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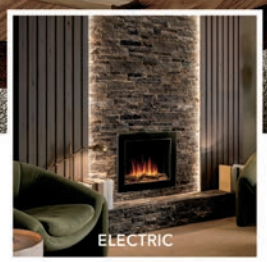

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FROM THE EDITOR...

After a long wait the Government has finally released its full response to the Future Homes Standard (FHS) consultation. After the initial implementation target of 2025 came and went with no news, developers and self-builders alike now finally know where they – and their projects – stand moving forward.

The standard will officially come into force in March 2027 and applies to all new homes built in the UK, though there will be a year-long transition period, making it fully mandatory from March 2028.

What this means for self-builders is that your home must be built with a fabric first approach. Mains gas connection will no longer be allowed, making heat pumps the likely heating option. Target U-values will be low meaning high insulation levels will be necessary, as will triple glazing. The use of renewable technologies such as solar PV and EV charging will be non-negotiable, ventilation will be essential, and waste water heat recovery systems will be required in order to meet hot water efficiency targets.

Of course many of you will already be building to high sustainability standards, so these changes are more likely to impact large-scale developers. But not all self-builders are on the same page, so to truly gauge where they currently stand on sustainability, we've focused the first of our Selfbuilder Surveys on Building a Greener Home – you can see the results of the research and read the full report on page 23.

While our survey findings were mixed, two of our case studies are proof that sustainability and low carbon building were high on the agenda for many self-builders long before the introduction of the FHS. Jane and Neil took a low-key and natural approach, focusing on a fabric first strategy to support sustainability long-term on page 28. Meanwhile seasoned self-builders Frank and Kerry were motivated to build their first Passivhaus-certified home by the dream of minimum maintenance and running costs in Jess Unwin's case study on page 42.

Enjoy the issue!

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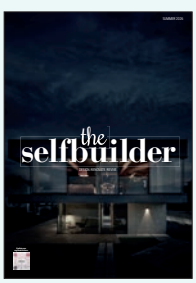

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Design first
Naimh & John took a design-led approach to the renovation of their Irish cottage

Plan like a pro
The NSBRC's latest Masterclass installment explains everything you need to know about planning permission

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Protect your project

James Parker speaks to Jake Fitness, operations manager at Self-Build Zone, about why specialist insurance is essential for protecting your self-build project, satisfying mortgage lenders and safeguarding your investment.

DO I REALLY NEED TO INSURE MY PROJECT AGAINST SOMETHING THAT MIGHT NOT HAPPEN?

Yes, because the risks on a self-build project are unpredictable and can be financially devastating. Events like fire, theft, storm damage, or vandalism are rare, but when they do occur, they can halt your project and lead to major unplanned costs. Self-build insurance is designed to protect your investment at every stage, giving you peace of mind while work is ongoing.

WON'T I BE COVERED BY MY BUILDERS' INSURANCE?

Not fully. Your builder's insurance typically covers their own liabilities, such as injury to workers or damage they cause – but it doesn't usually cover your structure, materials, or the overall project. As the project owner, you remain responsible for insuring the build itself, including site risks and partially completed works.

WHAT SPECIFICALLY DO I NEED TO MAKE SURE I AM INSURED FOR?

A comprehensive self-build policy should include:

- Contract works (the build itself)
- Site materials (onsite and in transit)
- Public and employer's liability
- Existing structures (if renovating)
- Tools and plant (if applicable)
- Non-negligence/party wall cover (if required)

The key is to ensure cover matches your build type, value and level of involvement.

CAN INSURANCE HAVE AN IMPACT ON MY SELF-BUILD MORTGAGE?

Yes, it can. Most lenders require proof of adequate insurance before releasing stage payments. Without the right cover in place, funds may be delayed. Having a suitable policy reassures lenders that their investment and yours are protected throughout the build.

WHAT DO I NEED TO LOOK OUT FOR WHEN PURCHASING A POLICY?

Key things to check include the level of cover and the sum insured, making sure it reflects full rebuild costs. Also consider the policy's flexibility to adapt as your project evolves and progresses, and the duration of cover, ensuring it matches your build timeline. It's also important you understand the excess levels and any potential exclusions, and that you know whether it also includes public liability

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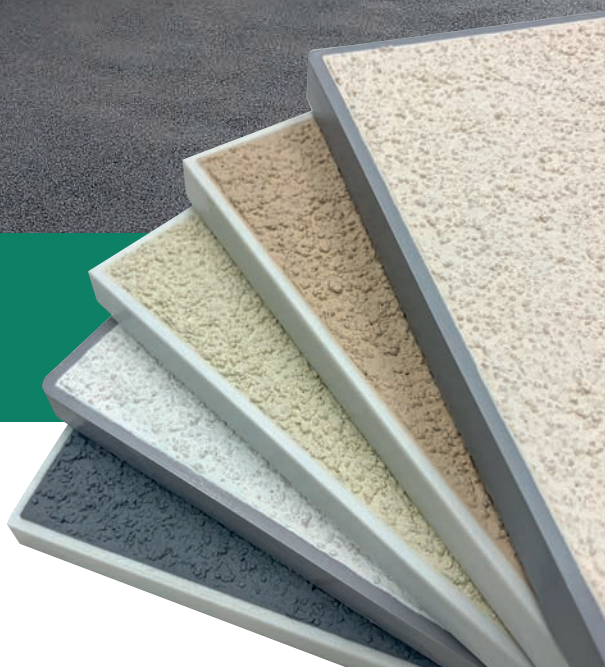

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and site-specific risks.

A specialist provider like Self-Build Zone typically offers policies tailored specifically for self-builders, which can be more suitable than standard insurance.

DO I NEED A WARRANTY FOR ONCE THE BUILD IS COMPLETED?

While not legally required, a structural warranty is strongly recommended. It protects against defects in design, materials, or workmanship typically for 10 years after completion. It's also often required if you plan to sell the property within that period, as buyers and lenders usually expect it.

To listen to the full podcast and hear more of what Jake has to say about self-build insurance, scan the QR code.

"The Centre is a great resource. We found our heat pump supplier there four years ago. We returned recently to find a (Solar) PV and Battery supplier. Well done NSBRC, again. We really appreciate the service you provide."
– Bob, 2026 ★★★★★

"Our visit to the NSBRC in Swindon was very useful ahead of a forthcoming project. The live seminars were led by experts in their field and provided good opportunities to ask questions. The suppliers at the various stands were also on hand with good advice, and the experience as a whole will help us to move forward with our project. There was no pressure from anyone, just a genuine willingness to help" – Janine, 2026 ★★★★★

"Still the ideal place to go to research your self build project. Every structural solution in particular is on display, and explained honestly by experts. Well worth a visit." – Jim, 2026 ★★★★★

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The future of retrofit

James Parker speaks to Nick Whant, sustainability manager at the NSBRC, about the viability, performance and sustainability of retrofitting properties.

IS RETROFIT A VIABLE OPTION FOR ANY TYPE OF PROPERTY?

In short, yes! Depending on your budget, you may be looking for low-cost solutions to increase comfort and reduce running costs of your home, or you may be considering a 'deep retrofit', which represents a larger investment and a more disruptive project.

We generally encourage a 'fabric first' approach, focused on reducing heat-loss and improving airtightness before investing in heat and energy solutions. Reducing your 'space heating demand' will generally offer greater long-lasting benefits than heat and energy upgrades alone, which can be a fantastic next step.

In a more modern home, you might choose to skip ahead and focus on distributing heat around your home more economically, or reducing your reliance on the grid by integrating solar and battery storage.

In the Retrofit Zone educational exhibit at the National Self Build & Renovation Centre (NSBRC), we explore how your approach and priorities may vary depending on the type or age of your home.

WHAT ARE THE MAIN BENEFITS OF DOING A RETROFIT?

Retrofit projects come in all shapes and sizes, and so do the benefits. Keeping warm in winter and cool in summer makes for a more comfortable home. A balanced environment with consistent temperatures and fresh air comes with health benefits too. Indoor air pollution can be more harmful than we tend to realise.

More efficient homes aren't just better for the planet. You can drastically reduce running costs, which is especially appealing for those thinking about their forever home. Shorter term benefits can be achieved, and your property value can increase too but most significant retrofit solutions are a long-term investment. Crucially, reducing gas and energy usage – or moving away from fossil fuels – futureproofs against rising costs in an increasingly volatile market.

For some, creating a more sustainable home, or sensitively updating an older property can be rewards of their own, and a legacy to leave for future generations.

WHAT ARE SOME MISCONCEPTIONS PEOPLE HAVE ABOUT RETROFIT?

Cavity wall insulation has long had a mixed reputation. It was often promoted as a quick fix for older buildings with narrow cavities, but in many cases the insulation later became damp and ineffective. Repairs can be disruptive and expensive. More recently, similar concerns have emerged around external wall insulation upgrades, a decade or so on from this non-intrusive solution being widely recommended and subsidised. While external systems are generally easier to remove, failures still create serious problems for homeowners and tenants.

Importantly, these issues don't mean the systems themselves are inherently flawed. Many failures stem from poor assessment of building suitability, existing moisture or debris in cavities, incompatible materials and inadequate detailing that attracts or traps moisture. This is especially critical in older solid-wall homes where breathable, vapour-open materials and good ventilation are essential. Effective moisture management is key. Addressing knowledge gaps among tradespeople remains vital, and is something the NSBRC is actively supporting.

WHAT ARE THE KEY AREAS TO CONSIDER WHEN PLANNING?

Knowing where to start can be tricky, so we recommend deciding how far you want to go, and working backwards from there to create a plan – even if you end up staggering the work itself. It can be tempting to start making upgrades before having a whole house plan. The danger is having to undo work further

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down the line, or wishing you had factored in how upgrades interact with one another. Effective prioritisation is important, as is balancing the eco-system of your home, cost-effective scheduling and ensuring longevity of upgrades.

That's exactly why we've built the Retrofit Zone. You can explore life-size cross-sections of housing commonly found in the UK, to help you navigate challenges and solutions associated with your type and age of property. We demystify retrofit standards, jargon, planning permission, financing and schemes to equip you with a strong base level of understanding and identify your next steps.

HOW SUSTAINABLE CAN I BE?

It really comes down to budget. If sustainability is your main objective, then a carbon-neutral house without bills is genuinely achievable – as long as you can afford the initial investment. Some retrofitters even manage to create carbon-negative homes, producing more energy than they use, and selling clean energy back to the grid.

Most of us aren't in a position to fund such a project and have to balance our priorities. It's all about weighing up the expense of the project vs the long-term benefits and savings. Of course, not all these benefits are financial.

Perfection shouldn't be the enemy of progress though. There are many ways to curb our gas and electricity usage without achieving a fully self-sufficient home. Some retrofitters also choose building materials with less 'embodied carbon' in their production methods. Reducing water usage and harvesting rainwater, supporting biodiversity, being conscious consumers and managing waste effectively, all make a difference too.

WHAT ARE THE MOST COMMON MISTAKES PEOPLE MAKE WHEN RETROFITTING?

While the Boiler Upgrade Scheme offers homeowners up to £7,500 for switching to low-carbon heating systems like air source heat pumps, these should not be seen purely as cost-saving measures. Heat pumps allow us to move away from fossil fuels more efficiently than ever before but typically run at lower temperatures than gas boilers. This means homes could become less comfortable or less affordable to run if we don't reduce heat loss and upgrade radiators. A 'fabric first' approach helps maximise efficiency, and underfloor heating is a common solution which pairs well with a heat pump. Grants are valuable, but should support well informed decisions, rather than drive them.

High-spec products or materials are no guarantee of success without proper installation and detailing. For instance, triple-glazing reduces heat loss through the glass but poor airtightness around the frame allows heat to escape. Likewise, insulation on the internal or external surface of walls must continue along window reveals and onto the frame to prevent cold spots and condensation. Ventilation is also crucial. Blocking airflow beneath suspended timber floors can trap moisture, so clear paths between airbricks should always be maintained.

Examples of all these scenarios are demonstrated in the NSBRC's Retrofit Zone. Visit nsbrc.co.uk to find out more and plan your free visit.

To listen to the full podcast and hear more of what Nick has to say about the potential of retrofitting your home, scan the QR code


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MAXIMISE YOUR SPACE

Jessica Smith of Curated Spaces and Studio Smith Interior Design shares her top tips for maximising space, improving flow and avoiding costly mistakes during your project.

Most people assume an interior designer comes in at the end, once the walls are up, the kitchen is in and the hard decisions have been made. In reality, that's the wrong way round. An interior designer needs to be one of the first on your design team to help add value from the beginning, saving you from costly mistakes and making the whole self-build process more efficient.

WHERE SPACE MEETS PURPOSE

Space isn't just about square footage. It's about flow, proportion, light, and the relationship between rooms. Get those right and even a modest home feels generous.

It's also about everyday practicality. Where do you put your coats, shoes, hoover and all the things that don't have a home? Often overlooked during renovations, interior designers consider storage at the layout stage as it shapes everything that follows.

