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MAY/JUNE 2022

A BEGINNER'S GUIDE TO HEAT PUMPS

Our expert Phil Hurley explains the ins and outs of the hot topic of the moment

Survey: Low Carbon Homes

We spoke to self-builders to discover their challenges and successes so far in creating greener builds

Home Styling: Living Rooms

They can be deceptively simple when it comes to getting the look and feel right – here we offer some useful tips



Open to new ideas

Patsy Parr had inspiration – not to mention a bit of competition – from her self-builder mum, in creating a contemporary home in rural Staffordshire

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FROM THE EDITOR...

Self-build, whether it is for a new home or a renovation, is probably one of the most important routes we have for the UK to reduce its carbon emissions. It's estimated that 14% of our CO₂ comes from homes, not an inconsiderable portion if you think about all of the power stations, industry and transport constantly producing emissions.

Talking of power stations, in September 2021 Ofgem found that the 26 million gas boilers currently sitting in UK homes each release 3.54 tonnes of CO₂ every year. That is over double the 41 million tonnes of carbon chucked out by the UK's 48 gas-fired power plants, not to mention the nitrous oxide from domestic gas boilers (eight and half times that of power plants).

Clearly, the era of domestic gas is coming to an end, however making the transition to alternatives such as air source heat pumps is no easy task for homeowners or builders. Nothing about genuinely making the move to low carbon is easy, but it's arguably essential to try, given the depth of the climate change crisis - now exacerbated by an energy price crisis and war in Ukraine.

But many self-builders are already doing everything they can in their builds to reduce emissions in both new build and retrofits - showing major housebuilders the way forward. In this issue we report on research we have done among readers which shows just what strides you have been making, but also the challenges you are facing. See page 23 for our Selfbuilder Survey, Building a Low Carbon Home, which contains all the findings.



JAMES PARKER

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ON THE COVER.... © IZAAK CAAN (PAGE 78)

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ASK THE EXPERT

Heat pumps: the basics



Like a lot of self-builders, you may be looking to stay clear of fossil fuel heating systems and install a heat pump in your home. However, you may be asking how exactly does a heat

pump work – and will it work for me? Phil Hurley of the Heat Pump Association has the answers

HOW DOES A HEAT PUMP WORK?

A heat pump harnesses the natural warmth from the ground, air or water to provide hot water and heating to homes. Each type of heat pump (air source, ground source, water source, exhaust air, and hybrid) works in a slightly different way, but all provide an efficient, low carbon solution. Two of the most commonly used heat pumps in new builds are explained below.

• AIR SOURCE HEAT PUMPS

An air source heat pump absorbs low

temperature heat from the outside air into a fluid that is then passed through a compressor to increase the temperature and transfer heat and hot water to the home. The system has various components similar to other types of heat pumps, but it also has a thin evaporator coil to draw ambient latent energy from the air and use it to warm up the refrigerant that sits inside the coil so that it begins to evaporate. This gas then moves through the compressor to increase the temperature, which is released inside the building through air ducts or radiators. Air source heat pumps are particularly well suited to smaller plots where space is at a premium.

• GROUND SOURCE HEAT PUMPS

A ground source heat pump takes low temperature heat from the ground to provide heat and hot water. There are various ways this thermal energy can be collected, with the more common methods including ground collectors where the pipe is buried horizontally into the ground - and boreholes, where pipes are vertically inserted. In both cases, a water mix (with glycol) is then inserted into the pipe and circulated to and from the heat pump, pressurising the system to produce heat and hot water. Once the pipes are in the ground, they have a long lifespan of between 50-100 years and are largely unaffected by air temperature, providing a stable efficiency all year round. Building a home is an ideal time to install the infrastructure for a ground source heat pump as it requires some groundwork, however they are very efficient and worth the extra effort, plus the ground collectors are barely noticeable once complete.

If you are lucky enough to be building a home near a lake, reservoir, river or even the sea, you may want to consider a water source heat pump. They work in a similar way to ground source heat pumps but extract heat from a body of water rather than the ground.

WHY INSTALL A HEAT PUMP?

Over the last few years, the Government has indicated that heat pumps will be the







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technology of choice when it comes to replacing gas boilers in new homes. The focus on heat pumps as a low carbon heating solution is no coincidence. They offer huge carbon savings at around 65% versus a natural gas boiler and have the potential for further reductions as the grid continues to decarbonise over time. To put this into perspective, the projected savings of a heat pump in comparison to a gas boiler could be around 95% by 2050.

HOW DO HEAT PUMPS COMPLY WITH CHANGING BUILDING REGULATIONS?

From 2025, when the Future Homes Standard is introduced, an average home will be required to cut carbon by at least 75% compared to current standards. In addition, interim changes are due to come into force from this month, requiring a 31% carbon reduction. This makes perfect sense given that the installation of the technology is easier and less disruptive, while avoiding the need for costly retrofits at a later date. Research by the Climate Change Committee (the official climate advisors to the Government) has also shown heat pumps to be cost comparable to gas boilers in new builds already.

WHAT KEY DESIGN POINTS NEED TO BE CONSIDERED?

Understanding the use and thermal dynamics of your property is key to designing and specifying a suitable heating system. Some key design points to keep in mind include heat loss and hot water usage, external and internal pipe runs, central heating pipe sizing, placement of hot water cylinders, and consideration for sound and comfort.

WHAT ARE THE PIPEWORK REQUIREMENTS?

It is important to ensure that the outdoor unit fits within the setting of the property so that it is considered part of the external design, fitted in close proximity to the property to minimise pipe runs, for example. The pipe length from the The projected savings of a heat pump in comparison to a gas boiler could be around 95% by 2050

unit to the water source within the home varies depending on the heat pump, but an eight metre heat pump head typically has a pipe run of around 15-20 metres.

WHAT FUNDING IS AVAILABLE FOR HEAT PUMPS?

Upfront financial support towards the cost of a heat pump is available through the Government's Boiler Upgrade Scheme. This has now been launched, and is open to any installation commissioned (with a MCS certificate issued from) 1 April. Grants of £5,000 are available for air source heat pumps or £6,000 for ground source heat pumps. It's worth keeping in mind that self-build homes are eligible for the scheme, while other types of new build homes are not.

Phil Hurley is chair of the Heat Pump Association







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MAKE ROOM FOR RELAXATION

While you may already know how you want your kitchen and bathroom to look, the crucial space that is the living room can be more tricky to conceptualise. Interior designer Claire Rendall of Berkeley Place provides some styling tips



iving rooms are where we spend a large proportion of our leisure hours, so they're important. They are the centre of the home, and getting the basics right is one of the joys of building and specifying a property yourself.

While in the planning stage, think about doors into spaces. Being mindful of load bearing walls, double doors – even if they take up most of a wall – can make a fabulous statement, and a grand entrance. They enhance the scale of any room. You might want to keep one side permanently locked, but the architectural intent is still there. They're a brilliant way of joining one space to another without the 'cold' feel that open plan living can sometimes bring. An alternative is internal Crittall or glass doors. They're very popular at the moment and can add a dash of industrial design into your home. This theme can be emphasised with the style of lighting and bare floorboards.

As the sitting room is most often used for relaxing or entertaining, be mindful of the lighting. Have a look at large pendants – there are some stunning designs available and they add a splash of style to any space. Try to avoid too many serried rows of downlights in a sitting room – the light they cast can be flat and unflattering. If you do have them, have a look at products with black ribbed interior baffles. The light they emit is more directional, and there's also less glare from the side. Make them work for their money – have them illuminating pictures or sculptures. With a directional beam they can look amazing pinpointing a coffee or side table.

Where possible though, bring lighting off the ceiling with pools of light from floor standing and table lamps. A pair of table lamps in front of a mirror on a console table can throw a lot of light into a room. Lamps on console tables can also look fabulous behind a sofa, so make sure you've made provision for floor mounted sockets if necessary.



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Add texture to the sitting room with timber floors. They also let you change rugs and the feel of a room easily. There's an astonishing and subtle range of timbers available, from darkly smoked to soft pale bleached versions. Be aware of the width of the boards and how they affect the feel of the room – large rooms benefit from wider boards. Also beware of natural knots if you're going for a clean, contemporary look. Engineered flooring will let you have the best of both worlds with a natural top finish and a stable base.

Too often these days, sitting rooms are dominated by massive televisions. When they're on, they're great – the image and sound quality are superb these days, and there's nothing nicer than curling up on your own sofa without a stranger chomping popcorn in your ear. When they're turned off however, they're a huge black, blank, dead space that still dominates the room. There are some really neat solutions around, from TVs that emerge from furniture if you have the space, to screens that double up as really good mirrors or pictures. An option that's often overlooked is to use shutters that can be designed in with faux panelling – this doesn't have to be as onerous as it sounds and can look terrific with a contemporary twist. If the room has underfloor heating or no natural focal point, making a feature of this can really help balance it.

Traditionally rooms would have a fireplace as the main feature and this can really help anchor the space. If the room hasn't got or doesn't need a fireplace, think about an architectural accent to take its place. We often feel more comfortable with something to sit around, so try to make seating areas sociable, with coffee or side tables within reach. Also think about making charging points for tablets and computers easily accessible. While you're thinking about sockets, don't forget sound systems and speakers that need to be plugged in.

All of this leads to the point of deciding on a seating plan fairly early on. I always think a mixture of sofas and chairs, sometimes mixing styles up a bit, makes for a very stylish look that doesn't look too corporate. I often start with a neutral base colour and then build in colours and textures to add an accent colour and extra zing. Keeping neutral on the biggest pieces of furniture also means it's easier to chop and change accessories in the future if you want to without ditching your biggest investments in the space. Cushions and throws easily transform the feel of a room as can rugs and changing lampshades.

Above all, your sitting room is about comfort. It's about putting your feet up after a busy day and relaxing, so make sure you have exactly what you need around you.

Claire Rendall is an interior designer who collaborates with developer Berkeley Place



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INTERIOR INSPIRATION: KITCHENS

People use their kitchens for much more than just cooking and eating; they often function as living and entertaining spaces, and even places to work, as hybrid working grows in popularity. Here are some key products to give you some ideas on how to create the 'heart of your home'

1. LochAnna Kitchens' Washington Collection is a "velvet-smooth" painted shaker kitchen, finished in a choice of 28 colours. Accessorising this kitchen with mantle shelves or wine and plate racks creates a traditional room, or include square end posts for a more modern influence. Available from around £7000. www.lochannakitchens.co.uk



2. Bring a Scandinavian feel into your home, hotel or office with the **Primrose Kitchen Stool** from **Cult Furniture**, with a backrest crafted from solid wood, and burnt orange velvet fabric offering a "slick approach to modern dining chairs." A wide range of colour choices enable you to find the perfect bar stool for your kitchen or bar. Price: £159. www.cultfurniture.com

3. Wren Kitchen's Copper Oak and White Modern Kitchen features

elements in Oak Lodge and Super White finishes. Reflecting the patterns of natural materials, the range makes a strong, contemporary statement. Self-builders can accent with bold 'special colours' or calm neutrals. Price: £4002.

www.wrenkitchens.com



4. Perfect for use over kitchen islands or dining room tables, the Academy 3 Light Box Pendant by dar lighting has a stainless steel ceiling plate and frame with clear glass panels. This product looks especially good when used in conjunction with vintage style lamps, available to buy separately. Price: £474. www.darlighting.co.uk

5. Where To Go's Pole Bar Stool has been expertly handmade, with slight imperfections adding to its overall character. The button seat is supported by a black metal pedestal that also features a sleek footrest, and is weighted by an industrial-era cast-iron base. Available in a vast palette of colours, the stool is priced at £169. www.wheresaintsgo.co.uk

6. When space is at a premium this 150 cm Dining Table and Bench Set from Sue Ryder is the smart choice. With a contemporary country design, it can look great in both a modern or traditional setting. This twin bench seats offer flexible seating options and have been designed to tuck neatly under the table when not in use. Priced at £329.99. www.sueryder.org/shop

CASE STUDY

ACCESS ALL AREAS

A kit home has plenty of benefits – including its price tag – but buying a 'house in a box' doesn't mean sticking to the plan, as this wheelchair-friendly redesign near Cornwall's Atlantic coast illustrates

TEXT CAROL BURNS IMAGES EWEN MACDONALD



S arah and Trevor Wright knew exactly where they wanted to build their new house – as close to their old cottage near Perranporth on Cornwall's Atlantic coast as possible – and had resorted to asking neighbours if they had a piece of land available to buy. Eventually one agreed to sell them their old tennis court and garden – sitting just half a mile from their cottage and a field's length from their grandchildren. "We liked it because it was flat, had a nice view and was next door to our daughter," says Sarah of the plot. She is disabled, and living in an old cob cottage was not suitable.

Having found and bought their plot in August 2018, it was time to decide what the house would look like. The couple decided on a kit house that recreated a Scandinavian log cabin which came with a £75,000 price tag (for the standard design).

