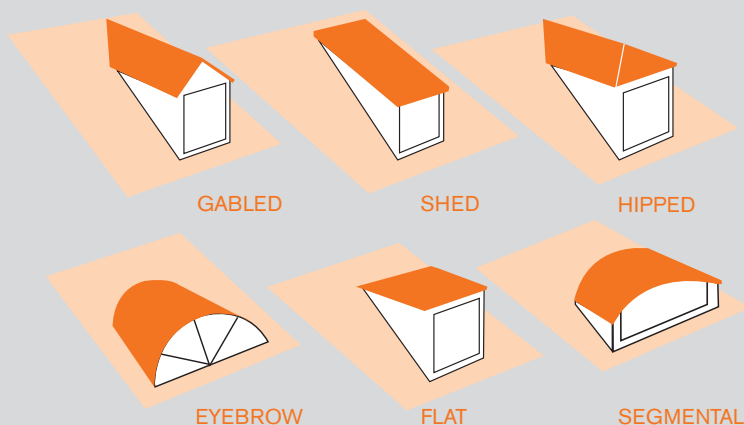
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Dormer windows

Inserting a window into the slope of the roof could be the best way to maximise space in your home, but it's got to look right outside.

Emily Smith investigates the options



Whether you're converting a loft or building a new one-and-a-half storey home, a dormer could be the best way to bring extra headroom and daylight into the upper level of your property. Dormers come in all shapes and sizes, but they're notoriously difficult to get right in terms of how they blend in with the rest of the dwelling. There's a fine line between gaining as much space as possible inside and making sure it looks in proportion with the other external features. Get it right and you'll have a practical, attractive feature; get it wrong and it'll be an eyesore that ruins your property's kerb appeal.

Architect Kieran Gaffney advises creating a model out of card so you can see the project in 3D. "We often do this to visualise the overall design; you'll quickly see if the balance is right," he says. The key thing to remember is that bigger does not necessarily mean better – read Kieran's advice on how to perfect the look in the Q&A box (opposite).

Deciding what style of dormer is right for your project will largely

depend on the outside appearance of your home. The trick is to be consistent, both with shape and materials – for instance, if you've got gable ends on your property then go with a gable dormer. Another thing to note is the pitch of the main roof – flat-topped dormers tend to work best on shallow coverings because they don't need as much height as some other designs, for example.

While dormers at the front of the house will need formal planning permission, rear additions normally fall under permitted development (PD) rights. But remember that rules change depending on where you live, so it's always advisable to seek guidance from your local authority. There are also regulations about how much space can be added inside the house – 40m³ for terrace properties and 50m³ for a semi or detached house. Most dormers will fit into these brackets, but you may need to re-think if you're planning to add a full-width style.

Top: Here are the main style options – the right shape for your property will depend on the style of the external appearance and the pitch of your roof

Gabled designs are probably the most common type of dormer for UK houses. This example protrudes out from a low pitched roof, which overhangs to offer a sheltered veranda area. Two rooflights flank the window to provide ample daylight upstairs



Eyebrow dormers have been included in this new build Arts & Crafts-style house in Sussex. The windows are from the Performance range at Green Building Store and are triple glazed to offer good energy efficiency. They are tiled in seamlessly with the roof

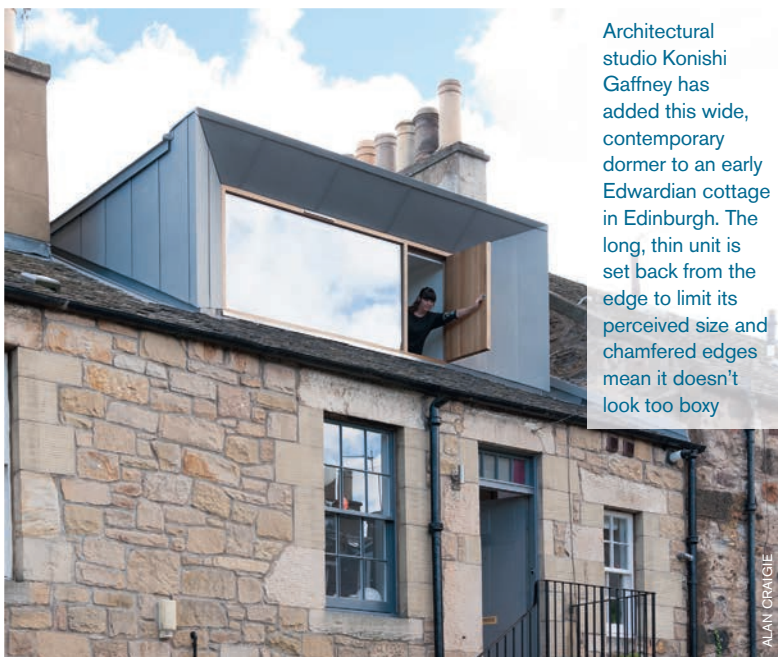


There were only two small dormers in situ when Threefold Architects converted the roof space of this Victorian mews into a master suite. The team decided to add three larger flat-roofed dormers to optimise both space and light on the top floor

Segmental dormers feature an arched top that gives instant traditional appeal, which is perfect for these rooftop windows on a period property in Kent. The look dates back to the 19th century and is particularly popular in France



The Paynes had gained planning approval for a four-bay garage next to their house, but they adapted it to provide a home for one of their parents. Their local authority didn't want the size or scale of the plans to be changed, but this wasn't a problem as three large hipped dormers allow ample headroom on the first floor, while still maintaining the external appearance of a single storey garage



Architectural studio Konishi Gaffney has added this wide, contemporary dormer to an early Edwardian cottage in Edinburgh. The long, thin unit is set back from the edge to limit its perceived size and chamfered edges mean it doesn't look too boxy

THE EXPERT VIEW



ARCHITECT KIERAN GAFFNEY
FROM KONISHI GAFFNEY ANSWERS
YOUR QUESTIONS ABOUT DORMERS

Q How can I decide what size dormer is right for my house?

These windows jut out of the roof shape to create more headroom, but the bigger they get, the uglier they tend to look – the trick is to make sure they do the job while looking aesthetically pleasing outside. Details like this need some expert input, so work with an architect to get it right. Try to keep dormers small and thin and be consistent with style – stick to a sleek appearance if the house is contemporary and use proper traditional details to remain in keeping with a period look. It's best to avoid using too many materials, so keep it simple.

Q How much headroom can this feature bring to a loft conversion?

Often more than you think. Modern box dormers can add lots of room and look wonderful inside, but can sometimes look out of place externally. The size required really depends on the height of the roof. If you're converting a loft that has a very low ceiling then you'll need a bigger dormer, but go smaller if you have a deep pitch and can stand up easily inside. Be aware that traditionally built roofs are often self supporting, so you may need to bring in additional structural support (usually a ridge beam). Your structural engineer and architect will be able to offer advice on what's needed.

Q It is possible to bring a contemporary twist to a dormer window?

Quirky designs can work, but it depends on the roof shape and space needed inside. Consider extending the glass around the edges into the haffitt (the triangular sides) for more views out and daylight in. Sometimes it works to break the rules by putting a modern-looking style into a period property – we did this on the house pictured below left – but it's harder to get this right.

Q When might a dormer be more suitable than adding another full floor on a new build?

While a complete storey is often preferable, there may be reasons why you're limited. You could face planning restrictions on how tall your house can be, for instance. Some planners also have limitations on how big the dormer can be, so it's always worth talking to your local authority prior to submitting an application for something like this. The positive thing about putting a dormer into a new property is that it's easier to make it feel well-integrated into the design than if you're retrofitting.

Q What rules and regulations are there for dormer windows?

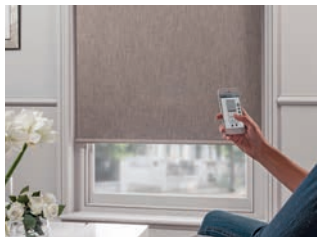
While you can use almost any window, remember that it's more exposed to the elements because it's positioned high. Think about protection against driving rain; setting the structure slightly back from the building edge or incorporating an overhang are good solutions.

You'll also need to make sure it's safe – there are guidelines to ensure nobody can fall out of high windows, so you might need a barrier of some sort. Also, you'll probably need to prove that the glass can be cleaned without someone leaning out and risking their safety. That could mean having the unit opening inwards or demonstrating there's a safe way of cleaning it.

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Home technology for better security



Matt Nimmons from CEDIA unveils how the latest technology could be utilised to create a high level security system for your property

A comprehensive security system should be both easy to control and effective in deterring any would-be intruders. You can take an integrated approach to connect your security system with other home automation facilities, such as lighting. These can all be controlled via tablet, smartphone or other mobile device, either by dialing into a network or simply sending a text message. Here are the main options when it comes to ensuring your house and its belongings remain unharmed.

Prevention

The first step to securing your home is to make sure it's near enough impossible for any intruders to break into. Pairing up the various parts of your home automation system will allow you to be alerted about anything that could compromise the security of your home.

Windows can be fitted with vibration sensors. If one is accidentally left open, a message will appear on your smart device. This will let you know exactly which unit it is so that you can quickly resolve the potential risk.

If you have a smart lighting setup, you'll probably have access to a holiday mode. Much like most standard timer switches, you can arrange for rooms to be illuminated at certain points in the day to make it look like someone's home even if nobody's in. But unlike conventional solutions, these intelligent systems will automatically replicate your household lighting habits without you needing to go through the rigmarole of setting numerous timers.

Don't just think about security in terms of the walls of your home; instead, extend the net all the way to the edge of your garden and driveway. Motion detectors can be programmed to sound an alarm and switch on



external lights, while automatic gates can be opened and closed remotely via your smartphone or tablet.

Cameras & control

Although you can use an audio entry system or even a standard telephone handset to control an integrated security system, many homeowners now choose to include a video entry and CCTV setup as standard. This enables you to see who's at the front door simply by looking at your television screen, which can be tuned directly into the CCTV channel without the use of any additional hardware – appearing as a pop-up when activated.

But while viewing security cameras on a TV screen is handy, it's even more useful to be able to control them online. Network cameras can be moved around at the touch of a button to focus in on different parts of the property. Audio and video footage starts to automatically record onto a large capacity hard disk drive as soon as its infra-red sensor detects movement.

What's certain is that individual homeowners will have different

PRODUCTS IN PRACTICE

This grade II listed former rectory is based in an area where petty crime is relatively high. CEDIA member, SMC (www.smc-uk.com) was brought in to protect the property and its surroundings by installing CCTV and access control. The company also provided a high spec intruder alarm and entertainment systems.

The CCTV setup consists of 43 cameras, which includes static, PTZ (pan-tilt-zoom) and dome units. The owners can view recordings on their smartphone or tablet, even when they aren't at the house. Contact and vibration detectors are embedded in every accessible window and door and PIR motion detection is used throughout the property as both perimeter and trap protection.

Access to the main driveway is controlled with automated gates and the cameras track any vehicle entering the estate as it approaches the property.



priorities and particular requirements for their security system. So the first step is for you to speak to your local CEDIA member company for advice on an automation solution that's tailored to your project, budget and lifestyle.



Matt Nimmons is managing director at CEDIA, an international trade organisation dedicated to advancing the home technology industry. From designers and manufacturers to integrators, CEDIA members gain access to high-quality training and certification, which ultimately goes into your project. **Visit www.cedia.org for more information and to find professionals in your area.**

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Striking staircase design

If you want to let light flow throughout your home and create an attractive feature, then an open flight may be perfect for your modern layout, says **Anna-Marie DeSouza**

It's an essential and functional item that will probably be one of the first things you see when entering your house – so don't forget to account for your staircase at the very start of your project. It will have a huge impact on the design of not only your ground floor, but the adjoining levels, too. So whether you are self building or renovating, this functional part of your project can provide a striking feature at the heart of your home. Done well, your new flight will give your dwelling a beautiful architectural element, but done poorly, you'll be left with an expensive fixture that jars with the overall style of your property.

A key consideration in many modern abodes is the flow of light, and there's no reason why your choice of staircase shouldn't complement this, whether you're opting for an open-plan layout or not. An open look will ensure natural brightness can permeate through it, and thankfully, it's a design feature that will suit a multitude of interior styles. If you're renovating, don't worry that the period of your home has to dictate what you choose to install. A contemporary

flight can complement an older house, and vice versa, if it's blended aesthetically with other key features.