Most clients come to an interior designer after experiencing the cost of a poor layout – wasted spaces. A good floor plan does the hard work upfront, giving clarity before the build begins so you're not second guessing decisions. It reduces stress onsite, avoids costly changes and quietly supports your everyday life.

A HOME THAT WORKS AS ONE

The biggest mistake in renovation projects is treating each room as a separate problem. In reality, every space affects the next.

Layout decisions don't sit neatly within one room. A small change, like moving a door or adjusting a wall, can affect how the rest of the floor works. Looking at the whole home allows decisions to be made together, so the space flows properly and nothing is fixed in isolation.

Map how you move throughout your home before you make any major design decisions.

CLARITY BEFORE CONSTRUCTION

Extensions are often the go-to solution when a home doesn't work. However, the problem is rarely a lack of space; it's a poorly considered layout.

Before committing to a major project, work with an interior designer to interrogate the existing footprint. Rather than extending, one wall may need to come down, or the kitchen and dining rooms could be swapped. Dead circulation space could be absorbed into living areas; these changes are often more cost-efficient and impactful than building out.

That's not to say an extension isn't the right answer, but it should come from a clear understanding of what you already have. Understanding how your rooms are performing and what you need them to do ensures the result adds real value to everyday life.

ARCHITECT OR INTERIOR DESIGNER?

Architects and interior designers aren't interchangeable, and the best self-build projects use both from the start.

An architect works on the structure: the bones of the building, planning permission and the technical drawings that make a build legally and structurally sound. If you're extending, reconfiguring the layout, or making changes that require consent, you need an architect or architectural technician.

An interior designer works on everything within those walls: how spaces function, flow, feel and are specified and furnished. They consider details like the height of a light switch and where

sockets sit in relation to furniture.

Bring your interior designer in alongside your architect, not after. Structural decisions directly impact the interior and changes are always more expensive onsite than on paper.

CONSIDER LIGHTING EARLY ON

Lighting plays a huge role in the look and feel of a room, creating zones and mood, so it shouldn't be an afterthought. Not considering lighting early enough can leave you with rows of spotlights on a grid that don't fully illuminate what they should, with no flexibility for how the space is used in the evening.

Lighting and electrical planning should be designed around your layout. You need a clear sense of where you'll sit or cook to understand where task lighting is required and where you want to create an atmosphere. These decisions must be made before the first fix, because once ceilings are plastered and walls are painted, the opportunity has passed. Getting it right makes a space feel considered and intentional.

CREATE FLOW WITH A CONSISTENT DESIGN LANGUAGE

One of the most effective ways to make a home feel larger and more cohesive is to establish a clear design language throughout. This doesn't mean every room should look the same, but that colours, materials and details speak to each other, so the eye moves comfortably from space to space without jarring transitions.

Practically, this means carrying a floor finish from hallway to kitchen, running a consistent skirting profile throughout, or repeating a finish, hardware choice or tile type to create rhythm and repetition. These decisions are easy when planned from the outset, but difficult to retrofit once rooms are finished in isolation.

THE DETAIL IS WHERE THE DIFFERENCE IS MADE

The homes that feel truly special aren't necessarily those with the largest budgets, but those where even the smallest decisions have been carefully considered.

A self-build project is thousands of decisions made in sequence. Making them intentionally, with the whole home in mind, results in better flow. That's what an interior designer helps you do, and the earlier they're involved, the more of those decisions they can help get right.

Jessica Smith is the founder and interior designer at Curated Spaces and Studio Smith Interior Design

INTERIOR INSPIRATION: KITCHENS & DINERS

Whether you're designing a space to cook and eat with the family or for entertaining large groups, find inspiration in our selection of products and fittings for your kitchen and dining spaces.

1. The **Barney extending kitchen table** (pictured in light oak and also available in dark oak) from **Loaf** is a generous table with a modern nod to farmhouse style – chunky in all the right ways, but cleaner round the edges. Built for big get-togethers and family meals, it easily seats 8-10 people, and is cleverly designed for maximum legroom. The sustainably-sourced oak brings rustic charm while the clean lines and subtle detailing give it a more refined finish. Price: £1,795 **www.loaf.com**

2. Simple and elegant, the **Aamani counter chair**, available from **nkuku**, combines a mango wood frame with recycled paper cord handwoven to create a strong and durable seat and back. Thanks to its laidback charms, this design fits into any scheme, from rustic kitchen bar to airy garden room. For extra comfort, it comes with a linen seat pad with ties, but can equally be used without. Also available as a dining chair and an occasional chair.
Price: £350
www.nkuku.com

3. The **Belgravia collection of brass pull handles and knobs** from **Hendel & Hendel** has been crafted to exacting standards, with intricate knurling that wraps around each of the four pieces – the pull handle, T-bar knob, 19mm knob and 35mm knob – to create a cohesive collection.
The collection is available in multiple finishes: dark brushed brass, satin brass, brushed nickel, polished nickel, and matt black. Pictured as part of kitchen by Grid Thirteen.
Price: from £12.60
www.hendelandhendel.co.uk

4. This traditional bespoke in frame **Shaker kitchen** was designed, made and installed by **Higham Furniture**. Internal storage includes a floor-to-ceiling larder, a 'bantry' and a similar-sized crockery cupboard, plus deep pan drawers. Together with overhead and undercounter cabinetry, a central island is used for food preparation and family dining, with further storage drawers within. Cabinetry is painted in Rolling Fog 143 and the island is painted in Pompeiian Ash 293, both by Little Greene. Worktops are 30mm thick Carrara quartz. Price: shaker kitchens start from £35,000
www.higham.co.uk

5. Introducing the uber-stylish **Quinne Black Dining Chair** from **Ruma**, a comfortable, on-trend addition to your home. With the simple, curved back, this unique wishbone chair adds a touch of Scandi chic to any interior. The chair frame is crafted from beech wood in a black hue and finished off with a woven natural paper rope seat for the ultimate combination of style and comfort. Price: £235
www.ruma.co.uk

6. Zenith compact laminate worksurfaces (pictured in Don Tello) from **Bushboard** (a Wilsonart company) are waterproof, each with a realistic stone texture and solid coloured core. Quick and simple to install and completely waterproof, Zenith can be cut to follow curves and shapes without the need for additional edging. Unlike stone and marble, the worktops can be measured, cut and installed in the home by a kitchen installer with regular tools, so you can achieve a showroom look without a long wait or high price tag.
www.bushboard.co.uk

NSBRC Masterclass: planning permission

For many self-builders, securing planning permission can feel like the finish line. In reality, it is something quite different: a milestone – significant, yes – but only one step in a longer and often more complex journey.

What follows a planning decision is frequently what determines whether a project progresses smoothly or becomes delayed by detail, timing and process. And it is here, rather than at the point of approval itself, that many projects begin to falter.

While certain minor elements of development may fall within permitted development rights, these are typically limited in scale. Crucially, all projects – regardless of size – will still require building control approval before work can begin.

Over the past decade, the planning system in England and Wales has undergone substantial change. Updates to national policy have reinforced a presumption in favour of sustainable development, streamlining guidance at a high level. Yet planning remains inherently local. Adopted local plans, appeal decisions, national policy and site-specific constraints all interact – sometimes in conflicting ways. As a result, interpretation and timing often matter as much as design itself.

On paper, approval rate trends may appear encouraging. In practice, however, self-build projects – particularly those involving new dwellings or sensitive sites – are rarely straightforward.

Once planning permission is granted, there is no time to pause

OUTLINE PERMISSION OR PERMISSION IN PRINCIPLE?

For many applicants, outline planning permission represents the first meaningful step. It establishes whether development is acceptable in principle, without requiring detailed design at the outset. This can be a strategic way to test a site before committing to significant architectural costs.

However, outline consent is not permission to build. It is better understood as an agreement to move forward into a more detailed stage of assessment – one that is often underestimated. An alternative route is Permission in Principle (PIP), introduced as a lower-cost, simplified option. While attractive at first glance, it comes with important limitations. Only a narrow set of matters are considered at this stage, meaning key issues – such as ecology, heritage impact, access or tree constraints – may not be fully assessed.

The risk is clear: a site may appear to have consent, but still prove undeliverable once these factors are examined in detail. Early professional advice is essential before relying on PIP when acquiring land.

WHAT HAPPENS AFTER OUTLINE PLANNING PERMISSION?

Securing outline permission is not the end of the process – it is the beginning of a more detailed and time-sensitive phase. Before development can lawfully

commence, three critical stages must typically be completed.

RESERVED MATTERS

This is where the scheme takes shape in full. Layout, scale, appearance, access and landscaping are all defined and formally assessed. The concept becomes a buildable proposal.

Timing is crucial. Reserved matters applications must usually be submitted within three years of the outline consent. Once approved, development must begin within a further two years. These deadlines are fixed; missing them can result in the consent lapsing entirely.

DISCHARGE OF CONDITIONS

Even with approval in place, development cannot begin until planning conditions are discharged. These are often treated as minor formalities, but in reality they can have a significant impact on programme and cost.

Conditions may require ecological surveys, drainage strategies, material samples or construction management plans. Delays frequently arise not through refusal, but through process.

Ecology is a common example. Surveys are often restricted to specific times of year. If a condition is issued outside the appropriate season, progress may be delayed for months. Without careful planning, momentum can quickly be lost.

TIME & PROCESS

Local authorities continue to operate under significant pressure, and discharge applications can take longer than anticipated. What appears to be a straightforward administrative step can become a critical bottleneck.

At the same time, building control approval must also be secured before work begins – adding another layer to the process. The key lesson is simple: once planning permission is granted, there is no time to pause. Progress depends on maintaining momentum. The good news is that you can run your conditional work, detailed plans and even building control concurrently, so you now have three workstreams to manage.

WHEN PLANS CHANGE

Few projects reach construction without some degree of change. The planning system does allow for flexibility, but the appropriate route depends on the scale of those changes. Minor adjustments may be dealt with through a non-material amendment – a relatively quick process for small refinements that do not alter the overall scheme.

More substantial changes typically require a Section 73 application, resulting in a revised consent. Where proposals differ significantly from what was originally approved, a fresh planning application may be necessary.

Understanding the distinction is important. Choosing the wrong route can introduce unnecessary delay and complexity.

OUTLINE OR FULL PERMISSION?

The choice between outline and full planning permission is often framed as a matter of preference, but in reality it reflects strategy.

Outline permission allows applicants to establish whether development is acceptable before committing to detailed design. It is particularly useful for complex or uncertain sites.

Full planning permission, by contrast, resolves both principle and detail in a single application. While more demanding upfront, it can provide greater certainty and reduce the need for subsequent approvals.

Neither approach is inherently better. Each carries its own risks, costs and advantages.

THE IMPORTANCE OF WHAT COMES AFTER

Planning decisions are often seen as the defining moment in a project. In practice, the challenges that follow are just as significant.

Delays are rarely caused by outright refusal. More often, they arise from missing information, underestimated conditions or poorly timed surveys. Individually, these issues may seem minor. Collectively, they can stall progress for months.

For those considering land purchase, caution is essential. The value difference between land with and without consent remains substantial, and assumptions about deliverability can be misleading. Wherever possible, acquisitions should be made conditional on securing satisfactory approvals.

EARLY ADVICE, BETTER OUTCOMES

Engaging with professionals early – whether architects or planning consultants who will advise on what involvement if any is needed from the council – can significantly reduce risk. While pre-application advice is not binding, it often provides valuable insight into how a proposal is likely to be received.

Ultimately, planning permission is not a single decision, but a sequence of stages. Outline consent may feel like progress, but it is what follows – reserved matters, conditions and amendments – that determine whether a project moves forward or stalls.