Although called a 'kit house,' the finished building – from Finnish company Arctichouse

- bears little resemblance to the houses that arrive partially built in a convoy of lorries from Germany, plus the tradesmen that put it up in two weeks. Pre-cut logs for the frame and the triple glazed windows are supplied, but the wood which made up the walls, ceilings and floors is supplied uncut. Even carpenter Trevor admitted he was a little overwhelmed, especially when it came to making and raising a 350 kg, 12 metre-long roof beam to the five-metre-high ceiling. Fortunately, sons-in-law Ric Wright and Chris Waters were able to lend a hand.

The couple had undertaken renovation projects before, including two cottages, but this was their biggest – and probably last – adventure. The timescale for the project was significantly higher than the two-week kit house template: the build took 18 months. For the first few months, the couple lived in a caravan in the garden that they had bought for £200, sleeping in a nearby shed if the weather got

HIGH POINT

"Enjoying the view from the full-length windows looking onto the garden from the living space"

too bad (unbelievably, Sarah also helped homeschool her grandchildren in the makeshift home, as Covid 19 and the resulting lockdowns struck).

Among the major design changes were to open up the ceilings and take the building up to the exposed beams as well as adding three Velux windows to the roof for plenty of light. The house was also built south-west facing to make the most of Cornwall's famous light.

The design also needed to consider Sarah's mobility. Due to long term nerve damage, she sometimes needs a wheelchair, but neither she nor Trevor wanted a wide open plan living space, which would have been an easy solution. Instead, double doors separate the kitchen from the living space, the entrance porch from the living area and the wide corridor leading to the bedrooms, bathroom and Sarah's art studio. The hand painted and stencilled blue doors add a splash of colour to the pine interior and can be left open when Sarah uses her chair. The result is a large, bright wood-lined living space with high walls perfectly designed to display Sarah's artwork, alongside work by friends and their grandchildren. The interior is Tardis-like. Outside the building appears to have a much smaller footprint and the double height ceiling is totally unexpected.

The project was very much a joint enterprise, with Trevor handling the wood and Sarah researching all the details and products they needed for their self-build home project – including how to buy and fit your own underfloor heating. She comments: "If you are really open and honest and ring people and ask: can we have that or how do you do that, people are very helpful." She adds: "The planning officer is also a resource: you can ask them things – like `would we be allowed to do this or that?'"

Shopping around also proved vital to achieving their goal (and their budget). Sarah spent many, many hours researching and contacting people to find out more about



individual elements and flesh out ideas. "I've got very good at maths," she jokes.

A key element for the couple was the project's environmental impact – all the furniture inside the house is 'preloved,' and the design has considered every eco-possibility. The wood used in the build is a slow-grown arctic pine which becomes a hardwood and the house has a heat exchange system (which keeps the house at a temperate 18 degrees at all times by taking warm air and circulating it in cold areas of the house). There's also a source heat pump and underfloor heating, which Trevor laid himself.

"We included as many eco-friendly features as possible as this is very important to us," says Sarah. "We couldn't find a suitable kit house in the UK, and would have obviously preferred this. We have installed solar panels, an air source heat pump for heating and rainwater collection for flushing the toilet. And we also used as much insulation as we could possibly fit in."

Installing the many eco-friendly elements in the house came with many challenges. The toilets use a pump-free rainwater collection system which uses gravity. But the couple found it required a lot of adaptations to get working. The device used to take spare energy generated from solar panels to heat water had – at the time of writing – stopped working.

There were other challenges along the way. "Probably, the worst part of the build was digging the foundations which is something Trevor hadn't done before, but on the other hand he did quite enjoy driving the digger," Sarah says.

"I think our best buy was probably the slate tiles for the roof which cost us about half the cost of new ones and had been taken off a school and were being sold second-hand in perfectly good condition."

The interior is kitted out with second hand finds and often repainted or stencilled with Sarah's own designs. She also found a place for home accessories and furniture from her favourite shop, the Swedish store Gudrun Sjoden. "I bought quite a lot of furniture while we were living in the caravan and knew where everything was going and what I was doing with it."

The building itself sits within the landscape as though it has been there for many years. It is tardis-like: from the outside it looks unlikely to boast four bedrooms and a huge living/dining area that extends far above your head. The fivemetre high ceiling is treated as an architectural feature with three Velux windows that draw the eye. Above the dining table an oar from the family's old rowing boat has been repurposed as a chandelier, while elsewhere hang large tree branches which hang with seasonal ornaments.

Despite the many changes to the original design, the one storey house maintains its Scandinavian log cabin feel. "We have achieved the style we hoped for," says Sarah. "Trevor is a carpenter, so not only did we want to build something environmentally-friendly but also something made of wood."

Giant ceiling beams aside, Trevor admits

LOW POINT

"Digging the foundations ourselves, and having to raise a 12 metre beam up to the five-metre high ceiling. The beam weighed three tonnes!



TOP TIPS

"Be really open & honest; ring people and ask: can we have that; how do you do that? People are very helpful." he was mostly unphased by the project. His career had seen him work on huge projects including hotels.

"We love the high ceiling in the living room with the Velux windows and surrounding fulllength windows looking onto the garden," says Sarah, discussing their favourite bits. The large garden though the triple-glazed windows follows the eco-concept of the build, and has areas left to rewild that will become wildlife meadows.

While Trevor really did take the concept of self-build literally, the couple called on the help of Falmouth-based architecture firm Marraum, who had a 21st century solution to their design issue. "The best help we had was from Marraum, who helped us redesign the interior of the log cabin. Although it was a kit house we were able to make what changes we wanted to the interior layout before the design was finalised and then sent to us."

"Adam at Marraum was able to input the house structure into a 3D programme so that with the help of virtual reality headsets we could walk around the house and see what it would actually look like. Adam even set this up so that the sun moved throughout the day to show you where light would be coming into the house." She adds: "Being disabled, it was very important to me to have wide doorways and easy access to all areas."

Having an architect also meant that even the smallest of details were considered and accommodated. While the homeowners focused on where to place furniture and the look of their kitchen, the team also had an eye on practical things, like ensuring there was enough storage. "It made sure we had places to store things like a mop and Hoover, that you don't always think about."

Virtual reality allows architects – and their clients – to experience and understand buildings before they actually exist. In the case of Rose Wood House, Sarah and Trevor could walk through their house before it is built. Changes can be made with a few clicks of a keyboard – and even allow you to drop in the furniture and decide ahead what you need and where things will go. "This was invaluable," says Sarah. The couple could then pay Arctichouse in Finland to make the changes to the design for their layout.

"Sarah and Trevor asked us to review the initial plans of their home," explains Adam Laskey at Marraum. "We quickly realised that the layout wasn't considered for a wheelchair user, and set about redesigning, while also taking the opportunity to ensure the space made the most of its surroundings.

"We created a virtual reality experience that allowed us to test Sarah's wheelchair and ensure that the space worked for her. Once approved, these designs were sent back to the manufacturer for amendments. Trevor then built the home himself, a labour of love, with Sarah researching all the ins and outs, ensuring the family got the best ethical and environmental solutions for their budget. Embracing the







"We love the high ceiling in the living room with the Velux windows and surrounding full-length windows looking onto the garden," – Sarah Wright

aesthetic of a log cabin – resulting in a beautiful eco-friendly project."

Despite the challenges and the major redesign it needed, Sarah remains a fan of the kit house concept. "I would advise anyone to consider a kit house because you get everything delivered in one go including the glass for the windows, and all the doors. "You need to buy your own kitchen and bathroom fittings and we in fact managed to use leftover wood to build most of the kitchen and bathroom and just had to buy appliances. You also need to provide your own insulation and electrician for wiring.

"We sourced anything we did need locally such as the second-hand slate tiles for the roof and materials for the foundations from a local company called Travails who we would highly recommend. Because access to our plot was difficult they also allowed us to store some materials at their site and they are literally a couple of miles away. They also hired us equipment such as the digger for the foundations."

While the house is officially finished, Trevor still has plans – creating a mezzanine floor in one of the guest rooms to make room for an en suite among them. "I would do it again," he says enthusiastically.

Sarah is more adamant that it will be their forever home. "Every day I think about how lucky I am," she says. "I am never going to stop being grateful that I live here." ■

CONTACTS/ SUPPLIERS

BUILDERS

R J Travail Ltd www.facebook.com/RJ-Trevail-Ltd-2297121663843145/

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BUILDING A LO CARBON HOME

What were the key reasons for choosing to build your home to high energy efficiency levels?



'e need to move from buzzwords on tackling climate change to a focus on urgent action to minimise buildings' contribution to the crisis. This has been cemented in a legal obligation for the UK to reach net zero emissions in 2050 – and building low carbon homes is a major piece of the puzzle.

Homes contribute around 14% of the UK's emissions, and with the escalating price of gas, it's now self-evident that CO, minimisation must be at the heart of self-builds. Homeowners have been responding to this major challenge over the years and are increasingly going for low carbon.

Gas is even more in the firing line as a fossil fuel which is vulnerable to the effects of continuing conflict in Eastern Europe. Gas prices have been going up steadily for several months, and the energy companies lifting the price cap in April means a further squeeze on homeowners.

Proponents of high performance, low carbon homes believe that heating homes should now even be seen as a luxury, and that 'carbon-positive' housing, which can generate more energy than it uses (thanks to a combined approach of renewables plus high quality fabric efficiency), should be the goal. With Passivhaus held up as the key method to achieving this, homeowners can look forward to a future of exporting

electricity to the grid.

It can be great financial news for the owner therefore, as well as the planet. Ultra-efficient, highly insulated designs will eschew gas and other fossil fuels, with battery storage powering EV vehicles.

Many self-builders are ahead of the game, but the 2025 Future Homes Standard will require them by law to cut carbon emissions by 75-80% (with an interim 31% cut this year). This will be a challenge for many housebuilders in terms of making the costs stack up for them and their customers.

Driven by long-standing sustainability ethics, self-builders have explored everything from straw bale walls and lime mortar to breeze blocks made of hemp. They have also harnessed the potential to oversee all of the design and build elements that self-build offers, to bring the rigour that's needed to produce air-tight, thermally efficient results.

Common sense suggests an urgent move away from gas heating. However, the mainstream UK housebuilding sector remains wedded to gas boilers, and has yet to fully embrace alternatives such as heat pumps. Natural gas had reached £4.50 a therm by Christmas 2021, and although the UK imports only 4% of its gas from Russia, imports generally provide over half the gas we use, so we are vulnerable to fluctuations in prices.

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SURVEYING SELF-BUILDERS



How would you describe your build's carbon credentials?

We wanted to know more about how our readers were pursuing truly sustainable homes in this difficult context; to discover their successes, as well as the challenges encountered. We partnered with Edge Insight to ask self-builders a series of searching questions about their journey to low carbon.

The white paper reporting on this 'Selfbuilder Survey,' which can be found at www.sbhonline.co.uk/white-papers including sponsors' case studies, throws a lot of light on where self-builders are in this process, and their thoughts on it. The report should help grow understanding and hopefully provide advice to others on realistic low carbon design approaches. Most respondents were hoping to make big savings in their annual energy bills, but cited a range of obstacles in doing that.

Cost of course varies per project, but many professionals in the field believe that even going to Passivhaus levels of air-tightness and insulation need not be drastically more expensive. With energy prices rising, the payback on investment could be even shorter. And building a very energy-efficient home doesn't have to mean it has to look drastically different to what we might expect.

CLIMATE, ENERGY & REGS

Scientists agree globally that the world is getting warmer – leading to more extreme weather-related events such as flooding and forest fires, and 2020 was tied with 2016 as the warmest year on record.

A report by Ofgem in September 2021 found that the 26 million gas boilers in UK homes each release 3.54 tonnes of carbon dioxide per year; and collectively over double the 41 million tonnes of emissions created by the UK's 48 gas-fired power plants. Ofgem also found that gas boilers emit over eight and a half times as much nitrogen oxide, which causes respiratory illnesses.

Natural gas was around 50p a therm in January 2021, but by

Christmas it had reached £4.50. As a result, energy companies this April raised their price cap so that projected annual gas (and electricity) bills will be considerably higher. The UK imports only 4% of its gas from Russia, but imports generally provide over half the gas we use, so the country is very vulnerable to fluctuations in prices.

Part L of the Building Regulations (Conservation of Heat and Power), had already seen a major update in 2013, increasing thermal efficiency, and air-tightness, to bring a 6% increase in performance, and introducing the Target Fabric Energy Efficiency Rate as a minimum standard. However the Future Homes Standard will be a much greater jump.

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1 A Wi-Fi connection and Samsung SmartThings application account are required. Wi-Fi Kit to be ordered separately. Requires iOS 10.0 or later & Android 5.0 or later. 2 Currently Voice control is supported in English (US, UK, Indian), Chinese, Korean, French, German, Italian, Spanish and Portuguese. 3 Conditions apply, talk to your Samsung representative for more details. A Current and daily, weekly or monthly energy usage of the outdoor unit is reference data calculated for information and reference purposes only. 5 The geofencing functionality allows the room temperature to be automatically set at the desired level when the user approaches within a preset distance from the building. "Amazon, Alexa and all related logos are trademarks of Amazon.com, Inc. or its affiliates."