Early considerations

Before you start planning your staircase, contemplate your ground floor arrangement as a whole and how the flight will impact upon it. For example, open-plan interiors mean you'll potentially be able to view the stairs from other parts of the house, so you have to think about how it will look from a variety of angles. In addition, consider traffic and how people flow around the house – where will the main approach to the staircase be?

It's a good idea to talk to a specialist as early as possible so that you can ensure your layout incorporates the fixture in the best possible way. "Choosing a specialist designer at the very beginning of a project is the most satisfactory solution for all concerned," says Richard McLane of Bisca. "Spatial design and awareness is crucial and so often overlooked as it's a human ability, not something that



Above: Sleek design and high-quality materials give make this contemporary flight an exciting feature in the hallway of this modern home. The floating style mixes oak treads and strings with toughened glass sub risers and cut string structural glass balustrades. The steps have all been treated with an anti-slip matt lacquer

can be generated by a 3D modeling package. Taking a walk around a property, listening to the interior designer/architect or client and then translating this intelligence into a staircase design that takes account of light, aesthetics and traffic is always going to be the optimum way of making the most of the space."

You also need to decide where you will source your staircase from. Will you work with your architect to create something bespoke, commission a flight from a joiner or specialist firm, or select an off-the-shelf design? If you are on a tight budget, then the latter route may best suit your



A slimline metal balustrade gives this flight by Ian Knapp Stonemason an open feel. The treads were hand-carved in an off white French limestone, called Roche Marron

CLOSER LOOK: MODERN TWIST



Hampshire-based architect Witcher Crawford created this bespoke glass, steel and timber fitting for a client's open-plan, contemporary home. The stunning staircase features a hollow ribbon of high-grade stainless steel, which gracefully spirals upwards, a feat of engineering that took many hours of careful planning. Richard Witcher, partner at Witcher Crawford comments, "The flowing elegance of this staircase hides a huge technical challenge. We had to plan this minutely to prevent people running up and down stairs causing resonances to ring through the steel and pull the pins out."

The architect specified thick glass panels to fill the spaces beneath the handrail at the top and bottom of the stairs, as well as forming the landing balustrade. Witcher Crawford worked with the specialist structural engineers employed by the fabricators, Littlehampton Welding, to ensure the design was both beautiful and robust.

finances – there are many good products available from around £2,000. The custom-made route will cost extra, from £5,000 for more standard examples to double that amount (and significantly more) for elaborate designs made from unusual and high-quality materials.

Opening up your flight

If you want to let light flood through your stairs, then there are a number of ways to achieve this. Perhaps the most

dramatic is a cantilevered design, which creates a floating feature. While the stairs appear to defy gravity, the steps are supported through concealed fixings within the treads and behind a supporting wall. It's essential that the connecting wall is strong and stable enough to take the load, so exactly how the structure is fixed will be governed by this, and may require a hidden metal sheet support mechanism or a similar alternative.

Cantilevered staircases can feature open or closed risers, with the former arrangement allowing maximum light to flow through. This type of

configuration works equally well on fixed staircases where the treads are attached to a steel spine or to side stringers. Leaving the vertical risers out means there's an open space between each tread, which are typically fixed to steel plates on a centrally-located support.

In terms of materials, timber is a popular choice, especially for the treads. It has a characterful appeal, is durable and will blend well with a vast range of other interior finishes. It is also a good option in terms of ease of attachment to the balustrade. Glass treads offer even more possibilities for letting light permeate through the

flight. Stone will give a striking and robust finish, but bear in mind that this will be more costly, not least because it will add extra weight to the staircase, which means the structure has to be stronger. Corian is emerging as an on-trend material, too, and can be used for both the tread and balustrading, giving a cool and sleek finish.

If you can't integrate a floating and open design, then there are ways to get the look and nod to these styles. Using glass balustrades will still allow a good amount of light to permeate through, as will styles with slim-line steel spindles. Some staircase companies offer in-built LED lights set on the underside of the tread overlap or on the riser – giving additional illumination to the flight. Making sure your stairs are well lit from above will also diminish the fenced-in feeling of enclosed styles.

Regulations

Whatever design you opt for, you'll need to bear the Building Regulations in mind (your flight has to be practical as well as attractive). "In general terms, the regs are there to ensure your stairs are safe and give guidelines on how narrow or steep they can be, the headroom requirements and numerous other factors," says Kathryn Mansi from Model Projects. "Download the guidelines from the Planning Portal (www.planningportal.co.uk) and if you're unsure of anything, talk to your design professional or your local building control officer. Discuss your ideas to guarantee your flight doesn't fall foul of the requirements. Don't commission something that may not pass muster, since it might lead to you having to rework the feature."

The Regulations stipulate a sphere of 100mm diameter must not be able to pass through any gap in the staircase, including at uprights on a balustrade as well as gaps between treads. An additional requirement is the overhang of the treads has to be 16mm or more, which again makes it harder for objects (and people) to fall through.



Above: This home by Welsh Oak Frame is perfectly complemented by the modern timber and cast iron staircase. The open treads are supported by a robust central spine that matches the balustrade

CONTACTS

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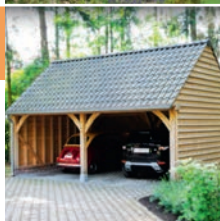
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A true statement piece, this staircase is made from corten steel and oak with glass balustrades. **For this project, Spiral UK provided the shell and glass elements, which cost around £60,000; www.spiral.uk.com**



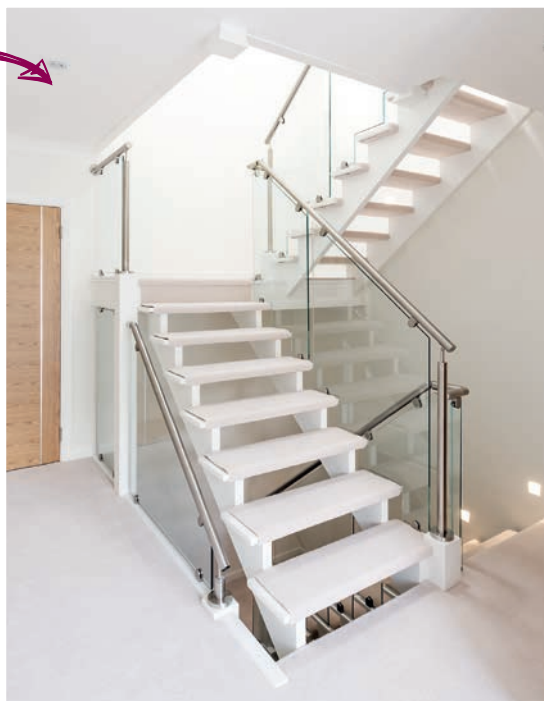
The mixture of grey oak treads and white risers, fitted with an LED light, as well as the zig zag edging on the outer side of the steps, gives the illusion of a floating flight. **Staircases from James Grace cost from £2,000 for renovations, and £8,000 for new; www.jamesgrace.co.uk**



This striking open rise cantilever staircase by Bisca is supported by hidden steel plates within the wall, while thick oak treads are complemented by a glass balustrade and timber handrail, giving the appearance that the staircase is floating. **Staircases cost from £22,000; www.bisca.co.uk**

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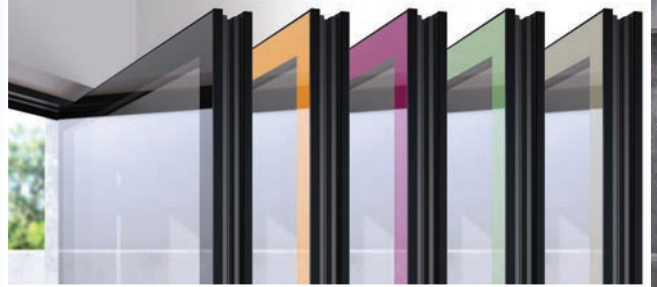
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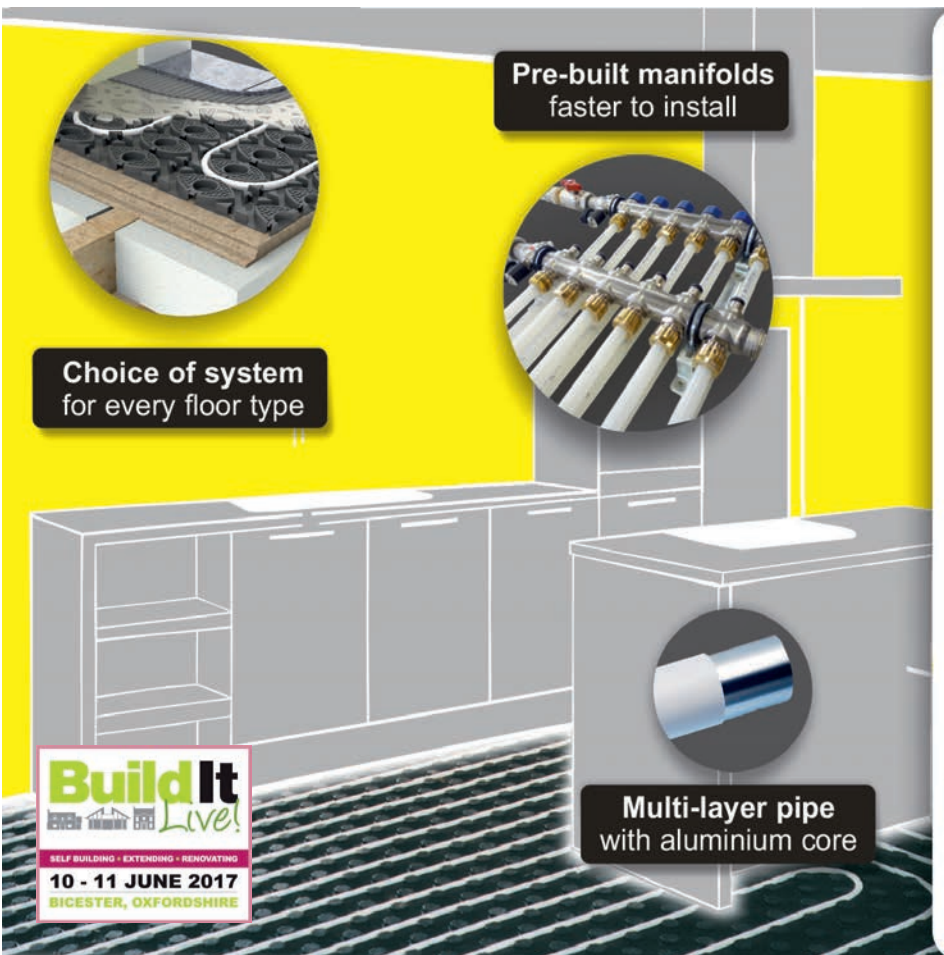
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How does green building affect house design?

Above, right & opposite page: The Denby Dale Passivhaus project by Green Building Store (www.greenbuildingstore.co.uk) was the UK's first cavity wall constructed house to be Passivhaus certified. The property is 20 times more airtight than a standard building, optimises heat gain from the sun and uses an MVHR system to retain warmth; it uses 90% less energy to heat than the average home

Architect **Julian Owen** explores how a careful approach to planning a property can result in an energy-efficient structure with a low carbon footprint, made with minimum waste

Most people are familiar with the benefits of building in accordance with green design principles, particularly when it comes to reducing energy consumption. But the term is actually much broader than this and includes various aspects of construction, from using materials that are less harmful to the environment through to reducing demand on services, such as mains water and drainage.

Broadly speaking, there are two approaches to making a house greener. One is to hide environmentally-friendly elements as much as possible to preserve the illusion of traditional construction. An alternative strategy is to develop new building techniques that reflect and celebrate the ideas behind green design. Taking this approach creates contemporary and individual looking houses; in fact, it opens up a wide variety of styles.



Energy efficiency

Making sure your external envelope is excellent at stopping heat from escaping is the first step to reducing energy consumption. One way is to specify three times the required insulation, which will make the walls noticeably thicker, having a subtle effect on the character of the house. But the ultimate way to harness thermal mass is to bury the dwelling partially or wholly underground and add a green roof, ideally at least 500mm thick with turf topping. This will also reduce impact on soakaways and drains, because the rainfall will be absorbed into the earth.

The way a building radiates heat is also affected by its proportions. Compact structures lose warmth more slowly, which means a sprawling bungalow may need 25% more energy than a house of the same size that's built as a cube.