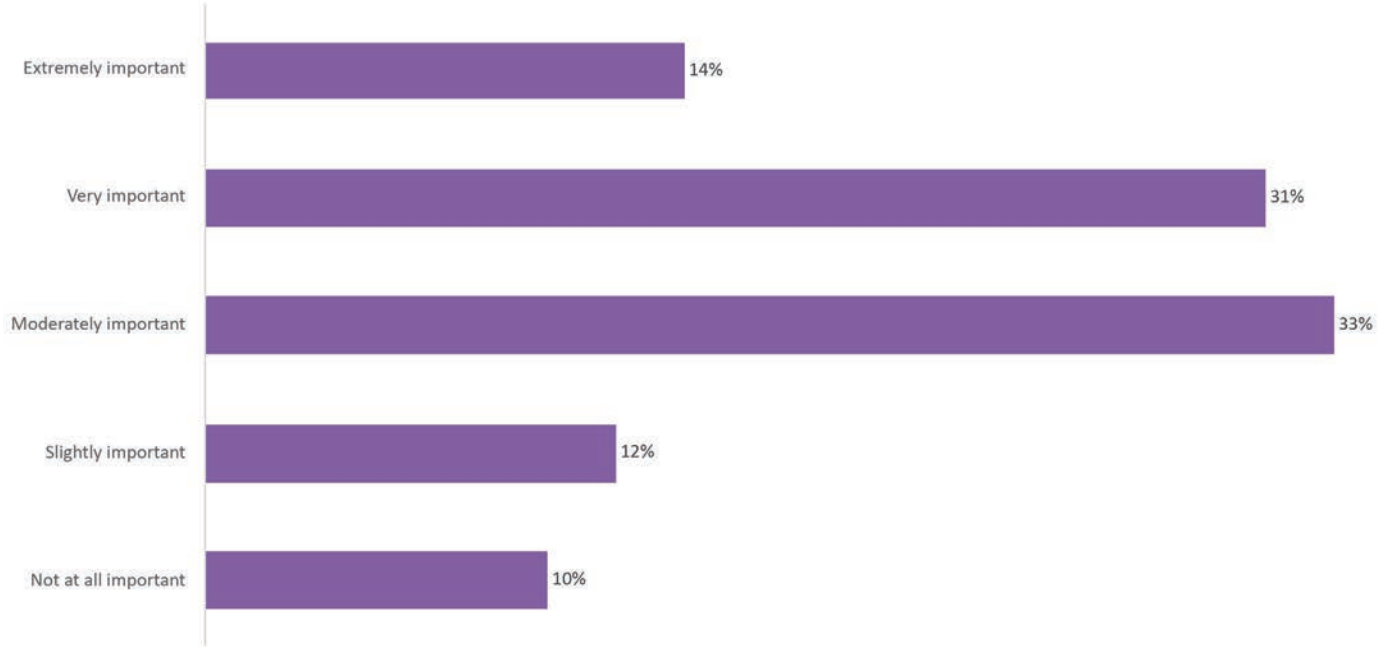
For self-builders, understanding this distinction from the outset is often the difference between a completed home and a project that never gets finished or even started!

Want to learn more about the planning process? Join the next 'NSBRC Guide to Planning Permission' held at The National Self Build & Renovation Centre in Swindon.

Summer 2026

BUILDING A GREENER HOME

How important is sustainability in your project?



INTRODUCTION

Creating a sustainable and low carbon home is the ambition for many self-builders and renovators, but it doesn't come without its challenges.

The reasons to pursue a sustainable build are plentiful. In recent years rising energy costs and a better understanding of the consequential health benefits have led to more people looking to make their home greener. Many homeowners are simply more aware of their carbon footprint and the negative implications of climate change, and feel more impassioned to 'do their bit' for the planet.

As awareness grows, sustainable features can make homes more valuable to potential future buyers. Government incentives have also encouraged homeowners and self-builders to use renewable technologies such as the Boiler Upgrade Scheme and the now-defunct Renewable Heat Incentive (RHI).

From 2027, all new builds – including self-builds – will be governed by the Future Homes Standard (FHS) which mandates that new homes must be "zero-carbon ready" and built with a fabric first approach. Crucially, connection to mains gas will no longer be permitted making alternatives such as heat pumps non-negotiable, and low target U-values will mean high levels of insulation and triple glazing will be required. For many self-builders these types of solutions were on the agenda prior to the Government's announcement.

There are a multitude of ways in which a home's sustainability can be improved. Increasingly popular choices include renewable technologies such as the aforementioned heat pumps, solar panels and battery storage.

Some use sustainable building materials such as timber, and many already prioritise a fabric first approach, considering elements such as high performance insulation, triple glazed windows, airtightness and ventilation including the use of mechanical ventilation with heat recovery (MVHR). EV charging and even waste water heat recovery (WWHR) – which uses a heat exchanger to

capture the heat from warm bath or shower waste water as it drains away – are also growing in prominence, with both soon to be required as part of the FHS.

Aligned with building a greener home, enhancing biodiversity has also become an important element of any project. Although exempt from mandatory Biodiversity Net Gain (BNG) requirements, some self-builders still opt for measures that improve biodiversity such as bird or bat boxes, bee bricks, restorative planting, general shrub and tree planting, green roofs or Sustainable Urban Drainage Systems (SuDS).

To gain a better insight into this expansive subject *The Selfbuilder* commissioned a survey, conducted by Find Out Now, of people currently undertaking a self-build or major renovation, with the aim of better understanding their priorities, motivations and experiences. As the demand for energy-efficient and environmentally responsible homes continues to grow, it's important to gain insights from those undertaking projects.

The survey explored how important sustainability is to self-builders and renovators and the types of measures they're using, as well as those which perhaps have a lower uptake than ideal. It also delved into what their key motivations are – whether that be environmental, financial or related to health and comfort.

We also asked self-builders whether they consider their project overall to be a 'low carbon build' – which surprisingly only 25% of respondents said they do.

As well as gaining important insights into the 'hows', 'whys' and 'why nots', the research also aimed to find out what the most common challenges are, such as cost considerations and budget restraints, access to reliable information and confidence in emerging technologies.

The survey also asked how individuals are addressing biodiversity within their projects, to gauge how many are recognising the importance of nature positive design and its connection to a project's overall impact on the environment.

The findings help build a clearer picture of what's driving self-builders and the most popular measures and methods, as well as what's holding them back. Gaining an insight into where there are gaps in knowledge and what the biggest barriers are is important in order to put the right support, education and measures in place to increase the vital uptake of sustainable solutions.

THE FINDINGS

While the importance of sustainability is increasingly understood, putting it into practice is not always as straightforward. Much of sustainable building relies on using new technologies, and trust in these systems can take time to build – particularly among consumers who don't work in the industry. New technologies also naturally often come with a higher price tag, which can be a problem for self-builders or renovators who are led by a strict budget.

Nevertheless, it's undoubtedly significant to those building a home or renovating their existing home. When asked how important sustainability is in their project, a combined 64% of respondents said it's either 'very important' or 'moderately important', and a further 14% went one step further to say it's 'extremely important'.

While it's easy for us all to recognise the importance of building sustainably, it's another thing to be proactive about it when the opportunity arises. It's therefore reassuring that so many self-builders are actually prioritising sustainability in their own projects, and not just 'thinking about it'.

Methods & measures

We then asked respondents what measures they're undertaking to improve the sustainability of their project, offering them a list and asking them to select all that apply. The most popular option by an overwhelming majority was insulation, which 60% of respondents selected.

This is not hugely surprising, with the benefits of insulation having been well documented and understood for years and the effectiveness of products on the market having increased over time. Compared to newer technologies which are arguably still 'up and coming', insulation is a tried-and-tested solution.

What is surprising – and somewhat alarming – is that 24% of respondents said they are using none of the options listed. However this could be due to a simple lack of knowledge – with many self-builders not project managing their builds themselves they may simply be unaware what methods or products are being specified or installed by their architect or contractor.

After insulation, the next most selected options were timber frame (24%), solar PV (22%) and airtightness membranes & tapes (20%). Timber frame is generally a popular choice among self-builders, offering a suitable and environmentally friendly alternative to more conventional brick and block construction methods, so it's perhaps surprising that not more of our respondents are using it. Solar PV use is growing, providing a great method for existing homeowners looking to make upgrades as well as those undertaking a full build.

Airtightness tapes are a fairly simple way to help reduce air leakage, creating a more comfortable environment, improved insulation performance and better indoor air quality. Airtightness is particularly important for those targeting Passivhaus, and is also likely to increase in usage with the introduction of the FHS and its improved airtightness targets.

What was more surprising was the low number of respondents who said they are using a heat pump (air or ground source), with only 12% selecting it. Generally these have increased in popularity among the self-build community over the past few years, and again with the imminent implementation of the FHS they will become all but non-negotiable with the ban on connecting to mains gas. However, heat pumps have gained a reputation for being expensive to purchase and install, which does put many self-builders off, particularly those working to a tight budget.

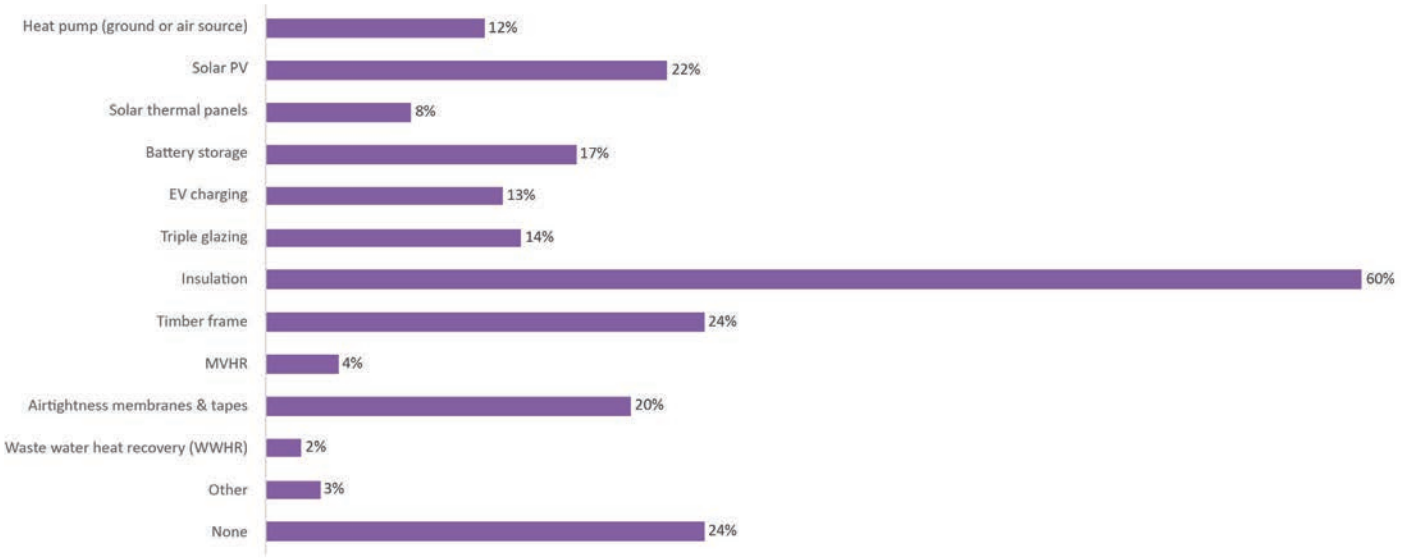
Other options we gave respondents include battery storage (17%), triple glazing (14%) and EV charging (13%) – again all measures which are gradually increasing in popularity and usage, and will likely surge more once the FHS comes into force.

Some respondents commented with their own additional measures, including the "use of materials produced in the UK to limit carbon footprint," "LED lights" and "rainwater harvesting," all of which are great steps towards reducing a project's impact on the environment, both during construction and in the long term.

While it's encouraging that there are a myriad of measures being used by self-builders and renovators, uptake for most could arguably be higher. Whether that's down to gaps in knowledge, high upfront costs making them unattainable, or apprehension about newer technologies, there is undoubtedly work to be done to increase uptake overall.

Low carbon building

Building with sustainability in mind is one thing, but to consider



What measures are you undertaking to improve the sustainabilty of your project?

a project overall to be a low carbon build is another. With that in mind, we asked our respondents if their project could reasonably be considered low carbon, when thinking of it as including design choices intended to reduce carbon emissions such as improving energy efficiency, generating renewable energy, reducing reliance on gas or using lower carbon materials.

With our given definition meaning respondents needed to be using several sustainable measures, it's positive that 25% said yes, they do believe their project would be considered a low carbon build. Given the uptake of many of the individual measures in the previous question was somewhat low, it's positive that a quarter of respondents do believe their build overall qualifies as low carbon.

While almost half (49%) of respondents less encouragingly said no, the remaining 26% said they don't know. This could be indicative of gaps in knowledge and a lack of understanding from many self-builders about sustainability and low carbon building in general. It could also be down to respondents using architects, contractors and project managers and therefore not necessarily always being up to speed on what methods and technologies are being utilised and installed.

Motivations & barriers

Following our question on low carbon building, we asked those who said yes what their motivations for taking on a low carbon build are. Unsurprisingly given rising costs over the past few years, the most popular choice was to reduce energy bills, selected by 63%. In a similar vein, looking ahead to potential future increases, 38% said they want security against energy price rises.

Sticking with respondents' more personal reasons for building low carbon, 53% of respondents said their motivation was to create a warmer home and 41% said they want better air quality and a healthy living environment.

The motivations which have a wider impact on the environment were marginally less popular: 34% said they want to reduce their overall carbon footprint, and 31% said their motivation is to avoid contributing to climate change. 28% said they want to reduce reliance on gas, and 13% said they are hoping to reduce embodied carbon.

While not as popular as the more personal reasons relating to comfort and cost/saving money, it nevertheless indicates self-builders have a reasonable understanding of the impact they can have on the wider environment. It also proves the reasons and motivations for self-builders to consider building low carbon are far-reaching – from those having a direct personal benefit to those which can help mitigate the effects of climate change – which in turn should encourage others to consider pursuing it.