SURVEY FINDINGS

f the 138 respondents we spoke to, 28% were self-builders underway with a 'low carbon' build and 31% are aspiring to do one. 14% were aspiring to do a low carbon retrofit, and 11% were actively doing their own construction. Over half (58%) had employed an architect and 11% were project managing their build, while 13% were actual architects.

The most common target for emissions for our respondents was 'very low emissions,' with 40% saying this was their goal. By contrast, only 24% of respondents said they were seeking 'fairly low emissions,' which demonstrates a strong level of low carbon ambition among our sample. 'Passivhaus-level' performance was an aspiration for 24%, however only 2% were actively seeking Passivhaus certification.

In terms of 'key reasons for building to high energy efficiency levels,' top of the list was cheaper bills (69% of survey respondents). Second was minimising their 'contribution to climate change' (63%). An element of comfort came in third – for 61% of readers – namely 'warmth,' but possibly also feeding into the concerns around the increasing costs of heating in 2022 and beyond. Then came 'reducing your overall carbon footprint' (57% of respondents), air quality (44%), and reducing reliance on gas (37%).

Further down the list, 'maximising use of healthy natural materials' was a key reason for 26% of respondents, and

'benefitting from incentives' only a key motivator for 20%, suggesting the relative failure of incentives to drive uptake thus far. Reducing embodied carbon was only a key reason for 17%, and earning income from the grid was a goal for 11%.

The survey data were encouraging on self-builders' assessment of their current understanding of how to build low carbon homes. A total of 45% reckoned they had a 'strong' level of understanding, whereas 17% thought their level was 'very strong,' suggesting they might be even able to undertake a large part of overseeing the carbon reduction aspects of the project themselves. Only 8% put themselves in the 'weak' or 'very weak' categories.

Self-builders surveyed were however finding it hard to make 'substantial reductions' in carbon emissions in their builds, with 11% saying it was 'very difficult,' and 40% saying it was 'moderately difficult,'

Part of this may be down to the fact that calculating the carbon footprint of their scheme – in order to understand just how it compares with the targets and other examples, and establish where the reductions are needed – was also a challenge overall for survey recipients. It was cited as a 'moderately difficult' challenge for 42% of respondents to the survey. Only 6% picked 'very difficult' however, and 4% 'extremely difficult.'

SOLUTIONS

The 'green' product industry has been in existence for many decades, but essentially developing non-standard, often fairly esoteric solutions such as sheep's wool insulation, for a small but devoted band of eco-home builders. However in the past few years, this kind of product innovation, or at least claims of green innovation, has become mainstream.

As with everything related to house design, performance is about a combination of specific parts all working together in a specific design, in a specific location. They need to not only be designed with this holistic approach, but also installed properly, for everything to work as planned, and the energy levels to be delivered. Understanding how to combine and apply the variety of solutions isn't simple, and requires a lot of investigation to get right, as confirmed by our survey.

Another common decision that self-builders need to make, and made more acute by the rigour required to pursue low



How would you describe your current understanding of low carbon/ low energy homes?

carbon builds, is how much professional help to bring in, for example calculating your design's potential heat losses. If you are confident enough, thermal bridging software can show you what needs to be dealt with, but you will still typically need to draw up your own designs for details on junctions, for example, which you'll probably want to get a professional to check.

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CARBON CALCULATIONS

nformation on the carbon impact of individual products is of course crucial to calculate your overall carbon footprint accurately, and while not mandated by law, embodied carbon is a key part of calculating whole-life carbon. Even without including embodied carbon, as stated above, our survey discovered that self-builders were finding that calculating the footprint of their build was far from easy however.

There are tools available to calculate various aspects of your build's carbon footprint, such as heat losses in your envelope's design using (often free) software, such as 'Therm.' As in all other areas, the rigour involved makes it a complex, but necessary process if you want to be truly green. Combining those figures produced as a result, and in a way that is usable, is part of the overall challenge.

Survey respondents were using a variety of means of obtaining information on their carbon credentials. As well as 'specialist eco-building advice,' the top voted option was 'leaving the calculations to the architect.' In joint third place was using the PHPP (Passivhaus Planning Package) software, gaining 20% of the votes, as was using manufacturers' EPD (Environmental Product Declaration) certificates. When it came to embodied carbon specifically, 12% of respondents were doing embodied carbon calculations as part of their overall carbon emission figures, and were using manufacturers' Life Cycle Analysis data.

Some respondents made anecdotal comments on the difficulties they had experienced, with one pinpointing embodied carbon: "Calculating carbon emissions in use is relatively straightforward. Calculation of embodied carbon is much more difficult." They continued: "Many manufacturers don't have data for this, and there are lots of other variables such as distance to site." Further complications included the impact on building footprint of choosing lower embodied carbon materials.

One respondent gave the simple view that when looking at a wide range of carbon info from a wide range of manufacturers, "the information is varied, and difficult to follow."

FABRIC FIRST

The building fabric is the core of low carbon design, from maximising insulation to minimising heat losses through thermal bridges and penetrations in the fabric, and achieving the highest air-tightness possible. Renewables work alongside a high performance fabric, but can't deliver the low carbon goods without it. If you are managing your project yourself, this means working hard with the architect, but particularly the various trades onsite, to ensure that the fabric is correctly specified for your property, the best techniques are used, and corners are not cut during installation.

Probably the most crucial area to grapple with to achieve low carbon is to ensure you have adequate insulation. There are clearly more options for those doing a new build than those retrofitting, with cavities normally requiring a spray solution. Structural insulated panels are a highly efficient means of constructing an air-tight, well-insulated house. They are normally offsite-constructed, OSB timber with a sandwich filling of rigid insulation, and precisely cut using CNC technology for maximum air-tightness.

Self-builders clearly need to ensure they are as informed as possible in order to embark on the low carbon journey, so we asked our readers how they were sourcing info. Internet websites were the most popular method (60%), followed by magazines (46%). Information sourced directly from product manufacturers was the choice of 36%, info from offsite and kit building suppliers got 33% votes, and 'specialist eco advice' received 22%.

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PRODUCT SOLUTIONS

ur survey respondents ranked the product solution types which they saw as key for their low-carbon build. The results generally weren't surprising, although you might have expected heat pumps to be higher up the list.

At the top of the chart, rated as 'very important' by 92% of respondents was insulation. Some distance behind was triple glazing (also solar control glazing), only picked by 55% as very important, which may suggest that the overall design approach and details were seen as more critical than individual product types. Solar PV panels were in third place with half of respondents picking them as 'very important.'

Vapour control layers/membranes, including high tech breather membranes, were seen as a 'very important' part of creating a healthy, sustainable building by 49% of respondents. Heat pumps were next in line, at 46%, and interestingly 40% chose thermal mass, a clearly fabric-oriented element of sustainability design. Then came battery storage and EV charging (40%), and timber construction (30%).

SPECIFICATION CHOICES

ur survey revealed the materials, construction methods and products, which were the most important for our sample of self-builders as they pursued a low carbon home. The results were as follows:

- LED lighting (73%)
- Air-tightness tapes (56%)
- Rainwater harvesting (47%)
- Thermal breaks (46%)

• Recycled building materials (27%), green roofs (20%), greywater recycling (17%), biomass heating (14%). Infra-red heating (12%), sustainable alternatives to concrete (12%) and lime mortar brought up the rear with 10%.

Air source heat pumps were relatively unknown a few years ago, but have become the subject of fevered debate among those looking to upgrade their existing properties to a non-gas heating solution for both financial and climate considerations. The Government is giving homeowners grants of £5,000 towards heat pump installations, and has cut VAT on them. Systems are likely to offer a good return on investment in terms of lower bills, and avoidance of gas price fluctuations.

The extra expense may be marginal when you are looking at installation plus lifetime cost, with the government incentives. There is some debate however over whether without insulation upgrades, heat pumps will be able to run at the lower temperatures they need to in order to provide the right level of efficiency. Selfbuilder + Homemaker's readers did allude to some of the concerns, such as potential noise of systems, internally as well as externally, and also the space required. Pump manufacturers are continually innovating to bring both the noise and scale down to make them viable for most users. The Committee for Climate Change reckons that 40% of the UK's existing heating stock can have heat pumps installed without upgrading their building fabric, thanks to tighter thermal requirements in Building Regulations since the 1970s.

The use of photovoltaics (PVs) for electricity generation and solar thermal arrays (for heating water) is well-established, however the instant incentives in terms of offsetting capital cost are far less attractive for solar PV, following the downgrading of the Feed-in-Tariff. However, once electric cars become the norm in 2035, according to government targets, demand for electricity generation and battery storage may see another bonanza of solar PV installations.

According to many in the industry, designing your house to the Passivhaus standard ensures a zero carbon building without making huge investments in renewables. Passivhaus design has been around since 1990 but is now well-established among the UK design community. Builders may face challenges in delivering the high levels of rigour for this 'gold standard' of low carbon buildings, but they are increasingly grappling with them. Experts believe the cost of building to this level does not need to be prohibitive.

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How important are the following product categories for your build when it comes to low carbon specification?

CONCLUSION

Probably the most tangible result of building a low carbon home is a much lower energy bill; 3% of our survey respondents even believed that their build would even be costing 'less than zero' to run. Only 20% thought that following their build, their annual energy bills would be between £1000 and £1500, and 28% thought that they would be able to get down to between zero and £499. This can offset the fact that low carbon builds tend to cost more than a standard home; 68% of readers surveyed said build costs were proving higher than expected.

Our respondents found many positives in their green builds, including "Future proofing against rising energy costs," providing a "warm, draught free home," achieving "less reliance on the grid and lower pollutants.

They were also keen to "show others it can be done," aided by enthusiastic specialists, and thereby

"changing people's perceptions on sustainable building." We hope that as well as highlighting the problems and difficulties inherent to high-performance homes, particularly a lack of central incentives and industry engagement, this piece of research has helped to show the way forward.

There is little argument against trying to build for low

carbon, and the cost of not doing so could be far greater. Self-builders are in a particularly strong position to make a big difference.

For a free download of the full version of this Selfbuilder Survey, please visit www.sbhonline.co.uk

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Using colour to give your home wow factor

When choosing colours for your home, it makes sense to go with your instinct and opt for the colours that suit your personality. Colour psychology suggests that our favourite colours define our personality colour – and that these colours can tell us a lot about ourselves. So – what's YOUR colour personality?

FAVOURITE COLOUR: BLUES AND GREENS

Blues and greens, the colours of nature, signify harmony and stability and if you are drawn to these colours, you favour serenity and order. People who like blue are generally quite sensitive, while lovers of green are open and loyal.

FAVOURITE COLOUR: RED, PURPLE AND YELLOW

On the other side of the scale, vibrant red denotes passion and excitement, purple is generally considered a spiritual colour and yellow is the colour of sunshine and happiness.

FAVOURITE COLOUR: BLACK, WHITE AND BROWN

White means you are organised and logical, those who are drawn to black are usually artistic and sensitive, while people who favour brown are said to be dependable and reliable.

CHOOSING COLOURS THAT SUIT YOUR PERSONALITY

When choosing colours for your home, it makes sense to go with your instinct and opt for the colours you are naturally drawn to. After all, you want to make each homecoming a pleasant experience.

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But there are also other elements to consider when choosing your exterior colour – such as your home's natural environment, the local landscape, colours chosen by your neighbours and how light affects the colour throughout the day.

Read Cedral's expert advice on choosing the best cladding colour for



more information at www.cedral.world/ en-gb/blog

COLOUR CHOICES: HOW TO MAKE IT WORK

White is a clean and sophisticated choice for any home exterior and works well in every setting. Consider creating an accent wall with a different coloured cladding or adding texture and interest with brickwork detailing.

Greys and blues are very contemporary and will appeal to lovers of nature, creating a calming house to come home to. Combine complementary shades of these colours to add interest and texture.

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Looking into timber

Richard Dollar from The Sash Window Workshop discusses what self-builders should consider when choosing wooden framed windows for their home, in order to ensure that the windows not only look right, but also help make it more comfortable to live in

nstalling the wrong windows can leave your home feeling cold and ruin the property's aesthetics, reducing its value.

It is important to check the quality of the material being used for your windows as this will have a big effect on their longevity and performance.

There is a misconception that timber windows are cold or need a lot of maintenance. For good quality timber windows, this simply isn't true. Don't be misled into thinking that timber windows can't offer the same or better benefits as other materials.

Make sure that the timber you choose is stable and durable. Although it may be more costly upfront, this will help reduce problems in the future and often save you money in the long term. One popular choice is Accoya, which is a sustainably sourced wood known for its stability and durability and which comes with a 50-year anti-rot guarantee. Accoya also requires minimal maintenance.

STYLES

The most common styles of windows in the UK are sliding sash windows or casement windows. The style of window you choose should depend on the aesthetic look of the property. This is an important decision as the wrong window can result in your home standing out for all the wrong reasons and can drastically reduce the value of your property.

If you are building an extension, consider having the same style windows in both the new and existing sections of your property for a cohesive finish. If you are building a completely new home, you may find it useful to see what other nearby properties have done.

If your home is a completely different design to the surrounding properties, ask a specialist window company to suggest some different designs and see which you prefer.