Installing renewable technology is one way to maximise energy efficiency and reduce reliance on the grid. While some tech can be hidden away in plant rooms, others will need to remain visible. Solar panels are often the most noticeable energy efficiency measure, but some people aren't keen on the way they look when sited on the roof. If you're building from scratch, you can work to integrate them into the design. But for die-hard traditionalists, solar tiles are an effective solution: with a similar appearance to roof tiles, they offer a more inconspicuous alternative.

Another renewable tech that will remain on display is an air source heat pump. Opting for a ground source system instead will be more visually unobtrusive, but they are generally more expensive to install and will require a considerable amount of groundworks.

While the biggest gains in efficiency relate to the heating and cooling of a house, artificial lighting is the next highest when it comes to energy supply demand. This is an area where the interests of green building and good design neatly coincide because high levels of natural

MATERIALS & ENVIRONMENTAL IMPACT

The production of some building materials harms the environment more than others. Favouring renewable, recycled or recyclable products will make a difference to the carbon footprint of your project.

Timber ticks several of these boxes and can be used for a property's structural frame, cladding, window frames and doors. However, be aware that the use of chemical preservatives can undermine its eco credentials. You can check whether your preferred supplier is felling sustainably by searching the FSC online database (www.fsc-uk.org).

You can pick up cheap surplus materials left over from other construction projects from websites such as www.recipro-uk.com and www.enviromate.co.uk, plus building products made from entirely recycled materials are starting to become more readily available. In fact, a recent house building venture by the University of Brighton tested how much of a property could be constructed from recycled materials. Over 85% of materials that went into building the Brighton Waste House (pictured below) were sourced from waste left over from households and construction sites. While the quirky finished look of the property may not be to everyone's aesthetic tastes, the impressive approach to promoting the use of recycled materials is a thought-provoking contribution to the UK housing stock.



CLOSER LOOK: MODEST PASSIVHAUS



Fed up with how cold and draughty their large Victorian abode felt, *Build It* readers Cheryl Hitchcock and Dudley Thompson decided to build a new energy-efficient home that stayed warm and didn't rely heavily on the energy grid. The south-facing house has been Passivhaus certified, and the couple's builders were given a tutorial by a representative from Ecological Building Systems (www.ecologicalbuildingsystems.com) so that the timber frame property could be built to maximum airtightness levels.

The house is warmed by an air source heat pump, solar panels and a woodburning stove. A bespoke brise soleil shields the interiors from strong summer sunshine while harnessing the warmth of winter daylight.

In their previous home, the couple were using an annual total of 44,000 kWh of energy – 41,000 kWh of gas and 3,000 kWh of electricity. However, after 10 months of living in their new house, they had used only 2,600 kWh of mains electricity and no gas.

daylight undoubtedly make a room more pleasant. As a complement to full-on south facing solar glazing, daylight can be enticed inside with side windows and rooflights. As a rule of thumb, the daylight will spread into the house for a distance of twice the height of the window. Basically, the more sky you see from inside, the brighter the room.

Solar gain

Using glass to draw in and trap the warmth of direct sunlight is an effective heating aid, so orientate the structure to make the most of this free supply of energy in colder months. Buildings that have been specifically designed to respond to the sun are likely to have a lot of glazing on the sides facing closest to due south, which will maximise the potential to collect heat from direct sunlight.

The threat of global warming means some new houses are being fitted with energy-guzzling air conditioning systems in an effort to reduce the risk of overheating, but you can avoid this by using the green design techniques. The sun is high overhead in summer, so recessing windows or providing horizontal shading for glazing in the form of solid overhangs or louvred shades (called brise soleils) is a sensible measure. These solutions will prevent direct sunlight from shining into the rooms. As well as working as an attractive design feature, louvres can be angled to let light through, but keep direct glare out.

A more high-tech solution to providing shading is to fit blinds that automatically change their angle as the sun moves across the sky directly into the glazing. A simpler

(and cheaper) alternative is to fit traditional shutters that can be manually opened and closed to keep out the sun in the day or retain heat at night.

By contrast, winter sun is angled lower, meaning shading won't prevent rays from entering the building when they're needed. For the design to be as effective as possible, the overhang needs to be somewhere between 600mm-900mm long for a typical window.

Naturally generated warmth

The direction and availability of sunlight on a plot will have a big impact on the whole design. Modifications to the surrounding landscape can be beneficial in some locations. If the site is very exposed to the weather, a windbreak of trees or an artificial mound in the right position can reduce heat loss by up to 15%, providing shelter and reducing wind chill. Conversely, evergreen trees can reduce the benefits of passive solar gain and panels by shading the house during the winter months.

Heavyweight building materials such as concrete, masonry and stone are effective at absorbing warmth and keeping heat in the structure. If they have a dark finish externally they will soak up heat quicker. It can take up to 12 hours for warmth to pass through solid walls, which will help to keep rooms cool when you're getting solar gain during the day and warm at night.

As rooms that face due south get the most sunlight and consequently natural heat, it's logical to place frequently used points of the home in these areas. Rooms that aren't occupied as much during the day (such as bedrooms) or that you're unlikely to spend much time in (utility rooms, for instance) are better sited in a north-facing part of the home. You may also want to put rooms that generate their own heat in this orientation, such as the kitchen.

There are ways to spread heat generated in south-facing rooms into colder parts of the house without turning the central heating on. Having air ducts between rooms to filter warmth through from a glazed addition is one such solution. If the glass space is specially designed to generate heat, it can then be extracted by a mechanical ventilation and heat recovery system.

JULIAN OWEN



Julian Owen is an East Midlands-based chartered architect and author of several books on self build and house alterations. His publications include *Self Build*, *Home Extension Design* and *Kit and Modern Timber Frame homes*. He's also the founder of the ASBA Architects network. To find out more visit www.asba-architects.org.



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3 Meet real self builders & renovators

Pick up inspiration and gain the confidence to move forward with live, in-depth guidance from *Build It* readers who've successfully realised their own individual homes.

4 Track down your next project

Get tips on how to find the perfect site for your dream home and browse PlotSearch, the UK's premier live online land database – with thousands of plots available.

5 Learn from the experts

Build It's team of specialists will be delivering an extensive programme of free-to-attend seminars, covering all the essential elements of your project. You'll also get access to focused 20-minute workshops on the choices you'll face, such as specifying bifold and sliding doors, as well as free Self Build Academy taster sessions.

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10 things to know before you build

Feel confident and well-prepared ahead of starting your self build project by taking note of **Mike Hardwick's** top tips

If you're thinking of taking the plunge into the world of self building, I'm sure it's something that you've put a lot of thought into. It's not an endeavour to undertake lightly and the very fact you're reading this piece shows that you are doing your research with the aim of making the journey as smooth as possible. I can think of a lot more than 10 points that should be considered before you start building your home, but I've put together a list of what I believe to be the most important things you need to know before you start parting with cash.

1 Most building schemes are completed successfully

It's worth remembering that many of the projects you watch come together on the TV are there to create entertainment. After all, there's no fun in seeing a perfectly sensible couple with a reasonable budget build a modest house on time and within budget, using a competent builder. It's what the producers call introducing jeopardy – when someone runs out of money, the clients fall out with the contractor or some other calamity befalls them. But in reality, the vast majority of self builds run very smoothly. If you approach your scheme with a level head, you will join the 12,000 or so people each year who successfully complete a bespoke house building project.

2 Complexity adds cost

You might have great ideas to design and build a stunning contemporary house quite unlike anything available on the open market. However, there's

a reason why the top 10 mass-market developers create similar products (and lots of them): four-sided square boxes with slab-sided roofs are the simplest and cheapest way to build whilst maximising internal floor space. The minute you introduce variation or complexity to this format, you'll be adding expense – curves, gables, dormers and large expanses of bespoke glazing soon add up. Of course, if your budget can stand the additional costs involved, then fill your boots. But if you're on a tight budget, keep it simple.

3 It will take longer and cost more than you expect

I have yet to meet a self builder who proclaims how much quicker the process was against the programme, or one surprised by the piles of cash left over against the planned budget. So be aware that your project will probably take a little longer and cost a bit more than you originally anticipated. It's for this reason that you should always set aside a 10% contingency on top of the overall construction expenditure (excluding land). Of course, if you've got it right, the finished property should be worth significantly more than it cost to develop, but you still have to pay out quite a substantial sum to get there. If you really do want a quick build, then some of the premanufactured systems can be put together remarkably quickly, albeit often for a premium.

4 Not all builders are cowboys

Given how much the media love the 'cowboy builder' (see my comments on introducing jeopardy above) you would be forgiven for thinking every

Above: Situated in Herefordshire, this charming oak frame cottage was designed by Border Oak (www.borderoak.com). Brick gable ends and saffron-coloured lime infill panels help establish a traditional look that complements the rural setting

contractor is a crook waiting to run off with your money after doing a half-baked job. Actually, nothing could be further from the truth. Of course, there are rogues out there (just like in any walk of life) but the vast majority of tradespeople and builders take great pride in doing a good day's work for a fair day's pay. If you choose your builder or trades based on recommendation and follow up references to confirm their skills and credentials, you've already fought half the battle. However, there's a world of difference between accepting the cheapest quote and getting value for money – the best professionals are rarely the cheapest, but they will usually price competitively and do the job to a high standard the first time round.

5 Stuff will happen

It will always vary from project to project, but unexpected things will crop up, no matter how much you plan. By this I mean problems, hitches and glitches that no one foresaw and therefore never expected to need to come up with a solution for. Such issues have to be dealt with (and paid for) as they arise, and just when you've sorted out one snag, the next won't be far behind. How you deal with these is crucial to your enjoyment of the project. If you get wound up about minutiae, then your stress levels will be uncomfortably high throughout the process and you'll probably swear never to do anything like this again. But if you can keep a sense of humour and realise these problems are part and parcel of tackling a self build, you'll enjoy the undertaking much more and will likely find yourself itching to do it all again. Self building is not always easy, but it should always be fun.

6 Time spent planning your build is rarely wasted

You should be spending at least as long planning your build as actually doing it. Taking the time to research materials, products, design and finishes at an early stage will help both you and your designer come up with a home that's aesthetically pleasing yet affordable against your budget. Furthermore, the need for decisions on all of the above will come thick and fast, and having to pause while you make your mind up just adds delay, frustration and cost. The trick is to work out where key components will be located – boilers, flues, consumer units, extractor vents, plug sockets and switches etc – before any building work starts. If you discover a conflict at the planning stage, it'll be quick and cheap to fix – leaving it until construction has started might not be as simple.

7 Help is available

There are a lot of resources out there to make your life easier. Check out *Build It's* website at www.self-build.co.uk or NaCSBA's Self Build Portal (www.selfbuildportal.org.uk) and visit the National Self Build & Renovation Centre in Swindon, where you can attend short courses aimed at helping first-time self builders. You'll also find your local authority building control officers and builders' merchants a ready source of help and technical advice. Furthermore, it's well worth visiting specialist shows such as *Build It Live*, where you'll find expert help available for free and a plethora of presentations and workshops that will help point you in the right direction.

8 Choose a high quality finish for the big ticket items

At your housewarming party, I would be very surprised if any guest asks to pop up into the loft space to check on the type of roof trusses or breathable membranes you chose. However, they will almost certainly have already determined whether the house has wow-factor by checking out the look and quality of the following: external walling, roof coverings, external doors and windows, hard floor finishes and the staircase. The finish reflects the overall impression given by your completed scheme, so when it comes to specifying high spec materials, focus on the big ticket items.

Visitors will also take notice of the brand new kitchen and bathrooms, but they'll have no idea how much they cost because they are shiny and new, so probably look lovely regardless. It's those first five items that require focus and attention, so buy the best you can afford. These are components that should last the life of the house – you won't normally plan to change or replace them unless you have to; kitchens and bathrooms go in and out of fashion and are fairly simple to replace in the grand scheme of things.

9 Understand the tax benefits

You're probably already aware of the financial advantages that come with creating your own house. You can claim back the VAT on the fixed materials used in the build, labour is zero-rated and you will also have a legal exemption from paying the community infrastructure levy (CIL) on a self build home.

However, all of this is predicated on you producing your principal private residence, which is where you and your family plan to live for at least three years (in the case of CIL exemption). If you're building a second residential property (other than a holiday home for your exclusive use), a granny annexe in the garden, plan to sell for an immediate profit or rent it out, none of these benefits will apply.