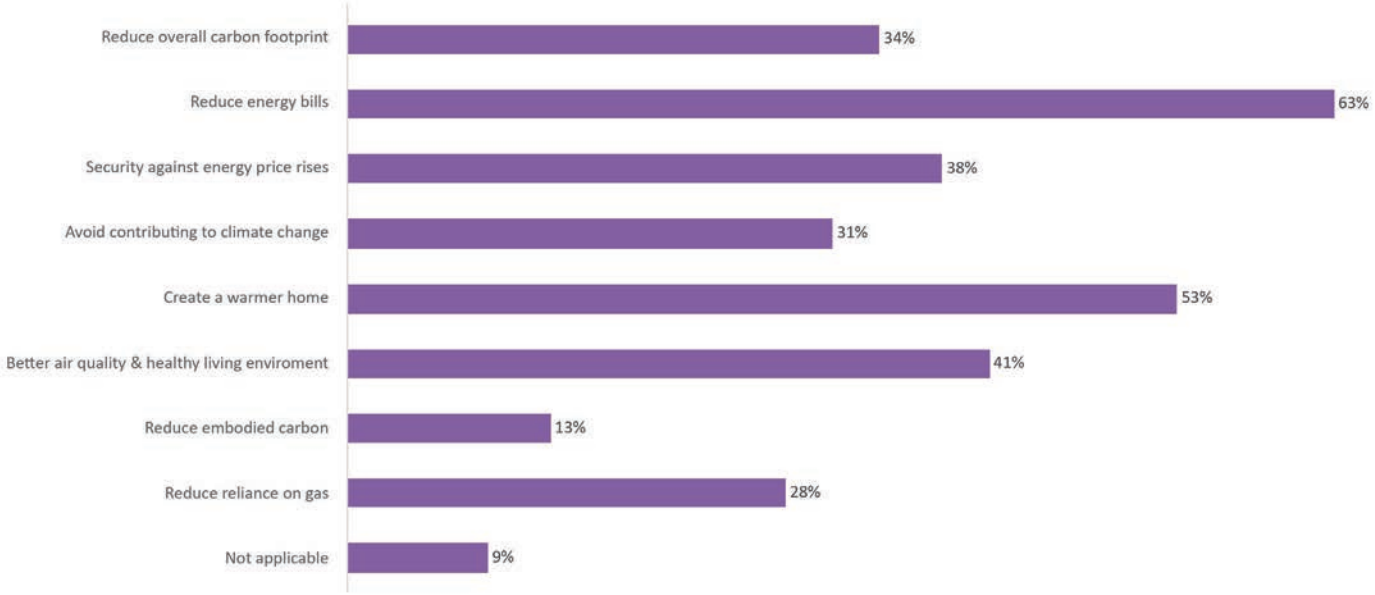
Unfortunately, while the motivations are plentiful, there are also barriers that can put self-builders off or even prevent them from fully undertaking a low carbon build. Unsurprisingly, the overwhelmingly most popular option when we asked participants what they have found to be the biggest barriers was high upfront costs (59%). This is a recurring concern and criticism of many self-builders and homeowners looking to make eco-friendly upgrades, though the industry as a whole is working hard to change this and debunk what it considers to be a 'myth'. As technology emerges and evolves, costs also tend to decrease over time, making this a barrier that will hopefully dissipate over the coming years.

Financial incentives are also in place, but perhaps not as widely known as necessary. Many renewable technologies and products qualify for 0% VAT such as solar panels, heat pumps, batteries and insulation. Those installing solar panels can quality for Smart Export Guarantee (SEG) which allows excess electricity to be sold back to the grid, and the Boiler Upgrade Scheme offers consumers £7,500 towards an air or ground source heat pump, £5,000 towards certain biomass boilers, and £2,500 towards some air-to-air heat pumps. Some lenders now also offer 'green mortgages' for energy efficient homes, or low interest loans for retrofitting and home upgrades.

A potential lack of knowledge and understanding also surfaced again, with the second biggest barrier being uncertainty about the reliability of products such as heat pumps (28%), closely followed by lack of information about solutions on offer (22%). Those working in the industry might be privy to more in-depth information, CPD training and access to successful projects which have used certain products. For self-builders on the other hand, while there are educational courses available, specific information and case studies are arguably less accessible, leading to uncertainty over how products – particularly new or expensive ones – will perform.

The theme of uncertainty continued with 19% of respondents

What are your motivations for taking on a low carbon build?



viewing doubts about return on investment as a barrier. Again this could be attributed to a general lack of knowledge on how effective products are, unawareness of the various incentives available which carry long term benefits (such as SEG), and perceived high upfront costs, resulting in doubt about whether it's worth the big expense.

A lack of suitable products was selected by 16%, again indicating there's a gap in knowledge and understanding with many products suitable for one-off domestic projects. However, one respondent commented on products being "awkward to install without specialists" so perhaps rather than a lack of suitable products, it's a lack of specialist installers that's the problem.

We then asked respondents if the cost of their project had been higher or lower than expected. Coinciding with high upfront costs being perceived as the biggest barrier, just over half (55%) said the cost has been higher than expected. 27% said it's as expected, 15% said they were unsure and just 3% said it has been lower. While the industry as a whole may insist upfront costs are not as high as is often believed, there is clearly a cost issue somewhere. With budgets often already tight for self-builders, the issue of high costs – whether perceived or actual – is one that clearly needs addressing.

Biodiversity

Our survey was concluded by asking participants what provisions they've made to enhance biodiversity. With self-builds exempt from BNG requirements, there is no obligation to undertake anything – a detail 54% of respondents have taken advantage of. However this could again be due to a lack of awareness over what exactly enhancing biodiversity means, and whether their project would be considered to have done so.

General landscaping and garden work were the most popular enhancements, with 31% saying they have done general shrub and tree planting and 22% having done some form of restorative planting or landscaping. 20% have installed bird or bat boxes, 16% have opted for bug hotels and 12% are going down the rewilding route. While all small and simple steps and measures, they contribute to a project's impact on biodiversity and, consequently, the environment.

CONCLUSION

Sustainability is clearly on the agenda for self-builders and renovators, with the majority of our respondents recognising its importance and actively making efforts to incorporate measures where they can. Insulation, timber frame, solar panels and airtightness membranes are just some of the ways self-builders and renovators are looking to make their homes and projects more environmentally friendly.

Rising energy costs and a desire for a healthier, more comfortable living environment are among their biggest motivators, as are concerns about climate change and a wish to reduce their overall carbon footprint.

However, our research has also highlighted barriers that continue to hinder self-builders from fully committing to a low carbon build. With only a quarter of respondents considering their build to be genuinely low carbon, it would suggest self-builders are approaching sustainability through individual measures rather than holistically.

High upfront costs are the greatest concern, closely followed by a general uncertainty over the reliability, suitability and long term benefits of certain products and sustainable measures. Confidence in new technologies is seemingly low, and gaps in self-builders' knowledge and understanding are holding them back.

Increasing public awareness of the benefits of sustainable technologies and of the various incentives on offer is necessary, particularly with the upcoming Future Homes Standard impacting self-builders as well as developers. Improving education, ensuring self-builders have better access to specialist support and a general continued effort to lower installation costs are essential in order to transition self-builders from simply building sustainably to delivering a truly low carbon home.

LIFE ON THE EDGE

Jane Ramsay and Neil Manfield's self-built home is a love letter to a happy childhood in west Wales.

TEXT ALEXANDRA PRATT **IMAGES** MARTIN GARDNER

Perched on a cliff above the west Wales coast, Jane and Neil's self-built home is all about the importance of place, family memories and environmentally conscious design. "I've been coming here ever since I can remember, says Jane, a GP. "My father is retirement age, and we wanted to do a project together."

Initially, Jane began the search with the idea of buying a seaside cottage. Ten years later, Jane is the proud owner of an extraordinary three-bedroom home that is cantilevered off the clifftop, with views to the horizon. During this long journey, Jane also met her partner, Neil, and the couple have welcomed three children, all of whom have now also grown up in what they call 'home by the beach'.

Jane didn't plan it this way, of course. "I was looking for a seaside cottage, then randomly, I saw the old ice cream parlour we used to visit as kids. It had been split into two flats. I initially thought to renovate, but my architect suggested we flatten it and start again."

Jane worked with Welsh architectural practice Hyde + Hyde, which she found via an online search. "I looked for contemporary architects, and I was taken by their designs. They're so talented," recalls Jane. "I said, 'Let's go for something really contemporary.' This home is unique, it's energy efficient, and it is sensitive to the environment."

Setting drove the design. Located on a small inlet on the Ceredigion coast, the house is designed around the extraordinary views, creating an immersive experience that is equally respectful of the natural environment. A reverse level layout gives the living spaces and the master bedroom the best views, with a deep axis in the floor plan that allows the sun to penetrate the heart of the house.

Working within the footprint of the original building, a cantilevered section on the first floor adds more space. Here, huge four metre sliding glazed doors create the ultimate connection to the surrounding seascape.

"It was such a clever use of space, and it connects us to the ocean. It's like reaching out to sea," says Jane. "It's spectacular in a storm; it's my favourite place to sit."

Getting the construction right was key to this ambitious design. The ground floor is built in concrete, with a lighter-weight, timber-framed glulam structure at the first-floor level.

Responding to the cliffside location, Hyde + Hyde opted for an innovative concrete substructure that enables the home to be built on cantilevered concrete foundations. This specially designed structure provides resilience by anchoring the home to the most stable, inland part of the site. This has secured the structure for the long-term, while allowing Jane and Neil to embrace their much-loved views.

"Of course, we thought about erosion," says Jane. "But we had lots of surveys and investigations of the granite below. It won't be going anywhere. Plus, there's no erosion on our inlet. It seems precarious, but we did our homework!"

Getting such an innovative house built was Jane's biggest challenge. "Planning permission was straightforward, thanks to our architect's diligence," recalls Jane. "And we met with the

LOW POINT

"In the Easter of 2022, one of our largest windows downstairs was a victim of thermal expansion. We heard a loud bang and went down to find the window completely shattered. We were so close to finishing the house, but this set us back. The original glazing company were no longer trading, and others were reluctant to quote for a replacement piece of glazing due to the sheer size of it and the risks of reinstalling it. This was an expensive setback and delayed our finish date until spring 2023."

HIGH POINT

"The finished house. After years of my having to manage and watch from afar, I was in a position to be fully involved in the interiors and finishing touches. Our first night in a fully finished, furnished house was pure luxury!"

community council."

The real stumbling block was finding a team willing and able to build the house. Jane initially hired a firm based a couple of hours' drive away, but by the time they had constructed the shell, their commitment was waning, and Jane parted ways with them.

By this time, however, she had already met Neil through a mutual friend. Although Neil isn't a builder – he owns a stove fitting company – the couple decided he would project manage the rest of the build, using sub-contractors, as and when the family could afford it. "Neil felt he could do a good job," says Jane. "We'd already been let down by a building firm; our fingers had been burnt."

Although the instigator and driving force behind the project, Jane wasn't hands-on, as she kept busy with her work in medicine and with the arrival of their three children. It was a busy time for a growing family. "Neil was blood, sweat and tears; he broke his wrist," recalls Jane. "I was having babies and meeting architects."

The house was constructed with concrete at ground level. This was essential for strength and durability, but the upper floor uses a highly insulated timber structure made from glulam beams that helps even out the home's overall carbon footprint. This upper level is wrapped in low-maintenance, sustainable fibre-cement tiles. These are a practical and cost-effective alternative to slate.

Designed to perform in tough coastal conditions, the tiles form a protective screen that stands up to driving rain and strong winds, and they will age gracefully over time. They also

"Planning permission was straightforward, thanks to our architect's diligence"

reconcile this strong contemporary style with the slate and white-rendered buildings common to the local area.

Beyond its outer skin, the house was designed with a clear focus on comfort and practicality. The structure and insulation work together to keep the temperature inside stable throughout the year, and reduce the need for mechanical heating and cooling. Fresh air can move easily through the home, with openable windows and an open plan layout that allows warm air to rise through the double-height entryway and escape at a high level. This natural flow of air helps the house stay comfortable even during warmer months, while timber slats along the stairwell provide shade and privacy without blocking daylight.

As the home's setting demands several huge sections of glazing, the architects were careful to balance the benefits of passive solar gain (being warmed by the sun) with the risk of overheating.

Luckily, most of the views lie to the north, which meant minimal openings on the south-facing wall made visual, as well as technical, sense.

"Hyde + Hyde designed such clever positioning of the glazing for solar gain," says Jane. "We have such big banks of glass on both levels that it had to be double-glazed. The units would have been too heavy for triple-glazing."

Supporting this design is a carefully considered approach to construction. Particular care was taken to avoid cold spots, with insulation fitted neatly around windows and details designed to keep heat in and moisture out. Where possible, Jane opted for standard and readily available components. This helped to cut down on waste and will make future repairs simpler, as well as keep that budget under control.

This low-key approach to sustainability was fundamental to the design from the beginning, with the fabric-first approach prioritising insulation, natural ventilation and waste-efficiency doing most of the heavy lifting. Beyond that, Jane chose an air source heat pump, which runs the underfloor heating and the radiators. "We have very little heat required, even in winter," says Jane.