TYPE

When choosing the type of glass for your windows you will want to consider carefully what you are looking to achieve,



for example the thermal, acoustic, and aesthetic requirements. There are lots of different glass options to choose from, covering a wide range of applications. Don't be misled into having standard types of glass if there is something special that needs to be achieved.

For example, did you know that simply replacing single glazing with double glazing doesn't necessarily reduce noise? If you are concerned about noise coming into your home, acoustic glass is the best option.

Also, remember that there are legal requirements with regards to safety glass that need to be met for windows and doors.

IRONMONGERY AND FINISHES

It is important to check that your new windows will come fully factory finished, with multiple coats of paint (or waxed or stained if you prefer). This means that you won't need to source a decorator to finish your new windows before they can be installed.

It is worth noting that the type of finish you choose will make a difference to how often the windows need to be mainwindow ained going forwards. Darker finishes often need more regular painting. The level of exposure and climate will also affect this.

Most ironmongery generally comes in three finishes: brass, polished chrome or brushed chrome. The ironmongery you go for is generally down to personal preference. However, it is worth noting that not all ironmongery will fit all types of windows, so it is important that you first speak to the company who is quoting if you would like to install any bespoke ironmongery.

CHECKING FOR ECO CREDENTIALS

Check whether the timber is sustainably



sourced. To do this, look out for companies using timber that is FSC certified. According to Heriot Watt University, sustainably sourced timber windows are a lot better for the environment, saving around 160 kg of carbon dioxide per window compared to plastic windows.

Using timber sourced from sustainable forests is a proven way to reduce carbon dioxide in the atmosphere. This is because timber stores the carbon from the atmosphere and more trees are planted than chopped down.

You can also check any steps that the supplier is taking to reduce their own carbon footprint. An increasing number of companies are now taking steps to assess their own carbon footprint. Any company taking sustainability seriously should be happy to discuss what they are doing to reduce their carbon footprint as a business.

WHERE TO BUY

It is worth buying from a company that manufactures its own windows in the UK. Ask for a tour of their workshop. This will allow you to see the level of detail and care that goes into manufacturing their windows and allows you to check the quality yourself. It's one thing for a company to have a good-looking showroom – the important thing is the quality of the windows they manufacture for their customers and a workshop tour will allow you to assess this first-hand. When choosing the type of glass for your windows you will want to consider carefully what you are looking to achieve, for example the thermal, acoustic, and aesthetic requirements

Richard Dollar is the managing director at The Sash Window Workshop







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Opening statements

Being a key first impression of your home, doors also make a statement about who you are. Tracey Pomfret from George Barnsdale offers some advice to self-builders on specification choices

The humble door has evolved over the years but its role has always been to keep the inhabitants safe and warm and to offer some privacy from the outside world. Today, they must perform all of this and look amazing too.

When it comes to choosing a door there are so many options, single hinged, double hinged, stable, bi-fold, french doors, and sliding patio doors, to name a few. To get a handle on this (metaphorically), self-builders and homeowners should consider the basics first.

Consider the doors at the design stage of your project – discuss with your architect or builder the options available and what would work well with the design of your home. Do plenty of research and use magazines, Pinterest or Instagram for inspiration. It's also worth talking to some door specialists for guidance and advice.

STYLE CHOICES

A farmhouse style building demands a traditional front door with minimal glass, often painted in pastel colours and adorned with traditional hardware and a cute bumble bee knocker. However, a modern, sleek design, usually larger than a traditional door with horizontal panels and sleek chrome handles is perfect for an architect designed contemporary building. A stained door like this brings warmth and a natural aesthetic to minimalist designs that might otherwise be too harsh.

Aside from the front door, do you want bi-folds or sliding patio doors at the back? What size are you going for? What type of locking system? A contemporary door works well with keyless entry systems using an app on your phone while a traditional French door is better with a traditional lock. Stable doors can often have unsightly locking systems, so shop around for products that are more discrete. You could go for a really bold colour, alternatively anthracite grey bifold doors bring a smart industrial feel to a kitchen/breakfast room.

What shape do you want? Arched top?



Angled? Do you want any cut-outs, bespoke designs or etched glass? Consider the surroundings you are in – a porthole looks amazing on a contemporary door by the coast and an etched fan light is ideal in a traditional property.

MATERIAL CHOICES

Timber is the traditional material for doors, it is environmentally friendly, looks beautiful, and the latest timber technology means it won't warp. Timber performs extremely well thermally and is more secure than many other materials. A modern, high performance door will last at least twice as long as PVCu and is obviously better for the environment. The modern paint systems that are used by good quality manufacturers mean they won't need touching for a decade or more. They can also be easily repaired and offer greater versatility.

Composite doors combine traditional designs with added strength compared with PVCu alternatives. They are low maintenance and perform well, but they are a less sustainable option and are at the higher end of the price bracket.

Many architects recommend aluminium doors, especially for patio doors because of the slim profiles offered and the maximisation of glass. This is usually a more expensive option but they are available in a wide range of colour options.



PERFORMANCE

New Building Regulations are being rolled out that demand even higher thermal performance – this might mean you need to consider triple glazing and the door will probably need to be thicker than you originally planned. There is even a new 'Document O' which covers overheating, and which will require good ventilation throughout the building and the control of solar gain so specialist glazing will need to be considered where large areas of glass are present.

Sometimes contemporary doors without a weather board or floor level bi-fold doors can leak. Ensure your supplier has robust design and installation methods for such products. Juliet Balcony doors (which are really just large windows) can also present problems with water ingress – it's essential to ask your supplier for evidence of performance testing if you are considering these products.

In terms of security, choose a door with multipoint locking and make sure the frame is as robust as the door. This is often something that is overlooked and it's important to remember the door is only as secure as the frame it is fitted into. Choose products that are tested to PAS24 and Secured by Design.

Tracey Pomfret is head of marketing at George Barnsdale

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RECIPE FOR SUCCESS

Cooking-mad ex MasterChef contestant Ashley Byrne and his wife Alison have managed to create an eye-catching contemporary home through close working relationships with their architect, builder and suppliers – so who says too many cooks spoil the broth?

TEXT JESS UNWIN IMAGES LUCY WALTERS PHOTOGRAPHY & ASHLEY BYRNE





s a former contestant on TV's MasterChef, Ashley Byrne reckons his self-build has all the right ingredients to be the stylish yet comfortable forever home that he and wife Alison have long dreamed of.

Located on the edge of the Oxfordshire village of Towersey, the aptly named Chiltern View looks out on pleasant rural vistas from both the front and rear of the property.

Its unashamedly contemporary design, with three different-sized rectangle structures that project and cantilever out from each other, and an external finish of white render and black aluminium cladding, cannot fail to turn heads.

The main two-storey spine of the building runs parallel to the road and is where you'll find most of the living space. At ground floor level, a cubic shape containing the main entrance extends outwards at the front of the building, while a similarly shaped 'garden room' projects into the patio and lawn area at the rear. Upstairs, the master bedroom cantilevers from the first floor at both the front and rear.

Generous amounts of glazing throughout, including roof skylights, bring the outside in and make the interior light and airy. The layout downstairs is open plan and everywhere the spaces are uncomplicated and functional, yet very cleverly thought out.

Ashley is clearly thrilled with the result and equally positive about the self-build journey he and Alison have been on: "It's been an amazing experience. It's been exhilarating, fascinating – exhausting as well – but I would recommend it 100%. We've seen our creation come out of the ground and now that we're actually living in it, it's ten times better than we'd hoped."

It might appear like Ashley, having faced the MasterChef challenge albeit a few years ago, found the way to achieve a smooth, nohassle self-build. In fact, there were quite a few challenges along the way. "We finally put a spade in the ground in February 2020 with just 24 hours left on our planning permission!"

When Ashley and Alison found the half-acre plot on which their house now sits, their first and second attempts to buy it fell through. After several months looking elsewhere – a search which Ashley says "drove me nuts" – the plot came back on the market. So, it was third time lucky for the couple when they eventually secured the land – and the 1930s chalet bungalow that came with it – for £395,000 in November 2012. "After all that trauma it did feel like it was meant to be," says Ashley.

The couple, who run a successful dental laboratory business, sold their mid-terraced home in Aylesbury and moved into the bungalow. Their initial plan was to remodel the bungalow by taking the roof off, putting a second storey on top, squaring the building off and replastering and modernising. "But before we did anything structural," says Ashley, "we put new windows and insulation in to stop the drafts. Given what happened next, we were naïve and wasted money, probably about £10,000."

What happened next was the discovery that the bungalow's footings weren't deep enough for a second storey, so the decision was made to switch to demolition and building something new. "Our architects had been advising from day one that demolition and rebuild would be

HIGH POINT

"Getting the steel frame up was exciting because it gave us our first sense of the shape and size of the building, while standing on the roof for the first time and seeing the view was just mind-blowing."

— Ashley Byrne

LOW POINT

"We had one or two low points but our problems with the footings, which cost us an extra £20,000 on concrete, We now know that footings - on almost every project – are hard to predict until you start digging. When we started to dig it was so wet they kept collapsing. A high water table due to the clay in the soil, exacerbated by really wet weather, meant we had to make expensive adjustments we hadn't bargained for." - Ashley Byrne

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CONTACTS/ SUPPLIERS

ARCHITECT

Lynn Palmer Architects Ltd www.lpalmerarchitects.com

MAIN CONTRACTOR/PROJECT MANAGEMENT

TGC Building & Property Maintenance Ltd tgcbuilders.co.uk

LIGHTING & ELECTRICS

BES Electrical Ltd beselectricalItd.co.uk

LANDSCAPING & FENCING

Country Contracting www.countycontracting.co.uk

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more cost-effective and that we'd get a better property, but we'd disagreed up until this point," admits Ashley.

Starting again from scratch, the couple were now able to fully explore their design vision. Ashley explains: "We don't have kids but have a pretty work-hard, play-hard lifestyle – we run our own company and we love a party. I'm also mad on cooking. So, we envisaged a modern, open-plan house with a great kitchen that would enable us to wine and dine but also with doors and windows that open up the house to make it a great space for outdoor events too – like barbecues."

He continues: "We wanted something stylish but nothing so precious that you're nervous about putting a cup of coffee down in case you stain something. We'd chosen the architects because we'd seen some of their work, liked their contemporary approach and because they came recommended. They worked with our brief and the mood boards we gave them, and they got it 95% right straight away."

Their plans received planning permission in

2016 and the chalet bungalow was eventually demolished in 2019, with Ashley and Alison moving into a caravan onsite. Everything looked ready for construction work to begin when there was another unexpected surprise. "The builder we were going to use came back to us with a price that was 96% over budget," says Ashley. "So, we turned to a nearby (Princes Risborough) builder recommended by our architects, and while their price was still 10% over budget, we decided we could cover that with our contingency money. We finally put a spade in the ground in February 2020 with just 24 hours left on our planning permission!"

Despite some difficulties finding materials because of Covid restrictions, construction work was completed 15 months later in 2021. The building features a steel frame, timber-clad and insulated walls, a concrete subfloor and first floor, and flat roof surfaces that are either covered by sedum or a waterproof Sika membrane.

As Ashley and Alison had hoped, the main downstairs space is open plan and bathed



in light, thanks to the room-height windows and glazed doors. All the glazing, here and throughout the rest of the building, is framed in anthracite grey and contrasts with the whitepainted walls and ceiling.

Notable departures from the black/grey and white interior colour scheme are the occasional use of cedar cladding and the rustlike appearance of the impressive front door, made from corten steel. The space immediately behind the door contains the stairs and is two storeys high, but walking on straight ahead, away from the door, you pass a downstairs loo, small gym room and utility room before reaching the garden room, a cosy snug that features bifold doors on two sides.

Back in the main downstairs living space, most visitors will agree the dominant feature is the very impressive, black-coloured kitchen, which stretches across the entire width of one wall. Just as likely is that visitors won't guess that the 'wall' in fact hides a full-length pantry where Ashley says he can "make a right mess, and no one needs to see it."

The downstairs flooring comprises porcelain tiles, but Ashley says their first choice was polished concrete. "Our builder said no, as it cracks and it discolours. We spoke to other self-builders, who also had a lot of negative feedback."

While the glazing maximises sunlight penetration downstairs, the overhang of the cantilevered master bedroom ensures the space doesn't overheat. Ashley says: "The cantilevers cleverly cast a shadow over the house as the sun moves around. They perform that function as well as providing us with extra bedroom and bathroom space, so it's a win-win."

Upstairs, the glazing again creates an airy and light ambience, while providing lovely views, too. From the top of the oak stairway balcony, you can look down on the hallway or out through a picture frame window across a field to trees beyond.

There are four bedrooms, but the master bedroom is the star of the show, with a hidden walk-in wardrobe, generously sized bathroom and shower spaces, and bi-fold doors leading to a balcony.

Upstairs and downstairs there is creative use of recessed lighting and lights that are motion activated. The house is 100% electric with solar panels and air source heat pumps on the roof and underfloor heating in the ground level subfloor and first floor.

The house may be finished, but Ashley and Alison have now bought more land at the rear of the property. They already keep goats, chickens and ducks, and have plans to establish an orchard and landscape the pond that is fed by rainwater that runs off the house.