10 It's worth doing

Speak to anyone who has successfully developed their own bespoke home and you will get the same story; the journey had its moments, but the end result is the most satisfying and rewarding thing someone can do, both financially and emotionally. Having a unique, tailored dwelling for you and your family is a real privilege. It's also one of the only circumstances I can think of where buying a beautiful custom-made product can be cheaper than buying a mass-market off-the-shelf alternative. Of course, it takes a bit more resolve to stop dreaming and actually get started, but you won't regret the decision once you've finished.

MIKE HARDWICK



Mike Hardwick is a self build consultant and project management specialist. He is consumer representative for NaCSBA, and delivers a three-day self build course at Swindon's NSBRC (www.nsbrc.co.uk).



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Why you need to get insurance as soon as you buy a building plot

The moment you become a landowner, you're liable for what happens on your plot. Self-Build Zone's **Paul Kempton** explains how to protect your new property

Once you've completed the conveyancing and bought your plot of land, no matter whether you're ready to build now or at some stage in the future, you become responsible for the land. Technically, this means you've assumed liability for everything on it. The 'it will never happen to me approach' won't help you when problems occur, so it's vital to ensure you're protected from day one.

A common mistake

If you happen to live next door to your proposed building site, don't assume that your current household insurance will cover you. If the plot is registered separately then it won't be part of this policy. You therefore need to make sure that you genuinely have adequate insurance cover against any claims that might be brought against you.

Be thorough when checking this out: apart from the actual legal liability for accidents or other issues, you need to ensure the costs incurred in defending any actions are also covered. We live in an increasingly litigious world, and defending claims can be a lengthy and expensive process. Having a suitable, dedicated policy in place will mean you know you're protected.

In most cases, the product you'll need is known as a landowner's liability policy. However, circumstances vary and it's important you check that your exact requirements are covered. Be aware that these could well change over time, and you may need to adapt the product you've purchased or switch to a new, more appropriate policy.

Which insurance is best?

The best way to understand how your cover needs could change is to take

you on a typical self builder's journey. Assuming you intend to develop the land, there's likely to be a delay (which could be several weeks, months or longer) whilst your scheme is drawn up and full planning permission obtained.

During this time, you will need to carefully consider the potential risks on the plot. Are there any derelict buildings, walls or other structures on the site? What about lakes, ponds, dried-up wells or potentially diseased trees? All of these could present a liability risk if trespassers – particularly children – gain access to your land.

This is important even with buildings that have little or no value, including those you intend to demolish at some point. If someone was to be injured as a result of a structure's derelict state, then as the landowner you may be liable to compensate them.

It might be that, whilst you wait for your planning consent to come through, you decide to start preparing the land to build on. Shrubs and trees may need to be cleared (being mindful of any tree preservation orders or other issues highlighted in the TA6 property information form you were presented during the sale process). You might also want to demolish any existing structures on the land using special plant and machinery.

If any of the above is the case, you will need more than a simple landowner's liability policy, as this type of insurance typically excludes cover for work being carried out on a plot (let alone for protecting any equipment).

This is likely to be the point at which you need to consider purchasing a specific site insurance policy from a reputable provider that's backed by A-rated insurers. This will offer protection for the works, as well as

covering your liability for anyone assisting on the project. It can also include any machinery, plant and equipment you purchase or hire in.

Protecting the build

Once construction is underway, site insurance will also cover your partially-built home as it progresses – together with the materials, equipment, fixtures, fittings etc. But do remember that these policies are normally sold for time-limited periods (typically 12, 18 or 24 months). So it's worth putting a reminder in your calendar to extend them if you've not completed the scheme within that timeframe. Providers such as Self-Build Zone offer automatic alerts to advise you when your policy is about to end.

PAUL'S TOP TIPS

- Don't assume there's no risk – and therefore no liability – just because you have a blank plot with no works underway.
- From the moment you assume legal responsibility for land you are liable for what happens on it; and without the correct insurance cover in place you're leaving yourself at risk of your dream home project turning into a nightmare.
- You may not need site insurance straight away. To determine what product is best for you, all you have to do is identify when works are likely to start and what they'll entail. If it's going to take a long time to commence the build, it may be cheaper to take out land owner's liability cover.

Paul Kempton is managing director at Self-Build Zone, which provides specialist site insurance and 10-year structural warranties for self builders and renovators.

For more information about Self-Build Zone call 0345 230 9874 or log on to www.selfbuildzone.com





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Understanding product warranties & guarantees

Make sense of the small print and contractual jargon with **Tim Doherty's** expert guidance

When you buy any building product for your house, the manufacturer will attach a warranty or guarantee as an agreement that they will repair or replace the item if it's faulty or damaged. But while this may sound like a foolproof method of making sure the company is held responsible if the object fails to perform as it should, some circumstances may be excluded from the protection. The fine details will disclose the various scenarios that won't be covered under the warranty – some of which may surprise you. And to complicate matters even further, the ins and outs differ from company to company, even for the same kinds of products.

To develop a better understanding of the type of coverage that suppliers are offering, and the pitfalls, I've been reading through the small print of some building product warranties and guarantees. Here are my findings.

1 Excessive exclusions

One of the industry-leading manufacturers of clay roof tiles offers a limited lifetime, fully transferable and non-prorated warranty for its products. This means that, in the event of a successful claim, all replacement costs would be covered. While this seems reasonable, the list of exclusions is significant. Some are fair enough – physical roof traffic, general weathering and freeze-thaw impacts. But the exclusions also include tile cracking, chipping and colour fade. Furthermore, the supplier disclaims all implied and statutory warranties as described above. It's difficult to think of a scenario that would be covered, so in my opinion this warranty is of little value.

2 Subject to site conditions

Bricks come in a range of quality standards and some of the best quality clay stock blends might provide a 60-year guarantee. However, this is on the strict basis of compliance with Building Regs guidance, in addition to the supplier's own list of recommendations. These include careful handling, keeping the units protected from the

elements on site and making sure they are properly filled with mortar. Once again, poor workmanship on site will revoke your guarantee.

WHAT'S THE DIFFERENCE BETWEEN WARRANTIES & GUARANTEES?

If you want to understand the differences between a guarantee and a warranty, it's not all that straightforward. There's a lot of information on the internet about the subtle variances, but only a product manufacturer's legal advisers will understand the nuances of why they chose to use the terminology of guarantee or warranty. Reading them through, they all promise to replace the products in the event of failure but, crucially, with conditions – and it's these that we, as consumers, really need to understand. One useful website summarised a guarantee as more likely to come from a specific manufacturer; whereas a warranty might be offered, sometimes for an extra charge, by a (re)seller of a product to gain a market edge over their competition or, to take a cynical view, to drive further revenue.

RULES & REGULATIONS

As far as the legislation is concerned, the two key statutes regarding product warranties are The Sale of Goods Act 1979 (SOGA) and the Consumer Rights Act 2015 (CRA). These mean manufacturers must ensure their products do what they say they are going to, and are of 'merchantable quality'. While SOGA was very specific about fitness for purpose and implied terms about quality, CRA has now replaced it for consumer transactions. This has changed the old merchantable description for 'satisfactory quality' and generally strengthened the supplier's obligations to customers. Where goods have been installed incorrectly and/or are just defective, consumers have the right to the five Rs: reject, repair or replace, demand a price reduction or get a refund.

My understanding is that supplier trading conditions cannot (and should not) affect your statutory rights and that compliance with CRA applies to typical building products and services that a self builder might purchase as part of their new build, renovation or extension. But something that applies to all is that you should use a reputable company that you are confident will keep trading for at least the duration of the warranty.

3 Creating a suitable environment

Engineered wood flooring from one manufacturer provides guarantee options of between 15 and 30 years, depending on the product thicknesses and what factory finishes have been applied. Moisture is a key factor in the warranty small print, with the humidity range needing to remain between 30% and 60% (which can be difficult in some rooms, such as bathrooms and kitchens). The surface temperature should remain below 27°C, which is important if the covering is being paired with underfloor heating (UFH). These are important restrictions, and understandable too, as wood will react to both heat and moisture.

I know of one self builder who constructed a full basement, chose not to use or heat it and consequently suffered from a wrinkly wooden floor. This was entirely due to the lack of gap around the perimeter, an inadequate vapour control layer and too much moisture in the basement given its lack of heat. These factors ultimately destroyed the floor and revoked his guarantee.

4 Installation & inspection

One of the slate tile importers has an impressive guarantee of 50-100 years on one of its natural roof slates, also offered on a non-prorated basis. However, the small print makes it clear that the units must be installed in a certain way. So, once fitted, the tiles must be inspected by one of the company's technical staff, who will confirm the installation is in exact accordance with the supplier's guidelines.

The problem here is that many roofing contractors prefer to use their own fine-tuned techniques. I recall one project where the principal contractor wasn't able to secure a guarantee for the homeowner because his sub-contractor had not installed the slate covering based on the manufacturer's strict requirements. In cases such as this, you must look to ensure that your appointed tradesperson knows the importance of following the supplier's guidelines.

It's worth noting that most specialist products should be fitted by the manufacturer's trained operatives – single ply membranes for flat roofs are a good example. This way you can obtain a good guarantee, but with an obligation to have interim inspections made every five years, with any chargeable maintenance undertaken if it's found to be necessary.

5 Appropriate upkeep

Doors and windows are generally considered to be one of the most replaced building products in a house because they weather faster than other external

materials. One well-known window manufacturer provides clear instructions for the levels of maintenance that its products require on a regular basis – for instance, how powder-coated aluminium surfaces and glass sections should be cleaned or which treatments are suitable for painted wooden surfaces. While the definition of 'regular' is not clear, its implication is monthly and perhaps more frequently in exposed or coastal locations. The suggested life of the products, if properly maintained, is impressive – 25 to 40 years or wooden surface redecoration after 15 years. The warranty period for component repair or replacement is five years for doors and more than 10 years for windows. However, there's no cover for installation and/or the consequential costs of disruption, which could be quite expensive. These exclusions do not tend to follow the spirit of CRA and their limitation may not be fair.

TOP TIPS

- Always ensure that you follow all the installation instructions, since not doing so could invalidate your guarantee.
- Use appropriate installers, especially for complex products that require skilled techniques.
- Understand the limitations of the product guarantee before you buy and consider another supplier if its aftercare service and guarantee wording seems more appealing.
- If the small print is unclear, ask the company to offer some example scenarios where the guarantee might apply.



TIM DOHERTY



Tim Doherty was the founding MD of the National Self Build & Renovation Centre and a founding member of NaCSBA. He now runs Dobanti Property Consultants (www.dobanti.com), a specialist surveying & building consultancy providing support to both the residential and commercial sectors.



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This site in the New Forest is formed of two drastically different land levels, which informed the contemporary design the team at Paul Cashin Architects put together. The elevated part of the structure houses three bedrooms, and makes the most of the countryside views. The lower area features an open-plan living zone and kitchen with a study and loft area upstairs

Architect **Opinder Liddar** looks at some common plot headaches and suggests innovative ways they can be overcome

Design ideas for an awkward plot

With suitable land for self builds still pretty scarce, easy-to-develop sites are becoming rarer. As a result, a growing number of people are broadening their searches to encompass options that are less than ideal, or sometimes inherently awkward. But what defines a tricky plot? There are plenty of influences – both inside and outside the boundaries of a site – that could dissuade you from purchasing it. However, rather than walking away from such opportunities, it may be worth thinking twice and considering whether these apparently less-than-ideal plots could be turned to your advantage.

While an awkward site may introduce some difficulty into the process, it's worth bearing in mind that the extra complexities associated with constructing a new house could scare away traditional developers. Problematic plots

can also be more affordable, with fewer people competing to buy them. When I'm presented with a tricky piece of land, I see it as a design opportunity – a chance to create a unique home and get the best from what's there. In many cases the results are inspiring, as a bit more effort can create buildings that respond positively to the challenge.

This article lays out some of the most common design headaches that I have encountered when attempting to realise clients' ambitions for a bespoke house on an

awkward plot. By applying some rigour and innovation during the site analysis, you could find that you are able to create a unique home that satisfies your needs, and I hope the solutions

I've suggested might encourage you to look again at that site you quickly dismissed the first time round.