The sustainability of a build isn't just the house itself, of course, and the plan for this project included preserving the landscaping and especially the trees around the perimeter of the site. Within that, further 'soft landscaping' of local, 'hardy' plants ensures biodiversity for animals and an attractive garden for Jane and Neil's family. Discreet bat boxes complete a picture of sensitivity and environmental responsibility. Sustainability was never treated as an add-on, but as something that naturally supports comfort, longevity and ease of living.

Sustainability was never treated as an add-on, but as something that naturally supports comfort, longevity and ease of living.

Inside, the spaces are designed to slow life down. The layout encourages time together, but also offers moments of retreat. Large windows draw the outside in, so the changing light, weather, and movement of the sea become part of everyday life.

Jane's interiors make their home feel both self-assured and welcoming. While the outside is defined by concrete and fibre cement, the interiors soften the contemporary styling with plenty of timber, black resin flooring and carefully crafted joinery.

"We were a bit taken aback by the idea of black interiors, but it frames the view perfectly," says Jane, who took design advice from her architect and also from a neighbour, who works in the design industry. "The background just

CONTACTS/ SUPPLIERS

DESIGN
Hyde + Hyde Architects
www.hydearchitects.com

WOODBURNER
Neil Manfield
www.woodburnerscardiff.com

KITCHEN, WARDROBES, DOORS, SOLAR SHADING, STAIRCASE
Adhoc Designs
www.adhocdesigns.co.uk

PLANNING CONSULTANT
GJP (formerly Geraint John Planning / Geraint John Planning Ltd)
gjplanning.co.uk

M&E CONSULTANT
Richards Design Partnership
www.rdp-ltd.co.uk

QUANTITY SURVEYOR
Ivor Russell Partnership
ivorrussellpartnership.co.uk

STRUCTURAL ENGINEER
GRAYS (Consulting engineers)
www.graysconsulting.co.uk

SUSTAINABILITY CONSULTANT
Melin Energy
melinconsultants.co.uk

Huw Hughes Interiors
www.huwhughes.co.uk

FLOATING BEDS AND BEDSIDE TABLES
(a furniture and product design element within the Hyde + Hyde Studio)
Hyde Objects
www.hydeobjects.com

fades away." The black resin floor adds to that sense of calm and comfort. "It feels really nice underfoot, almost like a cushion," she laughs, "but it's a nightmare to clean. It shows every mark, especially sand!"

The concrete on the ground floor was treated as a finish in its own right, and a specialist concrete artist was brought in to refine the surfaces. Using a simple but effective technique with a ping pong ball, he carefully smoothed the tie-holes, giving the walls a softer, more considered feel.

Jane herself designed the chic, minimalist kitchen with the help of Hyde + Hyde. It is deliberately low-key, tucked behind matt plywood and Furbo panels, so it blends into the space rather than dominating it. "When you are in the space, you don't want to be looking at the kitchen," says Jane.

Elsewhere, bespoke joinery by AdHoc Designs in Cardiff, as well as Hyde Object adds to the sense of calm. In the bedrooms and especially above the fireplace, bespoke carpentry hides the television, keeping the focus firmly on the architecture and the views.

Jane's long connection to this stretch of coast is woven into every aspect of the design. Rather than compete with the landscape, the house responds to it. Solid and protective at ground level, lighter and more open above, it mirrors the experience of being on the edge of the land. Concrete provides strength and shelter, while timber introduces warmth and a sense of calm. Together, they create a home that feels confident and contemporary, yet entirely at ease in its setting.

Rather than compete with the landscape, the house responds to it.

This home represents far more than the end of a long building project. It is the result of years of thinking, remembering, and slowly shaping an idea. The house brings together family, place and a shared desire to create something that would last. It reflects where they have come from, how they live now and what they value most. Most importantly, the house works as a family home – and future retirement home for Jane's father. A place where new memories are being made. Creating that before even the couple's children arrived (now aged eight, six and four) was an extraordinary act of faith.

Yet for Jane, it is the quiet moments that 'make' the building. "What I love most is sitting in the cantilever and watching nature. I could sit and watch the waves against the rocks for hours. You see dolphins, birds of prey… It's all about nature and tranquillity."

This house on the edge is not just a self-build success story. It is a reminder of how powerful a sense of place can be, and how thoughtful design can deepen our connection to the landscapes we love. ■

Horizontal vs vertical cladding

Lisa Grosse at Cedral discusses the benefits and design possibilities of horizontal and vertical cladding styles.

Did you know that you can fit weatherboards vertically as well as horizontally on your home's exterior? The creative use of cladding can change the character of a house. Horizontal cladding emphasises width, while a vertical arrangement will give the impression of greater height.

In weighing up the choice between horizontal or vertical installation of panels, as well as thinking about the look of each, homeowners should consider how they might differ in terms of performance, ease of installation, maintenance and cost. It's also wise to check with your local council to see if you live in an area where the homes must meet specific aesthetic criteria and be aware of any planning restrictions which might impact your choice.

Horizontal wooden weatherboard facades as seen in classic New England architecture, with wooden facades have provided inspiration for both new builds and renovations in the UK. This look works well for a variety of houses from traditional homes with wooden facades or coastal style homes to minimalist, contemporary properties.

There is tremendous scope to create a particular exterior design by choosing different materials, colours and spacing and fixings. Natural or painted timber, composite boards, fibre cement, metal and PVC are common materials, each with its own properties. Horizontal boards are available in shapes such as flush-fitting tongue-and-groove, overlapping shiplap or the open shadow gap style of boards, making it possible to have everything from a seamless facade to one which features striking undulations and shadow lines.

When used for traditional or coastal homes, popular colours are light tones, such as cream, soft greys and greens. At the other end of the spectrum, horizontal cladding in dark colours like black, deep brown or grey provides a very modern, sculptural feel.

The creative use of cladding can change the character of a house

Another way to use horizontal cladding to great visual effect is to combine it with other materials. It could be installed on an upper floor with brick or render on the lower floors or with areas of extensive glazing. Contrasting horizontal cladding with metal detailing that integrates with the cladding boards can work well for a distinctive design that is contemporary and chic.

GROWING TREND FOR VERTICAL CLADDING

Historically vertical cladding has been used for commercial and agricultural buildings but vertical cladding is becoming more popular for unique, contemporary, or minimalist designs for residential buildings. This style works particularly well with narrow houses, barn-style homes, modern designs and garden structures. It also complements natural surroundings with tall trees.

With vertical cladding, as with horizontal, there is a variety of materials, colours and finishes to choose from. Popular materials include wood, composite and fibre cement. Vertical boards, as with horizontal, are available in varied widths and the finish can be flat with no apparent joints or one with open joints which emphasises shadow. Black and other dark colours can give a bold, modern appearance which can be a dramatic choice. An example is a new house in Ireland with a completely black exterior. The owners wanted the house to be minimalistic and unique and chose to have black Cedral fibre cement cladding installed vertically above black render.

Dark vertical cladding can work well for impact with an extension, as at a house in Hertfordshire, where vertical panels of Cedral fibre cement in black were used to create a strikingly modern finish

against the home's brick exterior and the greenery of the garden. Vertical cladding in a bold colour such as red or yellow can also be a creative choice for a garden room.

Another approach is to 'mix and match' by using horizontal cladding on the main walls and vertical cladding on areas such as the entrance or gables to add texture and contrast.

WEATHER PROOF, EASY TO INSTALL & BUDGET FRIENDLY?

While both orientations will completely protect your home from water ingress, they require different installation methods. Horizontal sidings are typically installed from bottom to top, with each next weatherboard covering the top of the plank underneath it, creating a cascade system to keep the rain away from the facade. With a vertical installation, the weatherboards are lined up vertically next to each other, covering the facade. To ensure the flow of air the vertical battens need to be installed first, then horizontal battens installed on top to which the vertical sidings are then attached.

There is also a difference in how the two arrangements of cladding handle water. Because the vertical design leaves fewer joints where the water can infiltrate when it runs down the facade, it can be seen as more effective for a rainy location. This is heavily preferred in areas with continuous, driving rain. With horizontal cladding water can sit on the overlaps of horizontal cladding. However, if installed properly, this shouldn't be an issue.

A ventilated rainscreen cladding system is applicable whether the cladding is installed vertically or horizontally. It's important to have a 30mm ventilation gap behind the boards. This airflow allows any trapped condensation to dry rapidly, protecting the primary wall from damp.

Horizontal cladding is generally quicker and easier to install, needing just a single-battening system while vertical cladding requires a double-battening system which can increase complexity and cost. While horizontal cladding may be less expensive, in particular because of the labour, a facade of vertical cladding remains an affordable option, especially when taking into account the lifespan and maintenance costs of the material of the weatherboards.

Lisa Grosse is brand manager at Cedral

Building Around Nature: A Forever Home Designed for Life

For Anna and Edward, the dream of building their forever home began with an ancient oak tree.

Their Woolverstone, Suffolk plot featured a tired bungalow sitting within the tree's root protection zone. Rather than renovate, the couple chose to create a contemporary home that would celebrate both the landscape and the oak that first attracted them to the site.

Working with architect Juliet Moore, they set out to design a light-filled home that would remain connected to the garden while providing flexibility for the future.

"The oak tree was one of the main reasons we bought the plot," says Anna. "We wanted to see it from as many spaces as possible."

The resulting home is formed from three interlocking volumes arranged around a striking double-height atrium. Living, sleeping and utility spaces are carefully zoned, creating a home that feels spacious yet practical for everyday life.

Juliet Moore's design focused on framing views of the surrounding landscape and bringing natural light deep into the interior.

"A series of colliding pavilions housing the living, sleeping and amenity spaces come together to form a dramatic central atrium," she explains. "All with a view of the tree."

Sustainability was also a key priority. Alongside solar panels, a green roof and highly insulated construction, the glazing specification played an important role in meeting the home's energy targets.

After consulting glazing specialists okoHaus, Anna and Edward chose

VELFAC 200 triple-glazed windows throughout, complemented by a VELFAC Ribo entrance door. The composite timber-aluminium system delivers strong thermal performance while maximising daylight and views.

"The products offered the balance of performance and aesthetics we were looking for," says Edward. "They've helped the house achieve an EPC A rating while maintaining the clean architectural lines we wanted."

Slim sightlines create a seamless connection between inside and out, while the carefully chosen frame colours complement the home's contemporary design. Beyond aesthetics, accessibility was built into the project from the outset, with flush thresholds and adaptable spaces designed to support long-term living.

Today, Timbers is a striking example of how thoughtful architecture, sustainable design and high-performance glazing can work together to create a home that is both beautiful and practical. Most importantly, the ancient oak remains at the heart of the project, celebrated from almost every room and firmly rooted in the story of the home.

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Garage Door Solution for Automotive YouTuber's Workshop

Hörmann UK has successfully completed a striking installation of three RollMatic 2 roller garage doors together with a matching side door for well-known automotive YouTuber George Austers. With a growing audience of over 100,000 subscribers to his 'Everything Cars' channel, George has been documenting the creation of his ideal garage and workshop through his popular video series, 'Dream Car Workshop Build'.

The installation forms a key part of a bespoke three-bay oak-framed garage and workshop, designed to combine premium aesthetics with high functionality. Hörmann UK was selected for the project due to its renowned German engineering expertise and strong reputation within the garage door market.

The project features three RollMatic 2

roller shutter doors and a matching side door, all finished in Jet black RAL9005. The bold finish provides a contemporary contrast that enhances and complements the natural oak structure of the building.

Specified and installed by Hörmann UK's technical door team, the choice of roller doors was driven by both practical and visual considerations. With plans to install a car lift in one of the bays, space efficiency was critical. Unlike traditional up-and-over or sectional doors, the RollMatic 2 system eliminates the need for internal horizontal tracks, maximising usable space within the garage. Maintaining a cohesive aesthetic was also a priority, leading to the selection of matching materials and finishes across all doors, including the side entrance door.

Each roller shutter door is equipped with advanced features, including wind locks, compensation fitting kits, and integration with Hörmann's 868 MHz BiSecur remote control system. Additionally, the doors benefit from built-in Bluetooth connectivity, enabling operation via the Hörmann BlueSecur app on smartphones and tablets.

For added reliability, the doors are spring counterbalanced, allowing easy manual operation in the event of a power failure—eliminating the need for cumbersome crank handles.

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A CHALLENGING UNDERCURRENT

Seasoned self-builders Frank and Kerry's stunning cantilevered house in a picture-postcard location overlooking a gently curved stretch of the Avon is just how the experienced self-builders envisaged it, but a series of unexpected problems tested them to the limit.

TEXT JESS UNWIN **IMAGES** HABITAT+ ARCHITECTS

Viewed from the main road passing through the Worcestershire village of Wyre Piddle, Anchorage seems a modest new home, but this unassuming appearance hides a wonderful secret.

For it's at the 'rear' of this self-build that you see the real face, and soul, of the property: a striking two-storey and cantilevered structure built into the bank on a gentle curve of the River Avon.

This Passivhaus-certified home, in an idyllic location complete with jetty and designed to make the most of solar gain and the riverside views, would be the envy of many, yet there's a second secret here.