Ashley reckons their overall spend on the property, which includes buying the land and bungalow and then building their new home, is just shy of £1m. The property is currently probably now worth around £1.5m-£1.6m. "That's good to know," he says, "but we're not going anywhere – we love this house, we love the village and we love the people here." ■

ASHLEY'S TOP TIPS

• "We didn't submit a planning application until we'd told people in the village and our immediate neighbours all about our plans. In the end we had planning permission in six weeks and not a single complaint."

• "Work with your builders not against them. Ours project-managed our build, but we talked to them every single day and had scores of other meetings, so we were very much involved."

• "We had zero knowledge of building, and there's the fear you might be taken advantage of, but to get the job done well, build good relationships with your supplier, builder, and architect."



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udura and CPG UK has launched their exciting new stand at Swindon's National Self-Build and Renovation Centre (NSBRC). The Education House replicates a real life, one-storey building with each wall demonstrating how their products work seamlessly throughout the construction process.

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A SPIRITUAL RENOVATION

A passion for saving old houses meant that Glasgow architect Emma Jane literally took her work home with her, with an old church officer's property

TEXT NIK HUNTER IMAGES ROBERT PERRY





or some time, Emma had been searching for a renovation project when in 2019 she came across a former church officer's house in Glasgow's Shawlands. "I was after something unique," she recalls. "I had looked at an old manse on Mull and a former Forestry Commission cottage near Perth, but I was outbid on both. I was rather disillusioned when I looked on the Church of Scotland property website and saw this."

With a busy work schedule and no time to view in the week before Christmas, Emma called on her parents to step in and do the viewing for her. "They said it's a total wreck, you'll love it! And I did."

Emma took ownership in February 2020 and by this point had given up her role as an architect in a city centre practice. "I really wanted to specialise as a conservation architect, and I was offered a job as a planning officer in Helensburgh. The role was part-time which I thought would allow me to renovate the house and keep earning. However, within a month they'd offered me a full-time job."

What was supposed to be a six-month renovation ended up taking 18 months. "Even without the change in my working circumstances and the pandemic, with a property like this there's never a job you do that you think should only take a day. I think I spent six months sanding woodwork!"

The trade-off however was dealing with the property's twists and quirks. "I think that's what attracted me; it's so unusual and also the fact that it's a main door in the heart of Shawlands with a private courtyard." The property is indeed a one-off with original sash and case windows to the front which mirror the facade of the church next door. At the rear the sandstone gives way to white glazed brick in which nestles a narrow



turret window overlooking the quirky enclosed courtyard.

Built in 1912, the B-listed property was the last of the church accommodation to be built, as Emma explains: "The church hall at the back came first, then the tenement, then the main church building, and then the church officer's house. It's a funny little infill."

The house itself is three storeys. On the ground floor there's a sitting room which runs the length of the building, in the basement is a WC, kitchen with access to the courtyard, and upstairs are two bedrooms and a bathroom.

When Emma moved in, the property was connected to the church by a door halfway up the stairs. "There's a notched step on the stairs and that's where the door used to be. The stopcock for the church was also in this property and we had to relocate that as well."

Starting a renovation during Covid also proved challenging. "My first idea was to work from top to bottom, but I quickly realised the kitchen was going to be the biggest job." Emma's dad started ripping out the kitchen but as it was during lockdown, the tips weren't open to get rid of the rubbish. Their solution was to fill the rubble bags, put them in her Land Rover and trailer, drive over to her parents and store the bags in their garden. When lockdown lifted, all these bags had to go back in the Land Rover and be ferried to the tip.

HIGH POINT

"Having my whole family here working with me and sitting down after we'd finished in the courtyard with fish, chips and champagne to celebrate. I also love falling asleep in the back bedroom with the stained-glass reflections from the church – it's special."







LOW POINT

"Trying to get rid of the Artex and woodchip, it was everywhere – every job took longer than expected but it was bad repairs rather than the age of the building."



Access was also an issue as the house; its staircases are so narrow that anything too big or bulky required access through the church hall at the rear of the courtyard and then through the church itself. "Thankfully, the pastor at the church was really lovely. She saw the house when I moved in, and she's blown away with how it looks now."

While Emma was keen to get cracking on the kitchen once she started, plans began to evolve. With everything ripped out, the basement went back to earth and brick. "We removed the walls and then tried to push everything back as far as we could. There was a big upstand behind the kitchen cabinets, and I didn't plan the dog leg either, it was just going to go around the corner, but then I realised we needed more space to fit in the appliances. When I thought about the seating nook it made sense to put the heating pipes underneath to create a toasty bench."

The spongy timber floor was beyond saving, but by removing it, Emma was able to gain a further 5 cm in height in the room. "It doesn't seem much, but it makes an enormous difference in a basement." The timber was then replaced with a damp-proof course, an insulated screed, normal screed and then flagstones. "They were a mission! We had to carry every single one down the stairs. They're incredibly heavy and so thick, and after they were laid, we had to seal each one twice."

This wasn't the only change in the basement. The kitchen door was removed and made into an archway. The original WC – which you couldn't stand up in – was made into a cloakroom and a new WC was created at the bottom of the stairs. The only structural change was the addition of a lintel for the downstairs WC for which a building warrant was required.

Fortunately for Emma, drainage wasn't an issue as it came straight down from the upstairs bathroom, and she was able to tap into that. However, she did have to resolve the issue of pipes and floor levels. "Initially we were going to have to build a step into the loo which I didn't want. I decided to fit the toilet marginally higher and that solved the problem. It's not excessively high so that you'd notice." The sink is fitted in the former access hatch to the kitchen which they no longer required. "It is still a compact loo, but your knees don't hit the door in this one!"

Upstairs, the main bathroom is rather more spacious thanks to its new layout. "I wasn't sure what I was going to find so I went back to the bare brick walls." However, Emma got more than she bargained for when she removed some of the plasterboard and realised she could actually see into the church. After some remedial work, privacy was restored, and Emma swapped the location of the sink and WC to create more floor space. The bath is still in its original location, but the sink was under the window, and "you almost had to step over the loo to get to it." The walls went in and out, so they brought the shower wall forward to make the room more uniform.

In the two bedrooms, the built-in wardrobes were removed, floors sanded, and some budget-savvy decor was introduced. "I love William Morris wallpaper, but it's so expensive so in the front bedroom I used it like a frieze which gave me the effect without the huge expense." The panelling is all original and most of the furniture was bought at auction. "The back bedroom is my favourite room, as when the church is lit up you get a beautiful glow through the stained-glass windows."

Throughout the house anything that was original, and that Emma could retain, she has – even down to its external colour scheme. When she bought the house it was red, but it had previously been green. "I had to prove to Historic Environment Scotland that the house originally had green woodwork – thankfully a bit of paint removal proved my point."

Emma was so keen to get the colour as true to the original as possible that she wandered the streets of Glasgow looking at front doors and putting notes through letter boxes asking what shade of green the owners had used. "People did reply to me and eventually the colour I settled on that was closest to the original is the same shade as my trusty Land Rover, Hilda!"

Of course, before the painting could begin all the sash and case windows were removed and refurbished with new ironmongery and sashes. The internal solid wooden doors were also



stripped of the hardboard that covered them, and have been dipped and stripped, and the floors have been repaired, sanded and painted.

Emma was also determined to make the most of her unique outdoor space, but it required some seriously hard graft. Her initial idea was to create a grass section broken up with railway sleepers, but when she found 500 reclaimed bricks on Gumtree she changed her plans and decided to build a wall instead. The jury is still out on the logistics of getting railway sleepers to the courtyard as opposed to painstakingly carrying the bricks through the front door, down the spiral staircase, through the kitchen and out into the courtyard. The chippings were also a Gumtree find but they all had to be laboriously cleaned using a hose connected to the upstairs bathroom tap. However, once the roughcast wall was painted and Emma taught herself to build a pergola, the courtyard came into its own.

"It's so private, nobody really overlooks you because of the angles of the other buildings and the shrubbery. Sometimes there's band practice on in the church and it's lovely to sit out in the courtyard and listen." She is very proud of the pergola which she built herself; the mirror inside it is from a sliding door which was part of the built-in wardrobes in the bedrooms. "It was so difficult getting things in and out of the house that anything I could reuse I did."

Unfortunately, when it came to installing the new Wren kitchen, there was no opportunity to upcycle, and Emma had to request permission to take the flat pack kitchen through the church, into the church hall and then transport it across her courtyard into the reconfigured basement. "I actually don't think the kitchen was in the basement when the house was first built. There are hints that downstairs was more of a storage area and I think the kitchen was part of the sitting room on the ground floor although there really wouldn't have been much space."

This 18 month project has certainly been a labour of love, but Emma is also very grateful for the help she did have help. "I had a wonderful tradesman – Ger from GM Property Maintenance. He carried out all the professional trades and the structural works and he taught my brother and I to do the screeding." Emma's family were also a huge help and kept onside with lots of cups of tea and cakes. "My family have been my back up team especially as I thought I would have a lot more time to do this myself. Fortunately, my brother really likes sanding floors!

"On the positive side, I think during Covid this project has kept us all sane. Despite it being demanding work, most of the time we were smiling, having a laugh and my dog went back to my parents most days covered in paint!"

This house has been a great project for Emma's portfolio but with her new job also comes new possibilities. "I'm loving living here but now I know I can work from home I can work anywhere. New possibilities are opening up and I would like to find another quirky property to save. I think my next move might be more rural, a croft perhaps?"

CONTACTS/ SUPPLIERS

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GM Property Maintenance 07880 361929

KITCHEN

Wren wrenkitchens.com

BATHROOMS

Victoria Plum Bathrooms victoriaplum.com

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HEATING

Best Heating bestheating.com

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EMMA'S TOP TIP

"Learn trades to save on labour costs. I learnt how to lay bricks, screed a floor and build a pergola. Plastering however, leave that to the professionals!"



Oxfordshire development highlights JACKON ICF benefits

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Marley's future-proofed roof system scoops prestigious Housebuilder Product Award

Marley's full roof system has won the Best External Product award in the highly competitive 2022 Housebuilder Product Awards. The expert panel of industry judges recognised how Marley's complete roof system including integrated solar PV and an innovative fire safety solution – Roof Defence, could help housebuilders tackle prominent issues round future sustainability and end user safety, and ultimately, provide future-proofed roofs. Marley SolarTile®, together with the new and innovative Roof Defence product, can both be specified as component solutions within a fully integrated roof system and help play a significant role in enabling housebuilders to satisfy new carbon reduction responsibilities under Part L of the Building Regulations, as well as enhance protection against the risk of fire spread between roof spaces. Stuart Nicholson, roof systems director at Marley, said: "Roof Defence and Marley SolarTile can help housebuilders protect the safety of homeowners and meet the sustainability demands of Part L and onwards to the Future Homes Standard, so it's great that the judging panel have acknowledged the benefits both products bring to a roof system." To find out more about Marley's full roof system, please visit their website. 01283 722588 www.marley.co.uk/roofsystem



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Owners of The Old Byre in Blaston, Leicestershire choose four bespoke conservation stainless steel pitched rooflights from **Stella Rooflight** as part of their self build project. The new roof windows not only maximise the amount of natural daylight entering their home, but also preserve the original appearance of the building from the outside. From the inside the rooflights are finished with an American ash hardwood liner, which provides a high quality finish in-keeping with other elements

of the build. The high specification triple glazing, with self-clean and solar control, achieve excellent thermal performance in the winter while helping keep the building cool in the summer months.

Stella rooflights inspire at the Old Byre

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t's never been more important to save energy in the home, and for self-builders the chance to build from scratch is the ideal opportunity to specify the best low-energy building products - including windows and doors.

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With VELFAC composite windows enjoy big light-filled rooms, no draughts or cold spots, a consistent internal temperature – and reduced energy bills.

THE LONG HOUSE, Oxfordshire 'The concept of draught free windows which would never need repainting was very appealing'

Working closely with owners Jan and Diana Thompson, architect Rob Statham of Hayward Smart Architects has created a house which reflects local architecture while delivering impressive low energy performance and modern design. As part of this, VELFAC triple glazed aluminium / timber windows and doors provide excellent insulation, increase daylight, and emphasise the beauty of surrounding woodland views.

The Long House features an 'upside down' floorplan, with VELFAC windows installed throughout, together with





hinged and bi-parting patio doors. On the first floor, large VELFAC units combine to create two impressive glazed screens, one fronting the opening plan kitchen and living space, while the other brings drama and daylight to the master bedroom. The triple glazing supports an impressively consistent internal temperature, all year round, with extended eaves helping mitigate the impact of solar gain.

'We recommended VELFAC for the Long House because we had used the system in other projects - including our own office - and knew that it was both very neat and high quality,' says Rob. VELFAC windows and doors met a wide range of performance and design criteria, including excellent U-values and air tightness (important as the house is built to Passivhaus principles) and durability: 'Jan and Diana were moving from a draughty 17th century house with windows which needed regular maintenance,' says Rob. 'The concept of draught free windows which would never need repainting was therefore very appealing."