Access

This is one of the biggest obstacles to overcome when planning the design of a new dwelling, as you need to ensure that there's a suitably unhindered entry point. You also need to make sure there's adequate parking for the site. In urban areas, you can even make zero-parking a feature of new houses. Since you don't need to accommodate large areas for turning and parking, you can sometimes build more on the plot, too. Otherwise, make certain that sufficient space for cars can be accommodated. If the plot is cramped, consider integral garaging or, even better, have part of the new home erected over the parking area.

If you are able to afford it, most plots will allow for basement parking. Vehicles can be hidden and the surface space put to better amenity use.



Services

Getting electricity and water to a site can be another common headache. In fact, this challenge can be so prohibitively expensive that it often puts off large house building firms. However, technology is developing at a great pace and it's at a turning point whereby we can become self-sufficient in generating and storing all our own power and water demands on site.

Electricity can be generated via solar panel systems that are installed onto purpose-built roof forms that have been orientated to make the most of the sun's power. By designing in areas of battery storage we're also able to harvest solar energy so it's usable at any time of the day (for more information, go to page 68). Lithium battery technology is improving and units are now much smaller and can carry considerably more charge. This energy could be used to power heat pump appliances that heat and cool the house via low-grade warmth in water courses, the ground or outside air.

One project I worked on that almost achieved power self-sufficiency utilised a brook that runs through the site. The project did involve lengthy negotiations with the local authorities and other bodies like the Environment Agency to justify the concept of this truly sustainable solution. The building had to be elevated to alleviate the potential threat of flooding, and we used the waterway to generate electricity. This energy was used to power heat pumps, channelling low-grade heat from the brook into warmth for the house. We used an Archimedes screw to achieve this, which, if you have access to a water course, is quite a mesmerising and successful way to harness free energy.

If watercourses or sufficient land aren't available, consider boreholes to help heat (and potentially cool) your home. The temperature of the subsoil is a fairly constant 12°C-13°C. This consistent level means the ground heat can be used to warm the home in colder seasons. When the weather is hotter, the flow can be reversed to extract heat from the house and put it into the ground.

Other potential self-sufficiency measures include obtaining water from boreholes on your plot and from rainwater harvesting. There are storage and filtering systems available to produce potable water on site, too.



Left: LAPD Architects utilised an Archimedes screw as part of their strategy to generate energy from the waterway on this site

Views

While sloping sites can be seen as a challenge, a gradient can work to your advantage. Creating an upside-down layout in which living accommodation is placed above your bedrooms means you can take advantage of your elevated position and enjoy vistas from the main living zones.



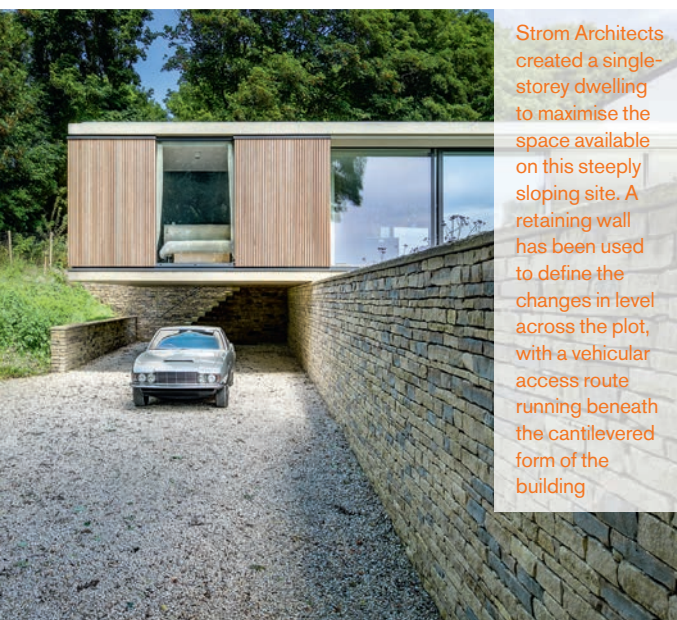
In one project, using this approach also enabled us to introduce an elevated deck outside. The majority of bedrooms were set into the lower and quieter zone of the plot, which provided access to the garden.

Where there is a slight difference in levels across a site, we aim to take advantage of this to help define spaces. We can use the topography to achieve separation between living areas and kitchens or studies without the need to build walls to create different zones.

Orientation

Natural light and passive solar gain are key factors you'll want to get right when designing your home, and utilising these elements will help you make the most of your plot. Locate where south is on the site and try to take advantage of smart orientation in the design. Sometimes, if the plot is

Above: Designed by OB Architecture, the sunken seating area in this open-plan kitchen-diner creates a visual break between the food preparation zone and the dining space



Strom Architects created a single-storey dwelling to maximise the space available on this steeply sloping site. A retaining wall has been used to define the changes in level across the plot, with a vehicular access route running beneath the cantilevered form of the building

NEIGHBOURING PROPERTIES

One major hurdle to overcome is the potential impact of your new home on nearby dwellings. Whatever your architect creates should not have a significant negative impact on this. When planning the design of your home so that it doesn't impinge on other houses, consider the following:

- **Scale and mass.** Generally, your proposal should be in line with dwellings in the locality. The footprint of your home should correspond to the building line of neighbouring properties. Sometimes, where accommodation needs would result in a structure being too high, wide or deep, we have introduced a partially subterranean level. By adopting this approach, where the entrance level is slightly elevated, it's possible to get a part basement, ground floor, first floor and room in the roof without considerably exceeding the height of a regular two-storey house.

- **Maximise available space.** I'm still surprised at how many new homes don't utilise all of the room available within a plot – particularly the loft area. When space is at such a premium, why not make the best of what's there? If your budget is too tight to fit out a loft to begin with, it may be worth constructing the roof so it can be converted later.

Use attic trusses to start with so even if you don't use the space immediately, it'll be easy to make it habitable in the future rather than incurring the cost of starting again. Try and utilise all the height that's available to you. We usually make the most of rooms in the roof with vaulted ceilings. Where these are high enough, we can easily accommodate mezzanine levels also.

- **Overlooking.** If this is an issue, then clever design can still help you achieve the look you want. For example, if proximity to neighbours means you can't have an extended balcony, consider a recessed version so the views aren't of your neighbour's private amenity space.

- **Privacy.** It's also important to ensure neighbours aren't able to overlook your amenity. Privacy screens such as planting or fences can work well if an awkward plot means that people can see right into your property. They don't need to be excessively high and can help eliminate this problem.



The designers at Coupdeville Architects incorporated timber louvers to provide this contemporary dwelling in west London with shade and privacy

OPINDER LIDDAR



Opinder Liddar is a **Build It Award-winning** designer and a director at Lapd Architects. He specialises in self build homes and renovation projects, and is a regular expert at Swindon's National Self Build & Renovation Centre as well as the **Build It Live** exhibitions. For more information about Lapd call 01865 407722 or visit www.lapdarchitects.co.uk



Zac Monro Architects introduced walk-on rooflights into this extension scheme to flood the new living space with illumination from above

very long and narrow, it's important to boost light levels in the central zones of the home. Rooflights can be used to channel light into the heart of a dwelling and can often draw in much more illumination than windows. Pitched, flat and walk-on types are all available and will make a valuable contribution to natural brightness in the home.

Unusual features

You would have thought that finding a deep hole on site would be rare. However, I'm surprised at how often I've come across covered-over ice pits or wells. To fill such cavities takes a considerable amount of infill material. On several occasions, I've designed the scheme so as to make a feature of the issue that was previously considered to be a problem. Glass floors are now viable so, with some imaginative lighting, you can incorporate a former drawback into a design feature that can become a talking point.

Trees

In years gone by, it used to be possible to work around or near to trees. I would still encourage forestry officers to liaise with designers to allow some flexibility in their approach rather than removing the specimen entirely.

A site I looked at recently was covered in trees. Taking arboricultural advice, we were able to assess their general health and by looking at spaces around natural clearings on the site, we designed a new home that was wholly influenced by them. The resulting dwelling blurred inside and outside spaces, with trees creating a significant feature of inner courtyard areas. The overall building form was derived from the presence of trees that would remain on site for a long time to come. As part of this project, we had to be careful about where to run services and access, as these spaces needed to avoid root protection areas.

CONTACTS

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01865 407722 www.lapdarchitects.co.uk **OB Architecture** 01962 865344 www.obarchitecture.co.uk **Paul Cashin Architects** 01962 807077 www.paulcashinarchitects.co.uk **Strom Architects** 01590 677442 www.stromarchitects.com **Zac Monro Architects** 020 7326 0779 www.z-m-a.co.uk

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PLANNING

Mike Dade is a land and planning specialist. He is a contributing editor of *Build It*, a plot hunting expert and author of books on planning and plot issues. He is one half of Speer Dade consultants (www.speerdade.co.uk).



GLAZED DOORS

Matt Higgs is co-owner of Kloeber UK, a specialist in the manufacture and installation of bespoke doors and windows. He has worked in the industry for two decades and has advised self builders on their glazing requirements for the last eight years.



SUSTAINABILITY

Nigel Griffiths is director of the Sustainable Traditional Buildings Alliance (www.stbauk.org) and a consultant working mainly on energy efficiency policy and evaluation. He is the author of the *Haynes Eco House Manual*.



CONSERVATION

Alan Tierney is a historic building consultant and conservation specialist. He runs Picketts Historic Building Conservation (www.pickettsconservation.co.uk), which offers hands-on advice to period property owners.



PROJECT MANAGEMENT

Tim Doherty was the founding MD of the National Self Build & Renovation Centre and a founding member of NaCSBA. He runs Dobanti Property Consultants (www.dobanti.com), a specialist surveying & building consultancy for the residential and commercial sectors, including project management and custom build solutions.



SELF BUILD

Mike Hardwick is a self build consultant, project management specialist and NaCSBA's self build representative. He has first hand experience of the processes involved and helps to deliver a three-day course at Swindon's National Self Build and Renovation Centre (www.nsbrc.co.uk).



DESIGN

Opinder Liddar is a director at Lapd Architects (www.lapdarchitects.co.uk). The practice specialises in residential projects from extensions to new builds, making him the ideal person to answer all your home design questions.

SELF BUILD

What is the best way to fulfil disabled access obligations?

Our building control officer informs us that we must install a ramp to allow wheelchair access. We're not keen on this as we're many years away from this being a concern for our own needs. Is there an alternative, such as a mobile ramp?

Inclusive access requirements are covered in Part M of the Building Regulations, while Part K now deals with the design of steps and ramps. Essentially, at least one door on the entrance floor of the property has to have level access – whether you need it now or not. You might want to look at other routes because back doors and even patio doors could fit the bill if they can be accessed via a side path. Part M does allow some discretion and in certain circumstances steps with a rise of no more than 150mm could be allowed, so it is worth discussing the options with your building control officer. However, if they insist on a ramp and an even threshold, then you will be obliged to comply. I'm afraid you won't be allowed to put in a temporary alternative as the access will have to be properly constructed to adhere to Part K.



© ALISTAIR NICHOLLS

PLANNING

Why am I being refused permission for my scheme?

I have a plot of land for which I have been trying to gain planning consent for the past 35 years. I have been refused on various grounds, from the issue of leaves in the gutters, visibility from the road and a protection order on a tree that has now been felled with permission from the council. This last objection was due to the presence of ancient woodland.

The site lies on a B-road and is within a string of houses that have been added since I purchased the land. I was informed that the area is of significance and should not be developed, but planning consent was granted for a plot nearby and the owner removed 80 grab lorry loads of a chalk bank during his build. When I asked the local council to comment, nothing was forthcoming. I am going to apply again soon. What must I do to get permission to build?

Any new planning application should carefully address the objections raised in previous rejections and clearly demonstrate that they are overcome in the design. An up-to-date tree survey will be essential to show there will be no damage to the ancient woodland. By all means mention the new developments nearby, but do not rely on precedents, as there may be good reasons why those projects differ from yours and were therefore acceptable.

Ensure you are up to speed with the council's current planning policies and demonstrate in your accompanying statement that you are complying with all of the relevant housing, design and environmental protection policies. A great deal has changed in planning over the 35 years you've been seeking permission so it might be worth employing a professional consultant to give yourself the best chance of your next attempt being successful.

GLAZED DOORS

What's the best way to fit my project's bifold doors?