That's because getting to this point is a story that includes some of the obstacles that all self-builders can face and, happily, how they can be overcome. And don't assume it's mostly the uninitiated – the first timers – that come up against challenges – Anchorage is Frank Ainscow's fifth self-build project and wife Kerry Mashford's fourth.

The plot on a sloping bank and within a conservation area that the couple bought for £180,000 without planning permission in 2020 was always likely to present tests, but the eventual list of 'glitches' included opposition from neighbours, planning permission wrangles, financing headaches and three companies significant to the self-build going out of business mid-project.

Tim Carter and Tom Locke of Habitat+ Architects have played an invaluable role in helping to navigate a way through all that. Kerry says: "We knew from experience how important it is to get someone with local knowledge involved, particularly the planning side of things and local builders."

Tim and Tom's remit included not only coming up with a design for the couple's new home that would get planning approval but also project management. "There was a cost involved in asking the architects to do that," adds Kerry, "but they were well worth the money."

Initial drawings for the house were constrained to some extent by Passivhaus-standard insulation requirements, but Frank reveals: "We thought that could still be achieved with something more architecturally interesting."

He adds: "I mentioned I was a fan of American architect Frank Lloyd Wright whose most famous work, called Fallingwater, is built partly over a waterfall. Next thing I knew there was a plan on the table with an overhang."

The first application for planning permission was submitted in June 2021, but a year later there was still no approval. After Frank wrote a "pleading" letter to the head of planning, the couple discovered the stumbling block was not the south-facing riverside design but the roadside front of the house, which was not deemed to fit in with the look of the village.

A revised design was eventually given the go-ahead by the local authority's planning committee with Tim making a presentation for his clients. Kerry admits: "It's virtually impossible to represent yourself when you personally have so much at stake. Tim was excellent."

However, opponents of the couple's self-build scheme claimed an error in the plans over the proximity of the new house to an existing building invalidated that planning consent. As a result, Frank and Kerry had to go through

LOW POINT

"There were probably two moments: one was the first construction quote, which left us fearing we couldn't afford to build the house, while the second was having to go through the whole planning process a second time because of an OS map error."

HIGH POINT

"Seeing the excavation completed without collapse was one high point! Another was finally getting our drains connected after a series of unfulfilled promises from contractors."

the whole planning process a second time. To make matters worse, it transpired that the error was not theirs but was down to dimensional tolerance in the Ordnance Survey map.

Final planning approval eventually came through in April 2023. Looking back, Kerry says: "The delays meant we were renting for more than three years when we expected it to be just a year.

"It's painful to talk about. There were lots of people in the village who were happy with our plans and wished us well, but there were others who raised a number of objections."

Frank chips in: "The planning authority was really put on the back foot by the nature of the objections, which included two Freedom of Information requests to release all the communications related to the application."

Architect Tim suspects there might have been less resistance if the self-build's plans had been "more traditional" but adds: "We tried to do everything right in this project. Frank and Kerry met with the local residents before submitting their planning application and we established a strong dialogue with the local authority, including the conservation officer, working with them to give them what they required."

Construction, which got underway in December 2023, was never going to be straightforward with a four-metre-deep excavation necessary at the back of the bank nearest the road – especially on a site with very little room for storing materials and equipment.

Kerry says: "You never really know what you're going to find when you start digging but the builders were marvellous and it was like precision surgery. On the downside, the lack of space meant the digger was left on the riverbank and had to be lifted out by crane!"

"We knew from experience how important it is to get someone with local knowledge involved"

Working with their structural engineer, their architect and their builder, Frank and Kerry settled on a construction method that comprises a retaining wall of insulated concrete formwork (ICF) that is blended with the timber-framed superstructure.

The concrete base for the whole structure sits on an Isoquick foundation system – made from prefabricated polystyrene that locks together like a jigsaw. A concrete shear key, which Frank describes as being "like a dagger board on a boat", was also included as an alternative to piling to stop the building sliding down the bank.

A riverside location like this,10m from the water and 3m above it, obviously comes with a flood risk, but as Frank explains: "We did extensive analysis and, in the end, we set the lower floor level of the house at 600mm above the 100-year maximum predicted flood level."

Frank and Kerry eventually moved into their new home in 2025, but only after the added

"You never really know what you're going to find when you start digging but the builders were marvellous and it was like precision surgery"

complication of three companies involved in construction closing down during the process.

Tim says: "To be honest, you couldn't pick a worse three, but we made sure that the project could carry on and they became just more hurdles to overcome, rather than showstoppers. In each case, we advised Frank and Kerry of the risks and they elected to continue."

The collapse of the ground waterproofing company the day before they were to begin work created a "critical situation", he recalls. "The entire programme depended on this installation."

He adds: "The main contractor managed to source the correct materials from stock that suppliers had left over and the installation went ahead as planned.

"When something has been carefully planned over several months to protect the client's risk profile and at the last minute it goes wrong and creates havoc, it can derail everything very quickly. We ended up losing two weeks due to this, but it hasn't been a problem."

At the time the company providing the timber superstructure closed down they had fortunately already completed their design work, and the main contractor was cutting and making the frame. Tim says: "We as architects stepped up to ensure the quality control of the timber frame and that nothing was compromised."

The third bombshell was the main contractor going into voluntary liquidation about three months before the end of construction. "We again supported Frank and Kerry to ensure that they weren't compromised," says Tim, "but it was another blow and hit the timeline." Although the company folded, several former employees were able to help finish the project as individuals.

As if these issues weren't enough to deal with, there was also an unexpected problem around financing – something Kerry is keen to highlight as a warning to other would-be self-builders.

"On top of paying for 35% of the project from savings, we also had a 65% self-build mortgage, which allowed us to periodically draw down against the value of the property as it was developed.

"You'd think as you're putting money into the project the value of the project would increase by the amount of money being spent on it, but every time the lender assessed the property, the valuation came in considerably less than the money spent on it.

"It's only because we were able to draw on our pensions that we were able to fill the gap. Had we relied just on the mortgage and the original 35% we'd have been stuck."

The couple say they haven't had their new home professionally valued and have no intention of ever selling it, but they expect it to be worth about £1m now. The total sum for the self-build project, including the land purchase, legal and consultants' fees, rented accommodation and finance costs, has been £1.1m.

CONTACTS/ SUPPLIERS

ARCHITECTS
Habitat+ Architects
www.habitatplus.co.uk

BUILDER
Build-Shaw Ltd
buildingbetter89@gmail.com

BIFOLD DOOR
Lacuna (UK and Ireland)
www.lacuna-bifold.co.uk

INTERNAL GLASS
Express Toughening Ltd
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Artimatum
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BALUSTRADE
Steve Ellis Cooper (blacksmith)
stevecooperblacksmith.co.uk

PASSIVHAUS DESIGN
Beattie Consult & Build Limited
www.beattie.io

FRANK AND KERRY'S TOP TIPS

* Find an architect with knowledge of local contractors and planning authorities, then follow their guidance.
* Using recommended contractors should help you avoid the sort of rogue operators that might take a payment and then disappear.
* Design for yourself – in other words, a house that suits your needs, current and future.
* Get your architect or quantity surveyor to check invoices, then pay your contractors promptly and in full – it's always a good idea to get a reputation as a good payer.
* Don't assume the finished value of your self-build will equal what you spent on it.

"We wanted something that would largely look after itself with minimum maintenance and running costs, which is why we chose a Passivhaus home"

Thankfully, with all the challenges behind them, Frank and Kerry are now able to enjoy what they have created. "We love it," says Kerry. "We definitely feel at home here and we're so pleased that it's all come together as we envisaged it. Every space is lovely and of course looking out onto the river is a joy."

Anchorage's lower floor is host to an ensuite main bedroom, a second bedroom and a studio – all of which have access to a landscaped garden and have views of the Avon – plus a bathroom, a utility room and plant room.

On the overhanging upper floor, facing the river, there is a living room, terrace and kitchen/dining space, while an office, stairs, lobby and toilet occupy the area facing the road.

Kerry says: "We wanted something that would largely look after itself with minimum maintenance and running costs, which is why we chose a Passivhaus home. We also wanted interesting architecture with our personal style. People who know us and our previous projects know immediately that this home is ours. It may be our first Passivhaus, but we've always been pushing the envelope using advanced and sustainable construction.

"It was always our plan to have the living space upstairs, and we have the kitchen/dining area that opens up onto a terrace so we can entertain/eat out there.

"And of course we have river views framed by large windows across almost the whole south-facing aspect of the house. The solar gain is great, but when that is too much, there are external blinds and an awning for shading, while the overhang protects the lower floor."

The couple are also particularly proud of their bespoke timber staircase. Comprising two half flights with a half landing in between, the upper half is open with two glulam beams and timber treads fixed to that. A single pane of glass between two stainless steel posts forms the balustrade. Alternate steps of the lower half go under the upper half to create a display space.

Anchorage also boasts an eye catching floor-to-ceiling pivot door, with 3D wooden panels, which forms a stylish gateway between the living room and the rest of the open-space areas on the upper floor.

Another unique touch is the steel balustrade on the upper floor terrace outside the dining area. Fashioned by a local blacksmith, it is shaped to look like bulrushes to echo the river you see below it.

Kerry reveals: "These features and just about everything else in the house have at least some design input from us, reflecting our experience from previous projects."

Architect Tim, who did so much to ensure this self-build crossed the finish line despite the unwanted problems, is delighted his clients are happy. He says: "Anchorage celebrates the river position, making the most of the site. But it is also a Passivhaus that's architecturally dynamic and proves that low-energy design doesn't have to be boxy or boring."

Anchorage certainly continues to win praise and admiration. Tim adds: "The project's Larson truss system was a finalist in two categories at the Structural Timber Awards, and I recently took a small party of local planning authority staff and committee members to Anchorage to show them what's possible with the Passivhaus approach in new homes. They were impressed." ■

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Underfloor heating delivers

Chris Stammer at BEAMA's Underfloor Heating (UFH) Group explains how hydronic (water-based) underfloor heating delivers thermal comfort, improved air quality and design freedom – and why selfbuilders are ideally placed to make the most of it.

One of the most overlooked aspects of any heating specification is not how efficient a system is on paper, but how comfortable it feels to live with day-to-day. Hydronic underfloor heating – where warm water circulates through continuous pipe loops embedded in the screed or laid within specialist panels – creates a fundamentally different heat experience from radiators.

Recent research from Salford University's Energy House 2.0 puts hard numbers behind that difference. Testing a three-bedroom detached house built to the Future Homes Standard, the study found that hydronic underfloor heating paired with an air-to-water heat pump recorded a temperature variation of just 0.8°C at -5°C and 0.7°C at +5°C. Traditional radiators showed a minimum variation of 2.2°C, with other systems reaching differences of up to 4°C. The consistency improved further when the underfloor heating ran continuously.

Rather than delivering warmth from a single point in a room, the floor becomes one large radiant heat emitter. That energy travels upward to warm objects, surfaces and people directly, rather than simply heating the surrounding air. The result is an immediate, enveloping feeling of warmth that is noticeably gentler and more consistent than conventional heating – and the data confirms it.

For selfbuilders, the design flexibility that underfloor heating unlocks is arguably as valuable as its thermal performance

IMPROVED AIR QUALITY

Consistent, even heat does more than make a space feel comfortable. When parts of a room are significantly cooler than others, warm, moist air can condense on those cooler surfaces – walls, windows, external corners – creating conditions that encourage mould growth and poor air quality. Underfloor heating maintains a consistent temperature across all surfaces, significantly reducing that risk.

There's a further air quality advantage. Because radiant heat doesn't create the convection currents that radiators and fan-based systems do, it doesn't continually push dust, allergens and airborne particles around the room. For households with allergy sufferers or anyone with respiratory sensitivities, this

is a genuine and practical benefit worth building in from the start.

And because the entire system is hidden beneath the floor, there are no radiator panels or visible coils to gather dust in hard-to-reach places, eliminating another source of circulating particles.

INTERIOR LAYOUT FREEDOM

For self-builders, the design flexibility that underfloor heating unlocks is arguably as valuable as its thermal performance. With no radiators to work around, every wall is free. Furniture can be positioned anywhere. Rooms can be reconfigured in the future without the constraints of pipework and valves dictating the layout.

This matters especially during the design phase, when decisions about window placement, fitted furniture runs and room proportions can otherwise be quietly compromised by the need to accommodate a conventional heating system.

IDEAL HEAT PUMP TECH PARTNER

The Salford University research also highlights the advantages of underfloor heating when paired with an air source heat pump. The low flow temperatures that heat pumps operate at are ideally matched to underfloor

systems, improving energy efficiency and supporting low-carbon building standards – an increasingly important consideration as the Future Homes Standard approaches.

Whether an air source heat pump is part of the current build specification or a planned future upgrade, underfloor heating prepares the property for either scenario. It's a versatile foundation that aligns with the direction of travel for both Building Regulations and home energy technology.

TAKING CONTROL, THE SMART WAY

Underfloor heating systems are now required to include zoning capabilities under the Part L update to the Building Regulations. Zoning divides the home into independently controlled areas, each with its own temperature setting, so the living room can be kept warmer than a spare bedroom, with unoccupied zones left unheated.