The uniformity of the VELFAC frame construction, and its slim design, was also important: 'A slim frame increases the glazed area, in turn improving insulation and daylighting,' Rob explains. 'The uniformity of VELFAC sightlines across every window and door, plus details such as hidden hinges, also delivers a minimalist and coherent finish which ties together every element of the build.'

The option to specify different finishes, inside and out, was another advantage: 'We chose anthracite grey for the external aluminium frames to echo the seamed zinc roof and the veins of the local ironstone used in the front facade,' says Rob: 'It also provides a contrast with the white rendered walls and Western Red Cedar cladding. As oak is an important theme throughout the interior, inner VELFAC timber frames are finished in a clear lacquer,' he adds, 'and the slim, natural wood finish also acts as a 'picture frame' for the beautiful views beyond.'

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Seeing the light of day

Choosing the most suitable rooflight for your build can be anything but straightforward, with a variety of important aspects to consider including shape, size, and the materials it's made from. Paul Trace from Stella Rooflight offers some practical advice to self-builders



The first thing to consider is the type of materials that are available for the rooflight frame. There are many different types of rooflight on the market catering from the modern contemporary style through to a more traditional look and feel.

Steel is the obvious choice for period properties and barn conversions, but they are now also being more frequently used in sleek new contemporary houses due to their appearance, low profile and ability to let in more natural daylight. Timber is a long-time favourite on homes of any style, but getting onto the roof to maintain the timber can be an awkward task. PVCu is also an option and is often the cheapest, but it will not provide the slim frames that metal is capable of, nor the natural look of wood.

The important thing is to select a rooflight that matches the look and feel that you are trying to achieve with your home, as it should blend in with your roof and the materials used throughout the rest of the house.

GLAZING OPTIONS

Once you have chosen the most appropriate material for your rooflight, you then need to consider the glazing options. Aside from thermal performance you need to decide if you need toughened glass, for additional safety and protection against falling objects.

Self-cleaning glass is another option and can be the ideal choice for situations where cleaning will be costly or difficult. You also have the option for double or triple glazing. This is probably fairly obvious, but you should always opt for triple glazing if budget allows as this will have a significant impact on the thermal performance of the rooflight.

It is also possible to have solar control glazing, which incorporates invisible layers of special materials on the glass that has the dual effect of allowing sunlight in, while repelling solar heat.

ENVIRONMENTAL PERFORMANCE

Consideration must be given to thermal performance and improving carbon and

The important thing is to select a rooflight that matches the look and feel that you are trying to achieve with your home

energy reduction in buildings. Part L of the Building Regulations is one of the tools used by the Government to achieve these objectives. These regulations are set to change this month, as the UK Government continues its drive towards greater thermal efficiency in housebuilding. For rooflights, skylights and roof windows (of which the definition is crucially important), the relevant consideration is the thermal transmittance. This is measured as a U-value in units of W/m²K (which stands for Watts per metre squared Kelvin). The lower the U-value the more efficient the construction is at keeping heat flow through the structure to a minimum.

The new regulations deem the worst acceptable U-values to be 2.2 $W/(m^2K)$ for rooflights and 1.6 $W(m^2K)$ for roof windows. To correctly assess whether an element meets the new limiting U-value figure, the U-value must be calculated for the element in the appropriate plane – either horizontal or vertical.

Now this makes a big difference, as testing the same product in either a horizontal or vertical position will make a significant difference to the resulting U-value figure – with the vertical position providing a much lower (better) U-value figure. This is where the definition of the terms and roof window prove crucial in determining how they should be tested and what the relevant U-value should be for each.

According to the Approved Document, the following definitions apply:

• Rooflight – A glazed unit installed out of plane with the surface of the roof on a



kerb or upstand. Also sometimes referred to as a skylight.

• Roof window – A window installed in the same orientation as, and in plane with, the surrounding roof.

It is important to understand that U-value calculations for roof windows and rooflights must be undertaken by an approved UKAS accredited product certification agency, who will calculate accurate thermal performance figures based on the individual make up of components in the product's construction. It's always worth checking with your supplier to see proof of performance as U-values are often misquoted, and can refer to the centre glass pane rather than the rooflight as a whole.

LIKE-FOR-LIKE

As with most things in life, you tend to get what you pay for, and this is particularly true when comparing rooflights in the market. Prices often reflect the quality of manufacturing and materials used to produce roof windows. While prices may vary considerably, there is a good reason for this and the difference in quality between the bottom and high end of the rooflight market can be night and day.

The rooflight may be one of the last things that you budget for, but it is also one of the most important finishing touches to your home. Opting for the cheapest product may come back to haunt you in the long run.

Paul Trace is director of Stella Rooflight



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The right balance

When specifying systems to control temperature in your self-build, the key is to balance style, substance and sustainability to ensure the end result ticks all the right boxes. Greg Cooper from Radiana looks at why radiant cooling could be the answer to the challenge

t's almost a given that newly built homes will be hugely efficient to run and very well insulated. However, while ensuring that all the correct regulatory boxes are ticked, when it comes to indoor climate control, it's equally important to also consider the holistic balance of wellbeing, thermal comfort and efficiency. If there is a focus on just one aspect, and not the others, it could create an imbalance. For example, you might have an efficient home, but if you are simply not happy with the aesthetics of the building – and you don't get enough natural light - you may not be happy living in the space.

When specifying materials and technology for your new home, consider how to make the indoor temperature comfortable all year round – this includes being aware of what glazing contributes to heat gain and orientation of the building, and how individual needs or personal preferences can be addressed with energy efficient technology.

EFFICIENT & COMFORTABLE

To ensure newly built homes consume less energy than existing housing stock, Building Regulations have been tightened over the years. This of course has many benefits, yet when a home is very well insulated it often overheats in the summer months. The other aspect in addition to overheating is the increased use of glazing in today's homes – another aspect which further increases the need for cooling in the summer months.

As such, rather than cooling being an afterthought on a warm day, it's important to consider how you can incorporate technology into the very fabric of your home to achieve the ultimate thermal comfort.

Specifying the right air-cooling system used to just mean considering the size of the build, the zones to cool, and how the system is controlled. But there's now a need to satisfy a much longer list of needs – from achieving the best possible air quality, wellbeing and comfort for



those who'll be living in the space, to ease of installation, maintenance, and the system's long-term impact on the environment.

SWITCH UP THE PHYSICS

When you think about cooling an environment, one traditional option is air conditioning – however, as an overall approach, it really misses the mark when it comes to balancing style, substance and sustainability.

Aside from often being an eyesore on the ceiling or wall in a domestic setting, the way this technology works is to force air into a space. Not only is this unpleasant and ineffective as it does not cool the space evenly, but this constant blast of air, especially if recirculated, could also spread virus particles around, while dehumidifying the air. Air conditioning units also consume a fair amount of energy.

However, if we shift the physics and take a closer look at cooling spaces from a different perspective, it's easy to see why radiant systems have increased in popularity, as they tick many more boxes.

RADIANT COOLING ADVANTAGES

Radiant cooling works by absorbing the heat radiated from objects and the rest

When 70% of the surface area of the ceiling is fitted with active radiant cooling panels, the result is a '3D cooling' effect with no hot or cold spots within the room, which is highly desirable

of the room through cold surfaces. This is achieved by passing cold water through pipes installed in the ceiling panels, which are discretely mounted into the Coupled with an intelligent control system, radiant cooling panels provide the flexibility to enable different temperature zones

ceiling as plasterboard style panels, which in turn cools all the surfaces in the room. This process creates the ultimate thermal comfort, and increased sense of wellbeing for occupants.

When 70% of the ceiling surface area is fitted with active ceiling radiant cooling panels the result is a highly desirable '3D cooling' effect, with no hot or cold spots within a room. All of this is achieved while being kind to the environment too, as radiant systems can deliver up to 50% energy savings, and also require less maintenance when compared with air conditioning systems.

By its very nature, this responsive, 'silent running' radiant energy transfer method is also not dependent on the movement of cold air to cool the space – meaning there are no uncomfortable draughts and issues with virus particles circulating. This can create the ultimate thermal comfort – and greatly improved air quality for everyone to enjoy, wherever they are situated in the room.

Coupled with an intelligent control system, radiant cooling panels provide total flexibility, allowing you to create different temperature zones within an open plan space, depending on solar gain and personal preferences. In addition, you can maximise the benefits of your renewable energy source, as radiant ceiling panels are also designed to effortlessly integrate with existing and emerging technologies – with heat pumps being a natural choice to pair with radiant water-based systems.

EASE OF INSTALLATION

The next, and arguably most crucial benefit at the build stage is the ease of installation and build sequencing. In the same way as traditional plasterboard is fitted, radiant cooling panels are



designed to be quick and easy to attach – directly to the ceiling frame. As such, in comparison to air conditioning, this technology reduces the number of trades to co-ordinate at your site – it also removes the need to sequence hot works and the handling of ozone damaging gases. These are often aspects of a build which can cause delays and issues on site when traditional air conditioning has been specified and needs to be commissioned.

Once up and running, your bank balance will also benefit from around 40% energy savings and less maintenance, compared with air conditioning, making your 'green' home even greener, while ensuring a comfortable indoor climate all year round.

Greg Cooper is managing director at Radiana

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CASE STUDY

PRACTICE MAKES PERFECT

Serial self-builder Mark Young's fourth project, an ICF-built family home, has scored so many hits on his family's wish list that it might be his last project **TEXT** ROSEANNE FIELD **IMAGES** MARK YOUNG



Back in the November/December 2018 issue of Selfbuilder + Homemaker we spoke to Mark Young about what was then his third self-build. At the time he and his wife Sharon said they weren't ruling out doing another build, but weren't planning one anytime soon.

Fast forward a few months, however, and things had changed. Mark still had the building bug, and spotted a site with a dilapidated house on it. "I stumbled across it, and thought long and hard about whether to take it on, because it was such a huge project," he says. "It's a large site with an existing property," making it very different to his last build.

Despite his reservations, Mark describes it as an "obvious project" and therefore too good

"I stumbled across it, and thought long and hard about whether to take it on, because it was such a huge project"

HIGH POINT

"Moving out of a mobile home, after nearly two years, into a modern four bedroom house." - Mark Young





an opportunity to resist. Although there was a house on the plot already, renovation was out of the question, for multiple reasons. Firstly was the fact VAT can't be claimed back on a renovation, but secondly was the poor state of the house. "It was in very poor condition," explains Mark.

Although they were clear on wanting a new build, Mark and Sharon were immediately faced with a potentially huge hurdle when the local conservation officer and consequently Natural England were brought in to assess whether the house should be listed. "It was so stressful," Mark says. "If they had listed it, it would have been a disaster. However, the fact it had not previously been listed was a positive."

As well as the back and forth regarding the building's potential listing, they would endure an arduous planning battle, which ended up taking 18 months. "There were many hurdles," Mark says. It was during this period that their architect, Jim Hicks of firm Owen Hicks suggested renovating instead, but Mark immediately dismissed the idea: "I told him, 'we need to fight on'." They also had a particularly strongwilled neighbour who was so determined to stop them that he hired his own planning consultant, but thankfully it didn't prove fruitful. "He tried everything, but one person is not enough to derail a justified project," Mark says.

Despite the battles and hurdles, Mark and Sharon had to make very few compromises on their initial designs. The only change was the removal of a separate detached office building, which they took out to make it more attractive for planning. "It meant we were replacing a four bed with a four bed – which made their assessment like for like," he explains. "When you increase scale and bedroom numbers it becomes more difficult."

Mark hadn't used architect Jim Hicks previously but had seen and liked the firm's modern style. Jim presented the couple with the design he had done for his own house, believing it would work well on their site and fit their main requirements – four ensuite bedrooms, attic trusses, and open plan living. "We made changes externally and internally, but the principal layout he had actually already built himself," Mark says.

This made things much easier, giving them a solid starting point which "ticked all the boxes." One of the changes made was driven by a break in at the site nine months into the project. "We changed the orientation following that, for security," Mark explains. Thankfully nothing significant was stolen – just a lot of garden items

LOW POINT

"When it was broken into, and we were having planning problems, and I thought 'I don't know if this is worth it'." - Mark Young



- though he adds that this was certainly "one of the low points" in the build.

Compared to his last project, which was a traditional build with a lot of oak, Mark describes the new house as far more contemporary, in fact it's "drastically different." He gives the architect the credit for the design, though he also did his own research, including visiting the National Self Build & Renovation Centre (NSBRC) in Swindon.

Although the design is decidedly modern, they still made use of stone and timber, to help blend in with nearby listed properties. They discovered through the heritage consultant that the house on the site previously was built of stone, but had been poorly bricked over. "There was history, but it hadn't retained any of its original character," says Mark, which explains why it wasn't listed.

A large part of their planning application focused on referencing that history and restoring other parts of the site, such as a large pond. They reused all the stone from the old building, and discovered an 18th century stone path under the grass, the slabs from which they plan to use at a later date. Alongside this, they also found there were bats on the site, and had to make provision for them. Mark says it's "not a major problem – the problem is the cost of all the reports, but sustaining wildlife is rightly given importance."

The expense of these ecology reports, along with those entailed in retaining materials and the hassle of having conservation consultants involved means the planning process for this project added up to "a horrendous challenge," says Mark, "on another level to any of my previous projects."