I am self building an extension using structural insulated panels (SIPs) and external timber cladding. I would like to incorporate bifold doors, but I'm confused about how to achieve this without creating an upstand of 86mm due to the position of the damp proof course (DPC) and soleplate. As this is an addition to an existing house, I cannot simply just raise everything 86mm on the inside, as the height increase would result in a step into the next room. The only other alternative is to drop the DPC by 100mm at the threshold. How do I solve this issue?

You hint at the best course of action when you refer to lowering the DPC. To preserve the desired floor height you need to cut out the bottom rail and sole plate of the timber frame panel (and possibly some of the brick or block under this) to reach the level at which you'd like to sit the door threshold, then



drop the DPC around this. It's important that the membrane reaches up the sides of the aperture and overlaps the existing damp proof course so there is no break in the waterproofing.

PROJECT MANAGEMENT

What do I need to consider before starting my demolish and rebuild?

I own some land with a house that has the potential to be cleared and several dwellings built in its place. Removing the existing four-bed detached property would allow room for two semis or possibly a row of three homes. It is in a sought-after residential area and I foresee no problem with planning permission as similar projects have already been completed numerous times on this road. The site is sloping and the current residence is built into the hill, allowing for superb countryside views and design opportunities.

I live abroad and have no wish to be heavily involved with the planning permission and project management. Ideally, I'd like to avoid the cost of using an estate agent to predict potential property valuations, but will go down this route if necessary. What's the best way to get the project underway and what pitfalls should I be wary of?

The idea of demolishing one unit to make way for two or three replacements is quite common. While you may not be worried about gaining planning, the mix between planning consent and value is actually pivotal to your decision making. As you're living abroad and wish to hand over the reins to a project manager, someone else is going to have to pursue the following:

- 1 Determine from local agents what demand there is for either terraced or semi-detached dwellings in this particular area.*
- 2 Undertake a pre-application meeting with the council to gauge their appetite for replacing a single abode with multiple houses.*
- 3 Predict the final worth of the development (based upon the outcome of agent and planning discussions).*
- 4 Define the overall cost of the scheme, including demolition, construction and professional fees.*

Armed with the above, you should be able to make a decision as to whether or not your proposed project would be a good investment.

ANY QUESTIONS?

Send all your self build, renovation and conversion questions to buildit@castlemedia.co.uk or visit www.self-build.co.uk/question
Please note all correspondence may be published in the magazine

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TO BUILD MY
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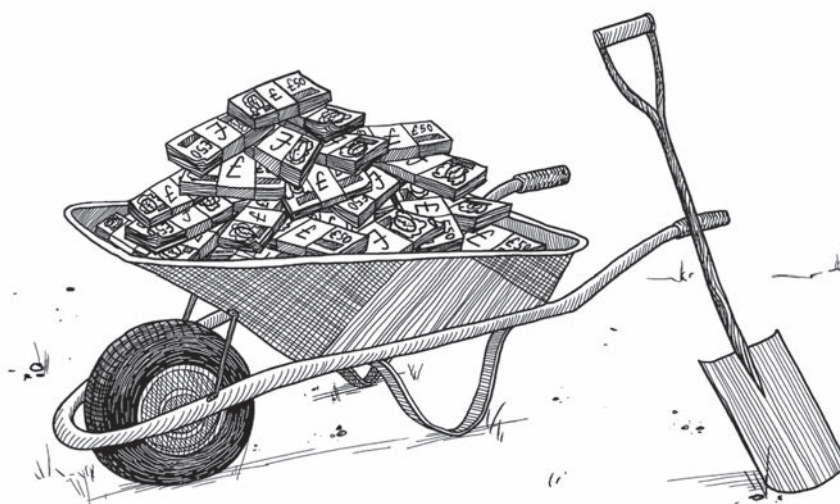
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Self build mortgages

Looking for funding for your self build project? Each month we round up the best deals from leading lenders – and update you on what you need to know about securing the right finance

Mortgage Type	Lender	Phone	LTV Land	LTV End Value	Interest Rate	1st Stage Payment
Advanced Stage Payment Mortgages Created by BuildStore, these products pay out prior to the start of each phase of works – offering cashflow benefits for those requiring guaranteed capital.	Bath BS	0345 223 4647	85%	80%	4.49%	DPP & Building Regs
	Darlington BS	0345 223 4647	85%	80%	5.49%	DPP & Building Regs
	Hanley Economic BS	0345 223 4647	85%	80%	5.54%	DPP & Building Regs
	Mansfield BS	0345 223 4647	85%	85%	5.19%	DPP & Building Regs
	Melton Mowbray BS	0345 223 4647	85%	75%	5.24%	DPP & Building Regs
	Penrith BS	0345 223 4647	85%	75%	5.50%	DPP & Building Regs
Arrears Stage Payment Mortgages These products pay out in stages following completion of pre-agreed phases of the works, so are best suited to those with significant capital (eg savings or the cash from the sale of your current home). With this type of mortgage, you fund each phase yourself. The lender will then reimburse you to a percentage of the value of the project at that stage. The trigger points for these draw downs can vary, but a typical pattern might be: foundations; wall plate; wind & watertight; first fix; completion. The exact value of each stage of works will be determined by the lender's surveyor. BuildStore exclusives (arrears and advanced) can lend on plots with only outline rather than detailed planning consent (which is not always the case with other products).	Buckinghamshire BS	0345 223 4647	75%	75%	4.59%	Foundations
	Chorley BS	0345 223 4647	85%	80%	4.74%	Foundations
	Darlington BS	0345 223 4647	80%	80%	4.99%	Foundations
	Dudley BS	0345 223 4647	50%	75%	5.49%	Foundations
	Furness BS	0345 223 4647	80%	80%	4.74%	Foundations
	Hanley Economic BS	0345 223 4647	85%	80%	4.74%	Foundations
	Holmesdale BS	0345 223 4647	85%	80%	5.24%	Foundations
	Ipswich BS	0345 223 4647	75%	75%	4.84%	Foundations
	Loughborough BS	0345 223 4647	75%	75%	4.54%	Foundations
	Mansfield BS	0345 223 4647	80%	80%	4.74%	Foundations
	Newcastle BS	0345 223 4647	80%	80%	5.40%	Foundations
	Nottingham BS	0345 223 4647	65%	75%	4.39%	Foundations
	Penrith BS	0345 223 4647	85%	75%	5.50%	Foundations
	Stafford Railway BS	0345 223 4647	85%	75%	4.25%	Foundations
	Cumberland BS	01228 403141	75%	75%	Call	Flexible
	Ecology BS	0845 674 5566	80%	80%	4.65%	Flexible
	Halifax	0345 850 3705	75%	75%	5.64%	Foundations
	Hinckley & Rugby BS	01455 894083	N/A	75%	5.64%	Footings
	Newbury BS	Local branch	66%	75%	4.70%	Foundations
	Progressive BS	Local branch	N/A	75%	4.25%	Wall plate
	Scottish BS	0131 313 7700	80%	80%	5.99%	Foundations
	Vernon BS	0161 429 6262	75%	80%	Call	Wall plate

For advice on funding your self build project, speak to the experts at BuildStore on 0345 099 2234 or visit www.buildstore.co.uk



Rachel Pyne
BuildStore

What to consider when applying for a self build mortgage

Applying for a mortgage is more complicated than ever, with new affordability rules to understand as well as a variety of changing criteria to keep up with.

With a self build or renovation project this can become even more challenging, as there is so much more to consider when arranging your finance. For instance, where do you intend to live whilst your new house is being built and how will the cost of these arrangements

(ie mortgage or rent payments) affect the amount you are able borrow to construct the new property?

Most lenders now take these costs into account when assessing your project profile and what level of funding you can afford to service. This will be the case even if the costs are only short term – so it makes sense to find out early on exactly what your borrowing options are, as different lenders will apply different rules.

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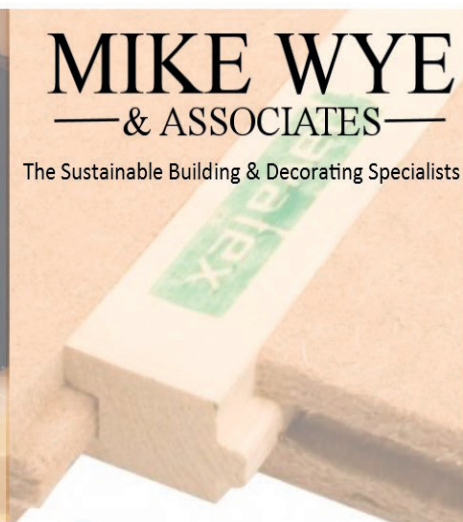
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PLOT WATCH:

Matt Hudson has realised some land adjoining his current home could offer the perfect opportunity for a self build. **Mike Dade** takes a closer look at his chances of success

WHO Matt Hudson

WHAT An infill site adjacent to Matt's existing property. Could it have potential to accommodate a new home, despite its edge-of-village location?

WHERE Kent

Mike Dade *investigates*



Matt Hudson was already thinking of extending his existing house, or maybe building an annexe in the garden, when he noticed that new homes were starting to pop up around the towns and villages in his area. Inspired, he decided to clear an area of scrub that separated his own property from his neighbour's – revealing what looks to be a well-sized potential infill plot. So what are the prospects of being able to self build here?

The location

Matt's house is just outside a village that was bypassed several years ago. He lives on the old main road at the periphery of the settlement, and his property forms part of a loose scatter of large homes set on good-sized plots. Whilst semi-rural in character, the road features street lights leading down to the village. This lends the setting a feeling of being close to a built-up area, even though the main settlement is out of sight and the thoroughfare is lined with woodland on one side.

Almost opposite is a large pub, which also helps to define the character as more village-edge than open countryside. There's a bus stop just outside the plot with services into the settlement and to nearby towns.

The site

This rectangular plot extends to about half an acre (0.2 hectares). With the scrub cleared it's now mostly open, with a few strategic clumps of small trees retained – including on the road frontage and along the

back boundary. The side opens out onto Matt's existing property, albeit marked by a large conifer. The threshold with the neighbour features a tall, dense laurel hedge with a few trees in it, which almost completely obscures views of their house.

Access is via existing gates where the land fronts the road and there's a slight slope up to the site. There's no drive-in over the verge and pavement. The plot is slightly overlooked by Matt's existing home, but not to a problematic degree as there's plenty of distance and scope for screen planting in between.

Planning potential

Matt already knows that his property is outside the village's settlement boundary, as defined in the Local Plan. The number of new houses popping up and plots for sale in the area suggest, however, that this isn't being adhered to locally.

Further investigation shows this is in fact the case, fuelled by the fact that the council doesn't have a five-year housing land supply. This renders its housing policies, including those defining settlement boundaries, out of date. In these circumstances, the door is opened to peripheral sites where a new property would be sustainably located and wouldn't intrude into open countryside.

Although Matt's site is perhaps a little further out from the village centre than might be ideal, the well-lit pavement and road plus the existence of a bus service both point to a reasonable chance the location would be considered sustainable. Within the dispersed

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Access gates

pattern of housing, this relatively large plot would nevertheless represent a logical infill that wouldn't extend the built form of the village into the open countryside.

All-in-all, there is a reasonable chance the council would consider a new detached dwelling on this plot to be in keeping with the character of the area.

Planning tactics

In an ideal world, the best way to approach a potential site in your own garden is to first seek pre-application advice from the council. This takes up time, however, and the housing land supply shortfall won't last forever, as the council is moving towards adopting a new Local Plan that will address the problem.

To avoid getting caught out by a new policy regime, Matt would be better off going straight to a planning application, where the merits of the case can be formally considered. The key issue is the principle of the development, so an outline application would be the best bet. This has the advantage of being quick and cheap to prepare due the absence of

design costs. In Matt's case, these savings would exceed the marginal extra outlay of an outline planning submission. Fees for these applications are based on plot area. The price is £385 per 0.1 hectares or part thereof, so Matt would incur application costs of £770 (as opposed to £385 for a detailed application for a single house).

If this permission was obtained, then Matt could either sell the plot with the benefit of the consent or, if he decided to live in the new dwelling himself, move on to obtaining approval of reserved matters. This is basically filling in all layout, design, materials and landscaping details not covered by the permission. The advantage of a reserved matters application is that it doesn't involve revisiting the principle of building. This might be helpful if the council adopted a new Local Plan between Matt getting outline permission and him settling on a final design for the house.