Basic thermostats meet regulatory requirements, but smart thermostats offer considerably more. From a single app, occupants can monitor and adjust each zone individually and set schedules around their daily routines. More advanced devices offer Adaptive Start functionality, reading local weather forecast data to calculate exactly when to activate the system, thereby avoiding unnecessarily long heating cycles and further reducing running costs.

In summary, hydronic underfloor heating offers a combination of benefits that naturally reinforce one another. Enhanced thermal comfort, improved air quality, discreet installation, seamless heat pump compatibility and intelligent zoning all contribute to a comfortable, flexible and future-ready home. For self-builders, integrating underfloor heating from the outset allows these advantages to be delivered cleanly and efficiently, making it a smart specification choice to prioritise early in the design process.

Chris Stammer is head of heat systems technologies & portfolio manager at BEAMA's Underfloor Heating (UFH) Group

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New look Column radiators from Stelrad

Leading radiator manufacturer, **Stelrad Radiators** has introduced an Italian-designed new look, improved range of its popular Column radiators – in both its vertical and horizontal column radiator ranges. The most obvious changes are to the design of the radiators that will now feature a new rounded column design. The streamlined model range will feature 54 horizontal radiators and four vertical options with heights between 300 mm and 2,000 mm and lengths from 348 mm to 1,866 mm. They will feature an increased warranty – significantly extended from the current five years to fifteen years. To find out more about Stelrad's new Column radiator offering go to the website.

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Design meets function with the new Ancona

The Radiator Company has introduced the new Ancona Console Table to its growing collection of design led heating solutions. Seamlessly blending contemporary aesthetics with practical functionality, the radiator meets the demands of modern interiors by offering a sophisticated solution for space conscious homes, without compromising on comfort and efficiency. The Ancona® Console Table combines practical shelving with efficient heat output to provide a convenient solution for entrance areas and hallways. With its classic clean lines and balanced symmetry, the radiator suits any desired interior style and can be used as a slim console or side table.

01342 302250 theradiatorcompany.co.uk/ancona-console-table.html

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The Guardian Veranda is a contemporary aluminium system designed to transform any outdoor area into a sheltered and stylish space. Created by **Guardian Building Systems**, it is available as a standalone system, maximising your home's functionality from the inside out. Whether you are looking to create sheltered outdoor seating, extend useable living space, or protect your car or walkways, the modular design of the Guardian Veranda allows it to be designed with bespoke layouts, sizes, and finishes that suit any home. Featuring slim aluminium profiles and refined detailing, it can accommodate 6.4 mm laminated glass or 6 mm polycarbonate, offering flexibility in design, light transmission, and budget.

0800 066 5832 www.guardianbuildingsystems.co.uk

The Selfbuilder website

The **The Selfbuilder** website is an online provider of past and present products and news items for all those involved in and working on a self-build project. www.sbhonline.co.uk is a one-stop source for all the latest press releases, providing visitors with access to information about products and services that they may require. From the website, you can find links to digital issues that have live links to advertisers' sites, as well as daily email alerts to keep you as informed as possible. You can also subcribe to receive regular copies of the printed and digital versions of the magazine, or sign up to the monthly The Selfbuilder newsletter.

www.sbhonline.co.uk

Industry leaders host 'Live Site' SIPs CPD event

A group of 33 architects and designers gathered in Leeds recently for a 'live build' CPD event. Jointly hosted by **SIPS@Clays**, Kingspan Insulation UK and property developer Langton Holdings Ltd, the event demonstrated the practical application and environmental performance of building with SIPs. Ian Clay, Founding Partner, SIPS@Clays said: "This type of live-environment CPD is invaluable for construction professionals and self-builders alike. It allows them not only to learn about the benefits of SIPs, ask technical questions directly to manufacturers and see for themselves how effective the Kingspan TEK Building System is but also helps to bridge the gap between specification and construction."

kris.taylor@kingspan.com **sips@clays.com**

Preserving character with plaster

Neil Turner at Ecological Building Systems explores how natural thermal plaster products can achieve modern thermal performance requirements without compromising on the original architecture of traditional buildings.

When it comes to renovating older properties, the challenge often lies in selecting materials that not only enhance thermal performance but are also sympathetic to the building's authentic character and architectural features.

Thermal plasters are made from a combination of cork, lime and natural materials which creates a capillary active layer that can significantly improve the thermal performance of traditional solid walls.

Thermal plasters are often produced from renewable materials, which makes them a more sustainable choice

BREATHABILITY

One of the main advantages of using thermal plaster is its hygrothermal properties. Hygrothermal performance describes a material's ability to manage moisture and temperature. Natural thermal plasters can absorb and release moisture without compromising the integrity of the building. This breathability is essential in older properties, where trapped moisture can lead to structural damage and health issues due to mould growth. By using a moisture resistant and breathable thermal plaster, it can ensure that properties retain good levels of indoor air quality.

When applied internally, breathable thermal plasters can help create warmer and more comfortable living spaces while managing humidity levels. Externally, they act as an insulating layer that protects the building from temperature fluctuations throughout the year, therefore maximising comfort for occupants.

PRESERVING ARCHITECTURAL CHARACTER

One of the primary concerns when renovating older properties is improving energy performance without compromising architectural character.

Natural thermal plaster offers an approach that is compatible with historic fabric and can be applied in a way that retains the original features of a building. For example, they can be shaped to follow the contours of stonework or curved walls, ensuring that the aesthetic integrity of the property is preserved.

There are many examples of renovated buildings that have successfully used thermal plaster to enhance both performance and appearance. In the renovation of a Grade II farmhouse in the Lake District, Diasen Diathonite Thermactive.037, a lime and cork-based insulating plaster, was applied to help improve thermal efficiency while maintaining the building's historic character. Because the material is capillary-active and highly vapour-open, it is well-suited for use in older solid-wall buildings. The plaster helps walls to regulate moisture and dry naturally, reducing the risk of condensation and mould while providing very good thermal performance.

Thermal plaster is known for taking an extended time period to dry. However some of the latest modern lime and cork plasters have been designed with high

levels of breathability, which also speeds up drying times. Some thermal plasters dry at a rate of 2mm per day (this may vary depending on ambient temperature or weather conditions), whereas conventional lime plasters dry at around 1mm per day.

THERMAL PERFORMANCE

A 50mm application of thermal plaster can enhance a wall's thermal performance by up to four times, and its elasticity, which is around 10 times greater than that of conventional plasters, helps to prevent cracking and supports the long-term durability of the restored building.

The plaster should be applied in layers 15-25mm thick. The total thickness needed will depend on the required U-value for the specific project but 40-60mm is typical for the most cost-effective thermal improvement.

Thermal plasters like this are often specified as part of a wider retrofit strategy to help manage moisture while improving thermal performance. This allows the building to be upgraded to modern performance requirements while retaining vapour-open, compatible materials.

SUSTAINABILITY

Thermal plasters are often produced from renewable materials, which makes them a more sustainable choice compared to synthetic alternatives. As a result, they offer a reduced carbon footprint and typically require less energy to produce. They can also help improve indoor air quality, as many natural plasters are low in volatile organic compounds (VOCs), contributing to healthier living environments. Once

applied, thermal plaster also requires minimal maintenance.

FINAL THOUGHTS

Choosing natural thermal plaster for renovated properties is crucial for achieving optimal thermal performance without compromising the building's character.

Incorporating thermal plaster into renovation projects offers a unique opportunity to enhance energy efficiency while preserving the beauty and integrity of traditional architecture. As older buildings are increasingly being renovated to enhance their energy efficiency, innovative advanced types of thermal plaster will play a vital role in the future of sustainable buildings.

Neil Turner is UK technical manager at Ecological Building Systems

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CASE STUDY

AN IRISH FAIRYTALE

When Naimh and John Willis fell for a 200-year-old cottage, they embarked on a sensitive, design-led renovation that honours their home's heritage.

TEXT ALEXANDRA PRATT **IMAGES** JESS GLYNN

Every design choice was grounded in the reality of how the cottage is used

Mention a traditional home on Ireland's west coast and a stone-built cottage comes to mind, with small windows and spectacular views, set against the soaring seascapes of the Atlantic mountains. This is exactly what the Willis family found when they searched for a home in Cork. It is now a retreat from their busy international lives, where they make memories with their two young daughters. "We fell in love with the charm and the old cottage style," says Naimh. "It had a beautiful energy and a whole lot of soul."

Naimh and John, an airline pilot, knew this 200-year-old home would need complete renovation. Built in local stone and dating from around 1800, the cottage had been maintained by the previous owners, but it was clear that it needed a huge amount of work and care.

"These types of old-style cottages are rare in the west of Ireland," says Naimh. "We had

Pattern adds rhythm and a sense of narrative to each room

to gut the house to the bone and rebuild everything from scratch, but we wanted to be kind to the house in every way we could, whilst making it super cosy with mod cons."

The renovation began with a complete strip out and rebuild of the essentials: new plumbing, full rewiring and comprehensive insulation throughout. The latter proved transformative. As with many stone cottages, the house had been prone to cold and damp, so improving its thermal performance was key to creating a comfortable, modern home.

The couple laid insulation beneath the floors, with underfloor heating installed on the ground level. Naimh and John chose new limestone tiles to complement the cottage's age and character. Upstairs, they kept radiators and laid limewashed oak flooring.

"The cottage was originally an E-rating, at best," says Naimh. "But it's now super cosy with fantastic insulation."

The couple also wanted to create something that reflects their Irish heritage. "I wanted a home where, from the warmth of a fire stove and blanket, I can enjoy the view of the rain and the shades of green outside the window, while my daughters try and imagine how the fairies spent their night," says Naimh.

It was a natural step to bring in designer Geri O'Toole, whom they found through personal recommendation. "I've worked with designers all over the world," says Naimh. "But Geri's ability to see my vision and bring it to life was incredible."

Geri faced the challenge of restoring the cottage while preserving its character, working within the constraints of low ceilings, small windows and irregular rooms. Rather than cover up the stone walls and timber beams, Geri incorporated bespoke joinery that subtly adapts to the uneven lines and quirky angles of the cottage.

"The beams in the kitchen were covered in thick paint. We stripped them back to show the beauty," recalls Geri. "And they're one of the best features in the house," adds Naimh.

Throughout, there is a 'classic cottage' aesthetic, with a definite luxury edge. The

Clever layered lighting brings warmth and atmosphere to all the rooms

kitchen (with a vaulted ceiling) boasts hand-cut tiles and natural marble, creating a space that is both traditional and yet hard wearing enough for family life. Bespoke features elsewhere include the cottage-style doors, which are limewashed in a textured, matt finish. Naimh and John's daughters' bunkbeds are also bespoke, with a whimsical touch in the cosy corners, reading lights and bobbin-style trim.

"With older cottages, standard sizes and layouts rarely work, so going bespoke allowed us to make every inch count. Every design choice was grounded in the reality of how the cottage is used," says Geri.

The standout feature of the renovation is an antique rose pink fireplace in the living room. Sourced by Geri, it is framed by antique bricks from France, laid in a herringbone pattern. "This was our biggest splurge, but it was so worth it!" laughs Naimh.

The couple opted for reclaimed materials where possible to stay true to the traditions of the west coast. The palette is grounded in tones that connect to the landscape: greens, blues and warm ochres, and the result is cohesive and distinctive. "Pattern adds rhythm and a sense of narrative to each room," says Geri.

In the master suite, the wallpapered ceiling creates a cocoon effect. The headboard, upholstered in Pierre Frey fabric, and a bespoke copper bath, are juxtaposed with some antique pieces. This is a room that makes luxury an everyday essential.

On a practical level, layout changes created a 'mudroom' and pantry downstairs, while a new reception room, at the front of the house, boasts a tumbled limestone floor and discreet John Cullen lighting.

Clever layered lighting brings warmth and atmosphere to all the rooms. "We enhanced natural light through lighter-toned paints and reflective finishes," says Geri. "And we layered artificial lighting by adding spots into window reveals, concealed LED strips, wall sconces and floor lamps."

Now completed, the cottage is a modern family home that feels joyful, authentic and the perfect storybook setting for childhood memories. "Summer is amazing, we go for walks to the beach and enjoy picnics in the back garden," says Naimh. "And Christmas is magical." ■

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The most success projects mix contemporary architectural interiors with classical accents, balancing the clean lines of modern design with textural and detailed pieces.
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Please visit Neptune's website or give them a follow on Instagram.