AN ICF BUILD

With the planning process finally wrapped up on 7 June 2020, work was ready to begin on

demolishing the existing house in July. "It hadn't been touched for 50 years," Mark says. Despite the demolition work and cost involved – something Mark hadn't had to factor in on his previous build – he says the services already running to the site helped balance it out. "Demolition isn't a major problem; it doesn't add a huge cost, not if you can reuse the material."

Mark chose to use insulated concrete formwork (ICF) to build the house – polystyrene shells filled with concrete – something he hadn't used previously but is now a big advocate for. "It should be used more. The house is so warm, you don't need the heating on upstairs." The insulation values and "relative simplicity" of the construction method were the main selling points for him.

Mark used an ICF specialist, and while they took care of installation, he project managed the rest of the build, including ordering supplies and arranging subcontractors. "It's all cost and control," he says. "You can hire a main contractor but you pay at least 25% more, and I don't like the idea of having somebody controlling everything." Having completed three projects previously, he says it's got easier to manage each one. "You learn what materials you can get, what you can and can't do," he explains. "Once you understand what items are available it becomes much easier."

There was a slight incident when the concrete escaped in one area when it was being poured. "You have to let it run out then shovel it back in," Mark explains. "It sounds simple but it's a lot of work!" There were also complications when pouring concrete for the gable as gravity means it all wants to run to the bottom of the slope. "The gables were the most difficult thing to do," he says. "We had to rectify some

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"We were confined to a mobile home in lockdown, it was hard"







problems there."

They also decided they wanted to extend the lounge area after the shell had been constructed, which meant appointing a specialist concrete cutting company – at a "considerable cost" – to move one of the single storey walls. "The density and weight of a 150 mm wall is considerable and requires specialist cutting equipment and telehandlers," he explains.

Although annoyances at the time, none of these things caused huge delays - in fact most only a handful of days - and Mark is pleased with the pace at which they got the build done. The house was ready for them to move into in August 2021, with a vast chunk of the build taking place after the initial construction halt caused by the first lockdown, but while Covid was still at a peak. For the self-build, says Mark, "it was perfect, we had staff furloughed and couldn't meet clients, so we had more time." He had also taken a risk and ordered the materials a few months prior to planning being granted in April 2020, when there were signs of potential supply issues. "It was a big risk, but it was the right decision!"

He says the budget was "loose," and admits they went over. One reason was the stonework,

which is "very expensive," Mark admits. They had stone slips, sourced from Black Mountain Quarries, attached in individual layers to the ICF. Being slips, it's "better for the environment, as it uses less stone, and it's easier to lay," he explains. "It looks fantastic, but it's expensive."

The financial challenge meant Mark had to make a sacrifice, and has postponed installation of the air source heat pump; at the moment they are using LPG. "It's set up so that we can change the boiler to air source, which I definitely will," he says. The boiler feeds the underfloor heating up and downstairs, and the radiators in the attic space. An MVHR system has, however, been installed; he believes it's essential for fresh air when building using ICF, as the house is so airtight. A further sustainability move was ensuring doors are triple glazed, installing solar PVs, plus using the original well as a water recycling source.

Mark and Sharon had sold their previous, self-built house prior to beginning work, and spent just under two years living in a mobile home onsite with their two children, aged 19 and 21, from October 2019 until August 2021. "Being confined in the mobile home in lockdown was hard."













Despite the battles and hurdles, Mark and Sharon had to make very few compromises on their initial designs

INTERIOR

Mark and Sharon knew they wanted the house's interior to be very contemporary. Wooden and tiled flooring features throughout, and they installed a black, contemporary kitchen. At the centre of the open plan living space is a modern wooden staircase with glass balustrades and lights.

The house is L-shaped, with the longest part downstairs accommodating the large open plan kitchen/dining/living area, plus a separate living room with a vaulted ceiling – another of the architect's ideas. "The ceiling is one of the nicest bits, it makes the room feel huge," says Mark. The shorter part of the 'L' includes the single storey main entrance and hallway, a utility room, wetroom, double garage, and an additional staircase. "The architect linked the utility and hall to join the garage to the house," he explains. "It's a very clever design with a flat roof and overhanging front and back which creates a natural porch."

There are also 4.5 m wide sliding doors and full floor-to-ceiling height windows, which Mark says are one of his favourite features. The aluclad doors from Eximia Glazing "give a warmer finish inside." Upstairs houses four substantial double bedrooms, all with their own ensuite bathroom. One of these sits above the double garage, accessed via the additional staircase, and is, says Mark, "effectively like a flat." While the layout of the last home wasn't right, this is "much better for our family," he adds.

When it came to technology, they chose to include Lutron lighting – controllable from their mobile phones – and have ethernet throughout via a central server. They also installed what is a must-have for them having had one in every house, an inbuilt vacuum system – "it should be more popular than it is." An alarm and full camera is also installed.

Mark has also learned to spot the various project potholes before he hits them. "You gain experience in every aspect, you know what problems to look out for," he says. "From digging out to footings to first fix and second fix, even where you haven't put sockets before where you should."

The house sits within 13 acres of land so there's still a substantial amount of landscaping to do. With the help of a local carpenter, Mark and Sharon have built shepherd's huts on part of the land which they'll run as holiday lets. "It's got a lot of potential, but it's a big site," Mark says. He also plans to eventually apply for a triple car port, but says for now "I'll give the planners a rest!"

Despite his love for self-build, Mark admits it's "not for the faint-hearted" and the family intend to stay in this house for the foreseeable future – though he doesn't completely rule out another project one day. "I expect I'll do one more at some point," he says. "You need a bit of a rest. To keep doing them back to back would be very stressful, and tiring!"

MARK'S ADVICE

"Don't rush the planning and design stage – even if it means asking for plans to be redrawn at extra cost. To change things once you've got planning is full of problems. Spend time on the site layout and elevation, it's so important."
"Consider the

construction method – ICF has got to grow in this country; we have to think about alternatives to timber."

• "Do a lot of research and speak to companies, especially when it comes to window and door suppliers – it's a minefield, and costs vary dramatically."



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The retro look of steel windows, doors and screens is 'in'

Interior designers and home decor influencers say retro naturalistic greens, bright colours, sky-blues, purple-blue hues, vibrant yellows, sultry black will make up the colour palette for chic home-owners this year. The trend is for home-owners to be more adventurous in the shapes of windows and door styles too. Curves and rounded shapes are back – and authenticity and hand-crafted products are the hip buzz words. So, if you're considering a new look, a window, external door, internal screen do not have to be the ubiquitous rectangular shape in white or black. On-trend are steel-framed windows and external doors with arches and sweeping curves.

Russell Ager, managing director at **Crittall Windows**, pioneers of steel frame window manufacture for 160 years, says: "These days, you can colour-match almost everything in the home – decor, furnishings, appliances – even your window frames – inside and out.

furnishings, appliances – even your window frames – inside and out. "With the modern take on the 'retro look' now very much the vogue, steel windows are enjoying a big resurgence in popularity in homes including luxury minimalist warehouse apartments. Adding that

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Introducing The Go Eco Excel range, from **Charlton & Jenrick**, featuring two different door styles; modern and traditional. The Excel Stove is the perfect complement for any home modern or traditional. Minimalist in design but bold in statement. These stoves can be fitted in an inglenook, a large fireplace or freestanding. These stoves are amongst the very best value for money appliances that carry over Charlton & Jenrick's own high-end technical features at an affordable price point. Designed and

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Elisa[™], a new premium bathroom brand, has launched in the UK. First to be unveiled in the Elisa collection will be a range of heritage-style mixer showers and smart digital showers, designed for homeowners seeking a contemporary and personalised showering experience. Smart shower technology brings enhanced wellbeing to owners through its personalisation settings, while providing greater visibility of water usage to promote sustainable living. Elisa Intuition, Incite and

Valenteena will be available from premier bathroom showrooms from April 2022. Further products in the Elisa collection will be announced over the coming months.

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Laying out the options

With flooring being the first thing you feel underfoot every morning, it's important to consider all factors when specifying a floor that works within your home. Here, leading suppliers Quick-Step and Abingdon Flooring provide their insights into the options when it comes to LVTs



bove all else, flooring has the ability to make life a little easier. One that's difficult to look after or which scratches easily will soon become tired and drab, regardless of what room it's in. But in open plan spaces, easy maintenance is even more important. Increasingly, Luxury Vinyl Tiles (LVT) – vinyl planks or tiles – are being chosen in open plan living for this very reason. They are easy to clean and the best examples have a tough finish that adds stain and scratch resistance – ideal for the trials of kitchen areas, as well as day to day life.

From a design view, LVT are versatile and this is another reason for choosing it in open plan areas. Available in modern tile effects like concrete, traditional stone tiles, wood planks, herringbone and much more, LVT make it possible to embrace different flooring looks within the same area. In many instances this simply isn't practical in original natural materials, and it would certainly be very costly to carry out.

As long as you choose one vinyl range

from a single manufacturer, an LVT floor is likely to respond to climatic conditions in much the same way. This means you can mix materials – framing kitchen areas in a smart concrete and using a more laid-back wood plank in more relaxed areas – giving a personal touch and breaking up the space effectively without fear of incompatibility. Of course, you can also use the same wood or stone LVT for a fully flowing floor throughout your open plan area, knowing that it's going to be easy to look after and tough enough to withstand the odd knock.

The unique considerations of open plan living certainly make it harder to use original materials. But that's not to say that there aren't occasions where the allure of natural floors can come up trumps. For some homeowners the originality makes the extra care needed worth the price and the 'lived in' feel that only comes with real wood is certainly unmistakable. In living and dining spaces where a warm and welcoming feel is needed, it can be hard to better a genuine wood floor. Fortunately, most of the wood floors you find today will use an engineered construction where a hardwood top layer – often oak – is teamed with a softwood base. The result is a wood floor that's easier to install, less susceptible to climate, and still gives that all-important original natural look.

A few years ago, if you wanted to keep wood floor maintenance to a minimum the only choice was a glossy lacquer that took away some of the floor's natural appeal. Now, the best finishes give that desirable matt look but offer all the durability and maintenance of a hard wearing lacquer. It's really the best of both worlds – a wood floor that looks natural but that stays relatively easy to look after. Of course, no matter how good the finish, wood is still a natural material, so it needs a closer eye on it in terms of care. Whether that's an effort worth taking will ultimately be decided by your preference for originality.

There's perhaps only one place where wood is off limits, and that's the bathroom. It's simply not capable



of withstanding the rapid changes in temperature and humidity. For obvious reasons, ceramic is a popular option here, but it's not without its drawbacks as it can be difficult to install and tends to be noisy, so it's worth considering LVT floors again. If installed properly, LVT can bring a smart wood or stone effect – maybe even a striking marble look if it takes your fancy – that's relatively simple to install, water-resistant, cost-effective and great for bathroom use.

If the thought of a plastic floor doesn't sit comfortably with you, then the latest laminate floors are also an option for bathroom use. With textures that look and feel just like the real thing, you'd be hard pushed to tell the difference between genuine wood and stone, but with the best options guaranteed for bathroom use, you're certainly going to benefit from a floor that's easy to look after. With laminate, there's no porous surface to contend with, it's almost a case of fit (which is pretty simple too) and forget. Unsurprisingly, laminate's durability and easy maintenance makes it a great hard flooring option in kitchens, dining rooms, hallways and living areas.

While hard flooring dominates the downstairs and wins in bathrooms, there's no denying that the UK is still firmly committed to the warmth and feel of carpet when it comes to bedrooms. The choice is absolutely huge with wool, polyester and polypropylene yarns giving something at every price point. Really, where you go with carpet is down to your budget, and the look you are after.

Stain-resistant polypropylene is affordable and practical, but can lack something of the modern finesse of the best polyester yarns which have a Luxury Vinyl Tiles (LVT) make it possible to embrace different flooring looks within the same area

super silky feel. Just like wood, wool has a natural look that's seemingly impossible to recreate. The best wool carpets do come at a price though however blended wool yarns offer a more affordable option. But it's always worth paying attention to the mix as the actual wool content can be as low as five per cent. In these instances, a man made polypropylene carpet might be a better option as it has a similar appearance, and you'll likely benefit from some kind of stain protection.