First steps

An outline application generally needs no more than a site layout plan showing roughly where a house could be positioned and a location plan identifying the plot and Matt's adjoining property. In this case, an arboricultural survey would also be required. This should identify the trees,

assess their health and significance, and set out any protection measures needed during the build.

The plot's been recently scraped pretty bare to remove the scrub, so there's unlikely to be a need for an ecological survey. Matt will however need to identify means by which his house, even though not yet designed, will be made energy efficient. A short statement committing to adopting high levels of insulation, using renewable energy sources (such as solar electric panels) and perhaps a rainwater recycling system should do the trick.

There are a few other things to check, such as whether the site is situated in an archaeological protection area. If it is then a report on protecting any assets might be needed to accompany the application.

Otherwise, the plot is up a hill and well away from any flood risk areas. There are no listed buildings or conservation areas nearby, so Matt won't have any heritage issues to address. The site has good visibility at the point of access onto the road, so there shouldn't be any highway safety problems either.

Conclusions

This is one of those cases where the chances of success are fairly evenly balanced. There are a few examples of similar peripheral sites gaining permission in the district but also instances where consent has been refused. Some of those rejections were appealed. At this stage, accessibility to facilities by foot, bike or bus are key issues, with poor or unlit footpaths often tripping projects up. Here, the location has easy access to the village, so that's a major plus point.

Matt is facing with something of a gamble, but with a substantial prize on offer. An outline planning application would be a relatively inexpensive and simple way of testing the water and, if successful, he can decide on his next steps from there. One thing is for certain, though, and that is if he could get consent to go ahead, this would be a cracking plot.



Would you like Mike Dade to cast his expert eye over a plot or project you're considering?

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Mike can also be contacted through his consultancy at www.speedade.co.uk



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Land FOR SALE

Location

Lancashire

Price

£475,000

Plot number

136364

Description

This plot comes with outline planning permission to knock down the dwelling that currently occupies the site and replace it with a five-bedroom house. Situated in the village of Aughton, the land is positioned within walking distance of two train stations that provide a direct connection to Ormskirk and Liverpool city centre. It is also conveniently-located to reach the M58 motorway.



Agent

Arnold & Phillips

Location

Pembrokeshire

Price

£59,950

Plot number

136803

Description

Outline planning permission has been granted for the construction of a four-bedroom house on this plot in the small coastal town of Hakin. The current plans also include space for a garage. The site enjoys pleasant views of the nearby waterway and is located a short distance from a path that leads to the seafront. The town of Milford Haven is nearby for facilities including shops and a train station.



Agent

Brett Property

Location

Devon

Price

£435,000

Plot number

136807

Description

This plot comes with outline planning permission to create a large detached five-bedroom dwelling with a gross internal floor area of approximately 294m². The site is situated within the village of Maidencombe in south Devon, between Torquay and Teignbridge. The area is home to attractive rolling farmland and is ideally-located for access to Dartmoor National Park.



Agent

Kitchener Land & Planning

Location

Isle of Mull

Price

£95,000

Plot number

136821

Description

Detailed planning permission has been granted for the construction of a single detached dwelling on this plot on the Isle of Mull. Measuring 1.25 acres, the site is positioned in a wooded area close to the village of Dervaig. The settlement is home to a shop, post office and primary school. It is a 20-minute drive from the larger village of Tobermory for access to further facilities.



Agent

West Property Sales & Lettings

Location

North Yorkshire

Price

£225,000

Plot number

136826

Description

This plot in the village of Grewelthorpe comes with detailed planning permission to construct a four-bedroom detached house and garage. Situated within the Nidderdale area of outstanding natural beauty (AONB), the site is well-positioned for access to local facilities including a selection of schools. The larger towns of Kirkby Malzeard, Masham and Ripon are located a short distance away.



Agent

Joplings

Location

Cornwall

Price

£85,000

Plot number

136836

Description

This plot comes with outline planning permission to create a single detached home. The site is located within the pretty hamlet of Marshgate, which is situated approximately half a mile from the village of Tresparrett, and close to a primary school. The site is ideally positioned for homeowners who want to enjoy the stunning natural beauty of the northern Cornish coast.



Agent

Kivells

InFocus



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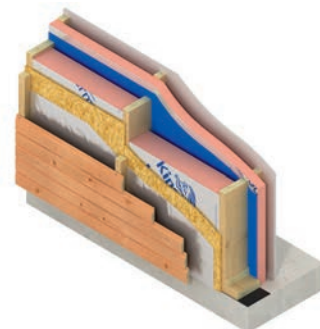
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The exhibition will provide a stress-free route to creating your dream home, with the opportunity to meet experts who can provide invaluable advice and top tips on your project.

Meet over 100 of the UK's best suppliers, offering 1000's of innovative and traditional products and services – from architects to timber frame companies, kitchens specialists to underfloor heating suppliers and mortgage experts to glazing options.

Plus, attend a range of inspiring free seminars and workshops, covering specific problems and choices that self builders and renovators face every day. Meet with architects and other independent experts for one-to-one advice, including how to find land, and what is possible with and without planning permission.

There are great features planned for Build It Live Bicester. These include the ever-popular Naked House, where you can see a section of a new build as it comes together after first-fix. Gain a fascinating insight into how things are installed, from ICF blockwork and underfloor heating to the roof trusses and floor joists.

The Federation of Master Builders will guide you through the process of finding the right builder for your project, and a must for all aspiring home designers are the Self Builders' Own Stories sessions. This is an opportunity to gain inspiration and confidence from real Build It readers who have already achieved their self build dreams.



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This gorgeous kitchen is the hub of the home in a self-build property in the heart of the forest in Leicestershire. Our Worn Grey Limestone was chosen for the floor, to keep in with the rural surroundings and create a farmhouse feel. Hand distressed edges and a textured, brushed surface give the limestone the appearance of a floor that has been laid for decades, adding character to the space. Call our knowledgeable staff for advice on flooring for your self-build.

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Web: www.floorsofstone.com



Abode Pronteau 3 in 1 steaming hot water taps

The latest innovation from Abode is PRONTEAU 3 IN 1 steaming hot water taps in two symmetrical designs and five 'on trend' finishes, chrome, brushed nickel, graphite, matt black and urban copper plus a new, compact two litre, UK manufactured PROBOIL2 boiler which sits neatly in the cupboard under the sink, all at value-for-money, affordable prices.

The steaming hot water taps have insulated spouts which are 360 degrees rotational for ease of use.

Tel: 01226 283434
Web: www.abode.eu

abode



Shaws shaker sink

This heavyweight British made, Shaws Shaker 800 is a deep single bowl sink with traditional style square sides, perfect for new build or refurbishment projects. The sink comes complete with a round overflow, a 3 1/2" waste outlet and is manufactured with a durable glaze designed for years of usage. Due to the weight of the sink, we recommend that it is installed professionally with bespoke cabinetry.



Handcrafted in Lancashire

Tel: 01254 775111
Web: www.shawsofdarwen.com



Has the window revolution arrived?

Europe's first full range of fibreglass window frames that set new industry standards in sustainability, durability and performance has launched in the UK.

A credible alternative to plastic and aluminium, Boavista offers those who choose them the opportunity to contribute towards reducing the UK's carbon footprint without compromising on design, function or form.

From a sustainability standpoint fibreglass is far superior than its PVC and aluminium counterparts due to its reliance on silica, which is naturally found in abundance, and for

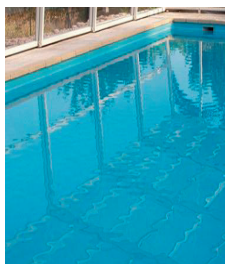
its production compared with the fossil fuels used to make PVC windows.

Fibreglass opens up a world of possibilities due to its strength and stability, which enable it to hold large surface areas of glass, bypassing the need to produce and fit specialist, structural glass. It is exceptionally hardwearing, highly rot and corrosion resistant and delivers a much longer lifecycle than PVC and aluminium.



BOAVISTA

Tel: 01252 415173
Web: www.boavistawindows.co.uk



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The wonder of wood

Wood floors are contemporary, long-lasting and suitable for just about any room in the home. If you have them, you'll know all about their virtues, if you haven't, read on...

Whatever your décor, there will be a wood floor to suit. They come in all shades, sizes and finishes from dark aged oak floors, to pale coastal varieties that look as if they have been bleached by the sun.

"Modern production techniques mean that we can produce a huge variety of finishes," explains Peter Keane, Director of The Natural Wood Floor Company. "We can enhance the grain to create pattern and

texture and with an untreated floor, you can choose your own finish and therefore create the floor that you want"

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Dales diary of Eurocell enhancements

Eurocell – the UK's leading manufacturer, distributor and recycler of window, door, conservatory and roofline products – has reconfigured its popular Dales Collection range of composite doors to increase and improve aesthetic choice, security and resilience.

Eurocell have introduced three new panel designs – the Elton, Hartington and Newhaven – which deliver 'on trend' farmhouse and contemporary styles. The composite doors come in a combination of 15 styles and 15 colours. Eurocell has also improved both the structural stability of its door panels and its locking hardware.

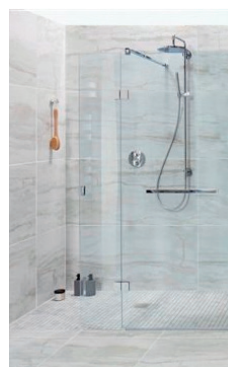
Tel: 0800 9883045
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FAKRO FTT U8 Thermo roof window – one of the most energy efficient windows on the market

The FAKRO FTT U8 Thermo is a specific roof window designed for energy-efficient construction and passive buildings. Utilising deeper timber sections, the quadruple glazing unit gives improved thermal performance, and the fivefold sealing system provides enhanced air tightness making it the perfect solution for air tight or passive buildings. The window is supplied as a set along with an insulated flashing kit, thermal collar to give a market leading installed U value of 0.58w/m2k and has full Passivhaus Certification.

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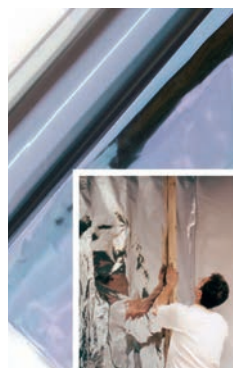


Sweet Temptation from Abacus

Perfectly in tune with the trend for seamlessly integrated showering, Abacus Bathrooms' new collection features a beautifully coordinated showering portfolio. Called Temptation, the range is led by two cutting-edge thermostatic shower controls in one and two outlet versions. The former caters for a single shower, while the latter allows a shower system that also diverts to a bath filler or hand-shower. To create a complete showering set-up in your home, the Temptation shower controls can be combined with a choice of five shower kit configurations.



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Web: www.abacus-bathrooms.co.uk



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BBA Certified, Eco-Brite® is 135 microns thick, a composite laminate of aluminium foil, a tough polyethylene film and metallised polyester film finished with a non-tarnish coating. It prevents 96% of radiating energy passing through structures, is a vapour barrier and helps make the building air-tight. Every square metre will save 12.33kg of CO2/annum when fitted within a fibre insulated structure. For over 15 years it has been successfully specified within the fabric of homes providing the most cost-efficient insulation method that meets current Building Regulations.



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Exotic meets Tranquil with BLANCO's new nutmeg shade

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SILGRANIT™ PuraDur™ sinks in nutmeg blend perfectly with a soft beige, muted white and elegant woods such as oak. Nutmeg is also beautiful with granite or artificial stone.



Tel: 01923 635 200
Web: www.blanco.co.uk



Build It 3D Home Designer

Struggling to communicate or envisage your dream self build home? Whether you're planning to go it alone or simply want to be able to better demonstrate your project vision to your architect, builder, or to aid a planning application – this powerful software is a user-friendly and cost-effective design tool to create detailed plans and drawings of your dream home.

See it instantly in 3D, add architectural elements, fittings and fixtures, before using the walk-through feature to fully visualise every aspect of your design. Build It 3D Home Designer software offers a user-friendly and cost-effective way to engage with the planning stages of your project, allowing you to draw your own plans or import an existing scheme. This intuitive, accessible program allows you to quickly and easily create accurate floorplans, elevations and cross-sections that can be viewed and exported in 2D and fully interactive 3D.

Key features include:

- Create detailed plans and drawings in 2D and 3D
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- Extensive range of pre-loaded windows, doors and other architectural elements
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- Walkthrough feature to allow you to visualise your project in full detail

Build It 3D Home Designer is available to buy as an online download for just £150.