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Tile of Spain reveals four ceramic tile trends for 2026

Tile of Spain has revealed four key ceramic tile trends for 2026, reflecting a shift toward natural materials, emotional design, heritage influence and expressive luxury. Together, Geomatter, Innerland, Heritage Play and Opulis show how surfaces can shape both the look and feel of modern interiors. Geomatter focuses on reconnecting with nature, drawing inspiration from geology and raw materials. Tiles feature mineral textures, layered effects and organic imperfections, creating grounded, tactile spaces that feel authentic and enduring. Innerland centres on wellbeing, responding to fast-paced digital lifestyles by turning homes into calming retreats. Soft textures and muted, warm palettes create soothing, sensory environments designed for comfort and emotional balance. Heritage Play reimagines traditional craftsmanship with a contemporary twist. Classic patterns and cultural motifs are updated through bold colours, larger formats and playful layouts, blending nostalgia with modern design. Opulis explores a more expressive form of luxury, using rich textures, sculptural surfaces and glossy finishes to create depth and drama. Tiles become statement features, adding personality and visual impact. Overall, the trends highlight a move toward interiors that are not only stylish, but also meaningful, sensory and deeply connected to everyday living. Please visit the Tile of Spain website for more information.

comunicacion@ascer.es **tileofspain.com**

Why brushed wood flooring could be the best decision you make for your home

When you are building your own home, every material choice feels significant. You have the freedom to specify exactly what goes into each room, and the responsibility that comes with it. Flooring is one of the decisions that will shape how your finished home feels every single day, how it sounds underfoot, how it looks in different light, how it wears over time. If you are drawn to natural materials and want a floor that feels as considered as the rest of your build, brushed wood flooring is worth understanding properly.

WHAT MAKES IT DIFFERENT

Brushed wood flooring is not a printed effect. It is created by gently removing the softer wood fibres from the surface of real timber, revealing the harder grain beneath and giving the floor a subtle, tactile texture that you can both see and feel.

"It is created by gently brushing the surface of the timber to remove the softer wood fibres, enhancing the natural grain and structure. The result is a textured wood floor that highlights the authentic beauty of real timber while adding depth and dimension."

The result is a floor that feels genuinely honest about what it is. Each plank carries the natural character of the wood, and the brushed finish makes that character more visible rather than less. For self-builders who want their home to feel rooted in real materials, that matters.

HOW IT WORKS IN THE SPACES YOU ARE CREATING

One of the great advantages of specifying flooring for a self-build is that you can think about it in relation to your actual rooms, your actual proportions, your actual orientation. Brushed wood flooring gives you a lot to work with here.

Light brushed oak tones are brilliant for rooms that need help feeling open and bright, smaller spaces, rooms with limited glazing, or hallways where you want the eye to travel. Deeper, richer tones create a different kind of warmth, particularly in larger living areas or open-plan kitchen-diners where the floor is doing a lot of visual work across a significant area.

"The textured surface interacts beautifully with natural and artificial light, creating subtle contrasts and movement across the floor. This makes it an excellent choice for open-plan living areas, kitchens and dining spaces where flooring becomes a central design element."

If you are building with a Scandinavian influence, a contemporary minimalist scheme, or a more classic design approach, brushed wood flooring sits naturally within all of them. It has enough character to be interesting without dominating a room, and it tends to complement rather than compete with the other materials around it.

THE CONNECTION TO NATURAL MATERIALS

Self-builders often talk about wanting their home to feel connected to its surroundings, to the landscape, to natural materials that have a sense of history and integrity. Brushed wood flooring speaks to that instinct directly.

"Homeowners increasingly seek natural materials that add authenticity and character. The finish feels tactile and genuine, supporting the growing trend towards biophilic design and nature-inspired interiors."

There is a growing movement in residential design towards biophilic principles, the idea that living with natural materials and textures has a genuine positive effect on how we feel in our homes. A brushed timber floor is a proper expression of it. The grain is real, the texture is real, and the variation between planks is a beautiful feature. It also offers a comfortable feel underfoot.

A FLOOR THAT WILL STILL BE RIGHT IN TWENTY YEARS

One of the risks with any flooring decision is choosing something that feels exciting now but dates badly as trends shift. Brushed wood flooring is genuinely timeless in a way that more fashion-led options are not. The reason is simple: it looks like what it is. Natural timber with an honest finish does not go out of style in the way that strongly patterned or heavily coloured products can.

Woodura Planks with a brushed surface are also engineered for long-term stability and durability, which is exactly what you need in a home you are planning to live in for decades. For a self-builder investing significant time, energy and money into getting every detail right, that combination of authentic character and lasting performance makes brushed wood flooring one of the more straightforward decisions you will make.

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Understanding light

Understanding how light transforms colour is the secret to getting your paint choices right first time, saving time and money on your project as Kathryn Lloyd at Crown Paints explains.

When you're investing time and money into a self-build or renovation, getting the paint colours right matters. But here's something many people don't realise until it's too late: the same paint colour can look completely different depending on which room you use it in.

A soft grey that looks perfect in your south-facing living room might appear cold and blue in a north-facing bedroom. A warm cream could read as yellow in one space and neutral in another. This isn't a fault with the paint – it's simply light doing what light does.

WHY LIGHT CHANGES EVERYTHING

Light is the most influential factor in how we perceive colour, yet it's often overlooked during the planning stages. What we see as colour is actually light reflecting off surfaces and being interpreted by our eyes and brain. As the wavelengths of light change throughout the day, so does our perception of colour.

Morning light tends to be cooler with blue tones, while evening light becomes warmer and more amber. Add seasonal variations into the mix – bright summer sun versus softer winter light – and you can see why that perfect shade on the colour card might not look quite the same once it's on your walls.

Artificial lighting adds another layer. LED bulbs come in various colour temperatures, from cool white to warm white, each casting a different hue. Cool white LEDs can make warm neutrals appear flat or greenish, while warm white bulbs intensify yellow undertones.

ROOM ORIENTATION: YOUR SECRET WEAPON

The direction your room faces has a huge impact on how colours will perform.

South-facing rooms benefit from the brightest, warmest natural light, which can intensify colours. Cooler shades work particularly well here – think blues, greens, and whites with grey or blue undertones. You can also be braver with deeper colours, which create depth without making the space feel dark.

Light is the most influential factor in how we perceive colour

North-facing rooms receive cooler, more consistent light that can make colours appear flatter but more sophisticated. Warmer shades with pink, yellow or brown undertones such as Snowfall or Toasted Almond help counteract this coolness. Be careful with whites – stark, cool whites can look harsh, while warmer options will feel more balanced.

East-facing rooms enjoy bright morning light that softens throughout the day. Warm, cheerful shades make the most of morning brightness, making these spaces ideal for kitchens and breakfast rooms.

West-facing rooms experience cooler morning light before warming up with golden afternoon sun. As the light intensifies, colours become more vivid and energetic – greens and blues can appear brighter, more saturated and full of life into the evening.

GETTING IT RIGHT: THE PRACTICAL APPROACH

Testing colours in the actual space before committing is essential. Start with a tool such as Crown's Colour Visualiser, which allows you to upload photographs of your own spaces and apply different shades digitally. It's particularly useful when working with multiple rooms and wanting to test how colours flow from one space to another.

You can also pick up real paint cards which offer a practical alternative to painting samples directly onto walls. Unlike standard printed colour cards,

these feature actual paint on the card surface. You can stick them to your walls and move them around to different surfaces without creating patchy sample spots – perfect for testing both light-flooded walls and shadowy corners, at different times of day. They're also fully reusable and recyclable after use, making them a more flexible and sustainable way to find your perfect shade.

CHOOSING THE RIGHT FINISH & PERFORMANCE

Paint finish should be considered too. While disguising minor surface imperfections, matt finishes absorb light and make colours appear richer, whereas silk or mid-sheen finishes reflect light, brightening a space. In darker or north-facing rooms, a slightly more reflective finish can help bounce available light around.

In busy family homes, durability matters. High-traffic areas like hallways, kitchens and children's rooms need finishes that can be scrubbed clean without losing their colour – a demand products can deliver on. For trim work, coverage and longevity are key, which is where Fastflow in eggshell, satin and gloss performs well.

TRUST THE PROCESS

Choosing paint colours that work with your home's natural light takes patience, but it's worth the effort.

By understanding how light interacts with colour, using digital tools to explore possibilities, testing with real paint cards, and committing to physical samples on walls, you'll create a home where every shade looks exactly as intended.

The time invested saves money on repainting and ensures your carefully planned colour scheme delivers on its promise, creating spaces that feel right from day one and continue to work beautifully as the light shifts through seasons and years.

Kathryn Lloyd is colour specialist at Crown Paints

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New Smart Video Doorbell

HKC Security has announced the launch of its new Smart Video Doorbell, designed to give homeowners building or renovating their property a smarter, more integrated approach to front door security. The HKC Smart Video Doorbell offers a seamless way to incorporate video monitoring, intelligent alerts and remote access into a wider home security system from day one. The device delivers crisp 1080p video with a wide 154° field of view and integrated night vision, ensuring clear visibility at all times. Full two-way audio with echo cancellation enables natural, real-time communication, allowing homeowners to speak to visitors, manage deliveries or monitor activity via the SecureComm App, whether they are on-site or away.

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Reshaping heating controls with AI

Tom Sheppard at IMI Heatmiser explains how AI is shaping the evolving role of heating controls.

Heating today presents a clear challenge for homeowners and self-builders. How do you balance comfort with lower energy use, ensure homes stay warm without overheating, and get the best performance from increasingly low-carbon heating systems?

As more people look to build or retrofit homes that are efficient, future ready and comfortable to live in, the practical realities of day-to-day heating control are becoming harder to ignore. The demands of heating the right rooms at the right time, maintaining consistent comfort and doing so as efficiently as possible can become complex.

Against this backdrop adaptive heating controls are becoming far more than a simple add-on to the wider system. Once seen as little more than a wall thermostat or a timer in an airing cupboard they are now emerging as a critical layer in overall residential building performance.

Heating control is about understanding how buildings behave in the real world

WHERE THE MARKET STANDS TODAY

Heating is far more complex than many consumer technology brands first anticipated. Google's decision to stop launching new Nest thermostats in Europe, sell existing European models only while supplies last, and end support for earlier Nest Learning Thermostat models highlights the challenge of long-term smart-home product support in complex heating markets.

European and UK homes have diverse hydronic systems, varied building fabric and unique compliance requirements that demand deep heating expertise as well as software capability.

Heating control is about understanding how buildings behave in the real world, which comes with a set of practical challenges. Homeowners are increasingly seeking ways to balance comfort and energy efficiency, optimise the performance of low-temperature heating systems, and heat homes more intelligently around changing occupancy patterns.

REGULATORY COMPLIANCE

Part L and the Future Homes Standard are also pushing the market towards greater smart zoning, improved efficiency and more responsive controls. In many refurbishment projects separate control of living spaces is increasingly expected. That reflects a wider recognition from the Government that smarter control is one of the most effective ways to reduce energy demand without compromising comfort. For installers, that means controls are no longer a secondary consideration.

Multi-zone control allows homeowners to heat spaces only when required, helping to reduce energy consumption while maintaining comfort where it matters most. In practice that could mean lowering temperatures in unused bedrooms during the day while keeping living areas at a comfortable level.

The challenge, however, is that comfort and efficiency do not always naturally work together. That is where adaptive and predictive technologies are beginning to change the conversation.

THE ROLE OF AI

Traditional smart heating systems have largely been reactive. Features such as pre-heat functions typically rely on historical data, often analysing around 30 days of usage, to estimate how long a property takes to move between temperatures.

However, homes are inherently dynamic environments. Outdoor temperature fluctuations, solar gain, occupancy patterns, floor slab

temperatures, heat loss through windows and the thermal mass of a building all influence how a property responds at any given time.

This is where AI-driven adaptive heating offers a step change, helping homeowners better balance comfort and energy efficiency by responding to real-time conditions rather than relying solely on past behaviour.

Research in this area is accelerating. A recent paper from the University of León in Spain, "Efficient Heating System Management Through IoT Smart Devices", explored how intelligent heating systems can use real-time data and predictive analytics to optimise both comfort and energy performance. The study identified energy savings of up to 15%, with IoT-enabled systems delivering measurable reductions in heating demand while maintaining occupant comfort. It also highlighted the potential for machine learning and predictive control to further improve efficiency through the use of weather forecasting, occupancy data and behavioural modelling.

More broadly, emerging research into adaptive comfort suggests that AI-enabled systems are increasingly able to anticipate occupant behaviour, predicting when users are likely to adjust temperatures even before they interact with controls themselves.

WHY HYDRONIC EXPERTISE STILL MATTERS

There is currently significant industry discussion around AI, smart homes and connected living. Yet one important point is sometimes overlooked. Connected heating systems remain fundamentally mechanical and hydronic, and it is this underlying system design that has a direct impact on reliability, energy efficiency, comfort, and long-term performance.

Heat pumps, underfloor heating, low-temperature systems and multi-zone properties all require intelligent control strategies grounded in real-world hydronic expertise, which is one reason why heating specialists still play such a critical role.

INTEGRATED COMFORT CONTROL

Looking ahead, the role of heating controls will continue to expand. The future lies in integrated climate management ecosystems that bring together heating, cooling, ventilation, lighting and energy management into a single intelligent platform. Rather than simply adding smart devices, homeowners will increasingly seek joined-up solutions that reduce energy consumption, improve comfort and simplify the management of heating and cooling across the home.

Tom Sheppard is head of product at IMI Heatmiser

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