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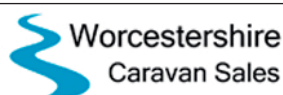


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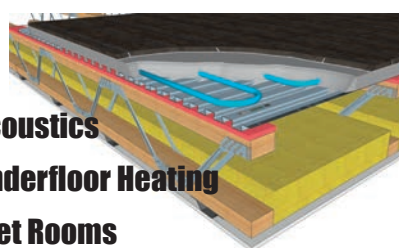
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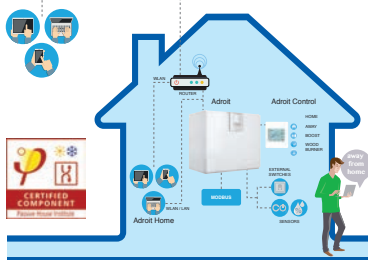
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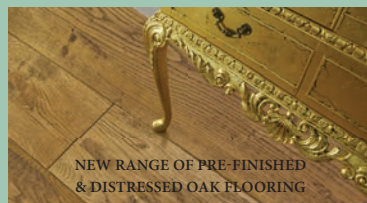
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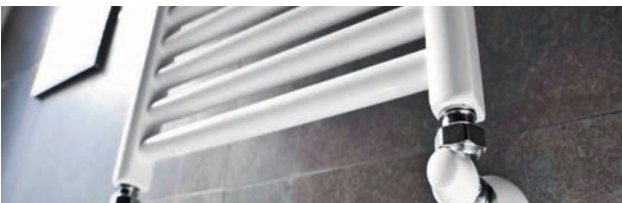
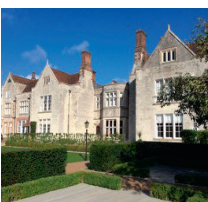
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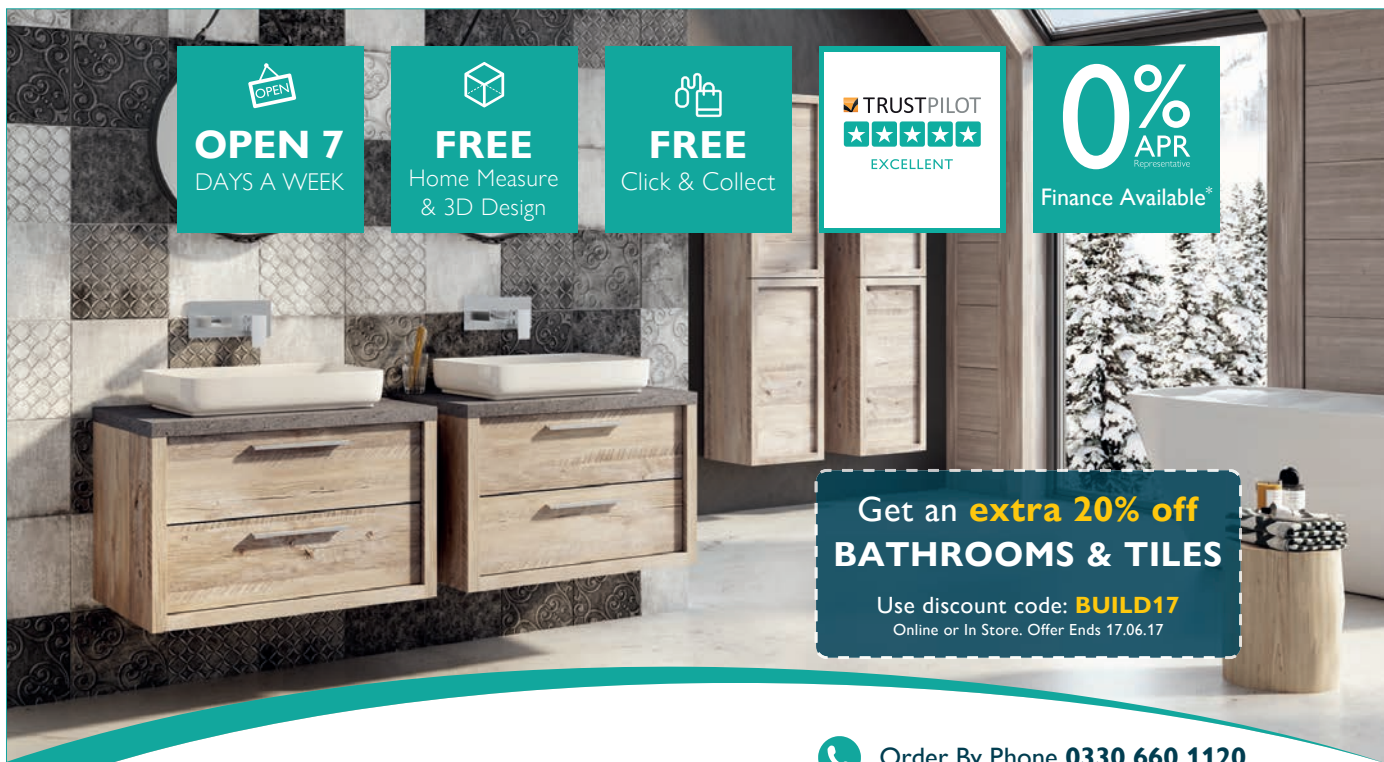
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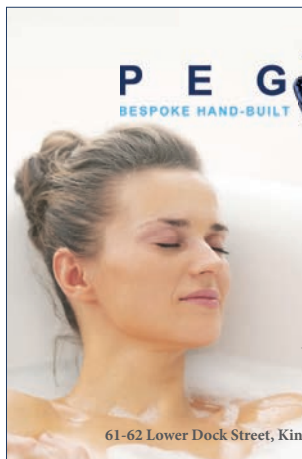
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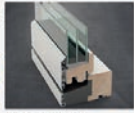
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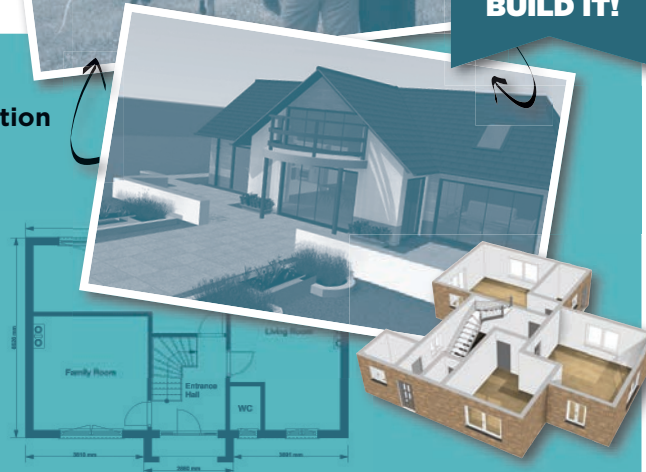
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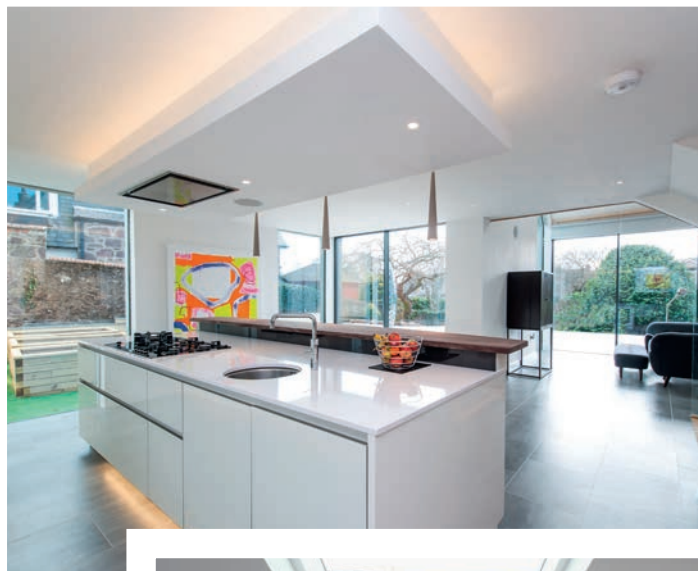
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Distributed by Seymour

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focus on:

This month we catch up with Julia Riddle, one of *Build It's* planning experts, to decipher what kinds of project can be completed without planning consent under so-called permitted development rights



What is PD and how does it differ from planning permission?

Essentially, it is work you can achieve without the need for planning consent. When you require formal permission for a building scheme, you have to go through the process of making an application. The council will consider this and take a view on whether your proposal is appropriate. However, there are certain projects you can undertake without the need to go down this route – and they fall under permitted development (PD) rights.

There are circumstances where these entitlements don't apply, but in cases where they do, there's a reasonable amount that can be done to your house. This includes extensions, loft conversions, changing windows and various alterations to the interior and exterior.

How do you know if your scheme falls under PD?

There are various places you can seek guidance on whether your project is covered. The Planning Portal (www.planningportal.co.uk) is a good place to start. It sets out all the different things that are possible – detailing the size of addition you can achieve at ground and first floor level, for instance, and the sort of floor space you can create via a loft conversion.

The most important thing is to ensure you actually have PD rights on your property, because there are a number of circumstances where they don't apply. Some of these are blanket conditions, for example, if you live in a conservation area or if your dwelling is listed. But there may also be site-specific reasons why your scheme doesn't fall under permitted development. I'd recommend calling your local council, speaking to the duty planning officer and checking whether there are any causes that mean your house might be excluded.

Does the local authority still have to approve your scheme, even if it falls under PD?

Not necessarily, but there's a process you can go through to ensure it is lawful. If you want to tackle a project that you believe falls under PD rights, you can apply for a Lawful Development Certificate (LDC) for the proposed scheme. If you've already undertaken works you think are allowed, you can apply for the same document retrospectively. These are more straightforward than a planning application, but you still have to fill out a form to provide details of your project. You're not obliged to obtain the LDC, but it can be helpful when you come to sell the property or just for peace of mind.

What are the most popular permitted development schemes that people tend to take on?

In my experience, extensions – particularly single-storey rear additions – are the most common. Side-return developments and loft conversions are also desirable. PD rights used to enable you to build as far as 3m from the back of your home as part of a single-storey rear extension on a terraced dwelling, and up to 4m on a detached house. The regulations were changed a few years ago to



This loft conversion scheme in London by Satish Jassal Architects (www.satishjassal.co.uk) was completed under permitted development rights

allow you to construct up to 6m on the former and 8m on the latter. These larger types of additions have become highly sought-after, but there are some challenges to consider – drains that may be within 6m or 8m from the back of your property, for instance.

Are PD rights always straightforward, or can they be open to interpretation?

This legislation is set out nationally and what's allowed is set at the top level by government. The thing to be aware of is that individual local authorities (LAs) can revoke or interpret certain PD rights. One of the most publicised instances of this concerns the conversion of office-use properties to residential. A few councils were concerned about the impact on the vitality of towns and the loss of commercial space as a result of this kind of scheme. So, some LAs successfully applied to have those rights taken back in certain areas.

Are there any common pitfalls to be aware of?

Currently, I would say mistakes are most likely to be made when interpreting the amended regulations – essentially the new rights that allow for larger rear extensions. The small print states that projects of under 3m or 4m (depending on the property type) count purely as PD. However, the new, larger limits operate under a slightly different process called prior approval. When your addition falls into this bracket, your neighbours get consulted. If they object, then it becomes a full planning submission – so it's always worth being aware of whether there's likely to be any local opposition. Formal planning consent will need further information to support it, so your project will become subject to the full set of considerations. For example, to what extent does it encroach on neighbours' privacy?

Are there any benefits to carrying out a building scheme under permitted development as opposed to applying for full planning permission?

There are advantages to both routes. In some circumstances you might be able to create larger developments under PD than you would by going for full consent. It's also a cheaper process and less information needs to be supplied to the council. My one caveat is that sometimes it's possible for people to achieve better quality schemes by going through the formal planning process. Permitted development is very much based on numbers – you're allowed however many m² or m³ of space – but it's not necessarily about the design, aesthetics and calibre of the project that's being proposed. It can be easy to get caught up in how much you can develop under PD, and start out by trying to maximise that rather than creating the addition you really want. It's worth having a full understanding of both processes and making a decision about which is preferable for you.

For more advice you can schedule a one-to-one appointment with Julia at *Build It Live Bicester*. Visit www.builditlive.co.uk for more information

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