This article was supplied by Quick-Step and Abingdon Flooring



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Keller Kitchens make Perfect Sense



New from **Keller**, is the Perfect Sense kitchen model, a bold design which highlights black and white contrasts. Pictured is a Japanese-styled scheme which cleverly mixes warm timber and solid colour. Fenix[®], in black and white, is used for the door fronts and, thanks to the special technology built into this material, the super-matt finish is soft to the touch. This technology goes further with the surprising bonus of being anti-fingerprint proof while micro-scratches on the surface can be repaired by a simple

thermal method. The overall design incorporates full height, one-piece doors and a composite worktop with bespoke edge finishing. For a sleek finish, LED lighting is built into the handleless profiles.

www.kellerkitchens.com

The Horton from Thomas Crapper harks back



Answering the demand from bathroom designers, retailers and developers for a generous splash of colour in the cloakroom or en-suite, the Horton basin has been launched by **Thomas Crapper**. Arguably, cloakrooms are important as they are the destination for most visitors to the home or hotel bar! Inspired by one of the company's original fireclay basins from the 1901 catalogue, the basin comes in Forest Green, Indigo Blue and White. The tap portfolios from Thomas Crapper are equally stylish and, for

a contemporary setting, the semi-matt finish looks great with the polished brass Spitfire taps, pictured here. The basins are hand-crafted from fireclay ceramic in Lancashire and are available in two- or three-tap hole options.

www.thomas-crapper.com

SWA achieves FD30 rating



A recently completed programme of testing conducted by the Steel Window Association's (SWA) technical committee has resulted in three different internal door configurations successfully attaining a half-hour fire rating with the achievement being hailed as the most important step forward for the industry since the millennium. The SWA tests were carried out in accordance with BS 476 Part 22: 1987 at the Exova Warrington fire research facility. The result being, the SWA can now offer both

single and double doors, with and without side screens, tested and assessed from both sides. All were fabricated using the classic W20 steel sections.

www.steel-window-association.co.uk

Dig into landscaping solutions



From small backyards to larger lawns, online merchant Drainage Superstore has a variety of landscaping and gardening solutions to help breathe new life into your piece of the great outdoors. Drainage Superstore's extended range now includes everything from garden sheds and summer houses to fencing, decking and paving, plus a variety of power and hand tools. As well as products to enhance outdoor areas, Drainage Superstore also offers a range of cleaning and maintenance products including pressure wash-

ers, wood preservatives, and tools. Suitable for both trade and DIY jobs, customers can choose from a variety of big brand names including Shire, Kärcher, Ronseal and many more, with reliable deliveries to your door.

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Maintenance in mind

Choosing the right decking material can be the difference between enjoying your outdoor space and spending all your spare time maintaining it. Caroline Birdsall from Millboard gives some practical advice on picking a long-lasting decking area for your property

Ne of the frequent concerns that homeowners have before installing a decking area is how much regular maintenance it will require. The honest answer is that nothing is truly maintenance free, but the degree of maintenance depends greatly on what you choose to install. Before embarking on your decking project, it's sensible to get a good grasp of what is required to keep the material you are considering looking good over the long term, so that you can make an informed decision about what's best for your particular set of circumstances.

FREQUENCY

Whatever decking material is used, it is always a good idea to observe a few rules and preventative measures all year round, rather than just once a year. These include using a stiff outdoor broom to remove debris from the surface. Algae will grow on surfaces where there is light, moisture and nutrition, so it's best to avoid any build up in the first place. Like any surface, quickly remove anything likely to stain, such as cooking fat, berries or animal droppings. Also be aware that decking placed underneath trees may result in sap on the boards which is difficult to remove, as well as frequent bird droppings! Another suggestion is to cushion the feet of outdoor furniture, which can help prevent scratches. If having a firepit/chiminea/brazier on the decking area, use a scorch proof material under any hot equipment to prevent damage to the boards.

TIMBER DECKING

Timber is often the first material considered for decking projects and no one can argue with the aesthetics of quality timber decking. Be aware though that timber decking will fade, split and warp over time if left untreated – it is important to understand this from the outset as regular cleaning, sanding and oiling is not everyone's cup of tea. If you are choosing wood, check how to maintain the specific type you have in



mind – for instance, oil can't be used on certain hardwood decking such as teak or balau wood. This is because it is already naturally oily and has a very dense grain that can be hard to penetrate.

COMPOSITE DECKING

If you are shying away from the idea of regular oiling and staining, a good quality composite decking could be the answer. Composite decking can look remarkably like timber, but is more capable of withstanding the elements. It has become increasingly popular with homeowners who value its durability, ease of maintenance and slip-resistant qualities.

As is generally the case, you pay for quality, so composite decking that genuinely looks like wood is more expensive than some of the cheaper alternatives. For instance, while many boards are created by extrusion – meaning each one looks exactly the same – some manufacturers offer boards hand-moulded from carefully selected pieces of oak, and each board is handcoloured in realistic tonal shades to give a natural timber appearance. The end result is remarkably authentic. If you are shying away from the idea of regular oiling and staining, a good quality composite decking could be the answer

Composite decking generally only requires occasional cleaning – around twice a year – and just with soapy water, so it could be the solution if you have concerns about warping and fading, or if you don't fancy doing regular sanding and oiling.



CHOICE & FLEXIBILITY

A further advantage of composite decking is that some manufacturers offer a range of colours and finishes, so if you have a particular design or aesthetic in mind, this is easy to achieve. When sourcing composite decking, look for a manufacturer that also supplies edging and fascia – this enables greater design flexibility, and the easy incorporation of finishing touches such as built-in planters, seating and under-lip lighting for a truly professional finish.

CHOOSE THE CORRECT SUBFRAME

When you are investing time and money into a project, it is important that the result lasts. The subframe of any decking structure is a crucial part of this. Timber is easy to work with and is a naturally strong product with a high strength-toweight ratio. When correctly specified and installed, timber subframes can have a long service life but, all too often, a poor choice of materials and/or shortcuts in installation can create problems that are difficult or even impossible to sort out later.

In particular, ever-present moisture and lack of ventilation can wreak havoc with timber subframes. All-weather subframes such as Duospan, which combines the strength of aluminium with the flexibility of plastic, can be used in contact with the ground and even in water. This means the subframe is not susceptible to rot and can be installed without the need for airflow ventilation gaps. So, if your outdoor space is prone to waterlogging, or you want to avoid any concerns about your subframe slowly rotting away beneath your decking, alternatives to timber might well be the way forward.



A LONG-TERM INVESTMENT

Given its durability and ability to withstand the elements, authenticlooking composite materials can be an excellent investment over the lifetime of your decking when compared to timber. Just as a good proportion of any kitchen budget would go towards beautiful flooring that can withstand the rigours of time, your decking should be something capable of delivering enjoyment for many years to come. If you are considering a durable, less maintenance-heavy alternative, it is definitely worth taking a look at composite decking.

Caroline Birdsall is director of marketing at Millboard



CASE STUDY

BREAKING DOWN BARRIERS

For Patsy Parr, getting approval and building her first home in her native rural Staffordshire meant overcoming countless hurdles, but project management experience, plus a bit of family knowledge, resulted in an award-winning build

TEXT ROSEANNE FIELD IMAGES IZAAK CAAN

G etting her first step on the property ladder in the village she'd grown up in, with prices out of reach, meant Patsy Parr needed to do some creative thinking.

Seeing her mum build a house a few years prior "opened her eyes to the opportunity," she explains. "It was inspiring." Finding a plot wasn't easy, with land rarely coming on to the market. She says she "never thought land would come up in such a great area."

It was when out for a run one day that she noticed a plot with an old workshop and stables on it. There was just one catch – it was already sold. "I instantly went to them and said if anything happens please let me know," Patsy explains. She was fortunate in picking up her phone when a 'withheld' number called, and heard that the agent was calling everyone on the waiting list to see if they had the credentials to go forward. She had "everything ready to go," and so managed to get the land. "That was my first lesson in persistence," Patsy says.

Patsy set about putting together vision boards with the help of an architect, Andrea Millner, who specialises in the design of oak framed houses. Patsy knew this was the material she wanted her house to be built of, to be sympathetic to the land it would be sitting on. "This site is surrounded by oak trees," explains Patsy. "I took images of oak frame buildings from Pinterest, and the architect agreed it just made sense for the surroundings."

Patsy worked with two architects over the course of the project – Andrea was "very good at making it look beautiful", explains Patsy, and Andy Denham from Eclipse Architecture was more involved with the practical side of the design, as well as "holding her hand" through the project management, says Patsy. "Having the two of them together was great." The house features various changes in level throughout, and Andy ensured details such as head heights Seeing her mum build a house a few years prior opened Patsy's eyes to the opportunity

HIGH POINT

"Getting the planning by one vote, I've never felt as good as that in my entire life!" - Patsy Parr

were considered and taken care of. He also guided Patsy through the project, advising her which subcontractors to arrange and what part of the process should be taken care of next. "It just made sense that they ran alongside each other," says Patsy.

PLANNING FOR THE WORST

Once she had firmly set her heart on a contemporary look, Patsy says she "geared up for a battle," which is exactly what she ended up with. It took around two and a half years for planning permission to finally be granted.

Patsy had a lot of conversations with family, and received a lot of help from her aunt, a journalist, who helped simplify the overcomplicated planning guidance she encountered online. She also had an appointment with a councillor, which turned was more frustrating than helpful. "They won't really give you answers, even if you go with really direct questions," she says. "It's very vague. That whole stretch I just found extremely frustrating." She did however encounter another planning officer further down the line who she says was "more helpful."

As part of her mission to get approval Patsy







spent time taking leaflets around to neighbours, explaining what she was hoping to do. "I had quite a few people slam doors in my face; I really had to pick myself up after that," she admits. This was one of the few times she felt like giving up on the project.

Patsy submitted an initial application which went through several rounds of amendments. Each time she was given reasons as to why it wasn't being approved, and her architect used the feedback to make changes. She says it was a dispiriting experience: "They make you feel like it's been rejected. I think there's a massive lack of vision when it comes to planning, and young people wanting to do it – like it's thought of as something they shouldn't be doing."

The main restrictions they had to work with related to the height and floor area – both of which couldn't exceed those of the workshop and stables previously on the site. They combined the total floor area of both buildings to create one larger building, and dug down to create a basement level while keeping within the height restriction.

Finally, after two and a half years of meetings, amendments, and knocking on doors, Patsy was given one final chance at the end of 2019 to present her plans and make her case at a local council meeting, before a vote. "I had to go through loads of hoops," she explains. "But I got there in the end, I'm relentless!" In fact, she managed to swing it by a single vote.

Patsy decided to break for Christmas to relax

before getting the ball rolling again in January 2020, creating the project plan including efficiently scheduling when which trades should come onsite. "When you speak to contractors they'll tell you they can't come in until such-andsuch trade has been in, but I would see gaps in the schedule so I constantly had people onsite and working," she explains.

After a thorough check for wildlife, which thankfully wasn't an issue, work began demolishing the workshop and starting groundworks in February 2020. Although no wildlife was found, a habitat and ecology management plan had to be put in place and maintained, for which Patsy found a landscape architect helpful in implementing.

BUILDING THE HOUSE

As she was on a tightly controlled budget, Patsy took every opportunity to save money, and project managed the build herself (with the help of architect Andy). Despite the inevitable stress, she says she enjoyed it, particularly after the gruelling planning battle. "It was intense," she says. "But you've got control, and know where you are with stuff, so that felt a lot better."

Patsy's job involves delivering events – including the construction of large sets – so she says that many elements of project managing a self-build felt familiar, and "aligned to her skill set."

One of the toughest parts of the experience to contend with was occasional bouts of

PATSY PARR'S TOP TIPS

• "Knowing where you're going. Have a vision board of what you want to create"

• "Persistence and having a relentless streak is important, because it can take a toll on you"

• "People are kind, so ask for help! We often shy away from asking for help but go to local experts and ask for their thoughts – it helps to have a base level understanding before starting, and build up your knowledge"

• "A rest can really help you to reset and go again, take those little moments"

• "Give it a go! Quite often we're told that 'we shouldn't,' that it's out of our remit, but it's not"

misogyny – at one point she even had to ask workers to leave the site. "It's still a male-dominated industry and it's not very often that a young female runs the site," she explains. The first scaffolders she hired refused to acknowledge her as the project manager and had to be asked to leave, while other contractors made occasional derogatory comments. "There were a few moments like that, but I also had some really golden people that were super helpful," she adds. "I think some took pity on me because I didn't understand the lingo!"

Aside from the general running of the site and organisation of contractors and ordering of materials, Patsy's role consisted of a lot of ferrying materials to keep the process moving. "I felt like doing that meant they were never able to take their foot off the gas, because I was just constantly giving them the next thing they needed!"

Responsibility for ordering materials varied between Patsy and contractors, but she would price check anything she wasn't ordering, to ensure the prices being quoted were reasonable. "If I could save any money then I was looking to do that," she says. The oak frame company, Enville Oak, supplied everything needed for its construction, and her groundworker helped with the ordering of bricks as and when required. This was a slight frustration as she says that the bricklayers didn't always say quickly enough that they were running out of supplies.

Patsy took care of ordering materials such as plasterboard, as well as cutting and installing the insulation herself. "I was really buzzing when I got the certificate to say that the house was well insulated," she says proudly.

It was always Patsy's intention to continue working and not take time off for the build. She set herself an office up in the stables – demolished at the end of the project – but ended up being furloughed in March 2020. "It was kind of a blessing in some ways because I could be here all the time," she says. She returned



to work in July 2020, by which point they had "broken the back of it," she explains. "It was just a case of being onsite to do those last few bits, and I was able to work from here anyway."

Although being furloughed gave Patsy more time to spend onsite, she thinks that if she had remained working as normal, it would not have greatly hampered the timings of the build: "It would have been harder, but I don't know it would have taken longer," she says. She laughs: "I had a whip out!" She moved into her house in September 2020, with one minor delay caused by a tipped piece of wood – helping rainfall off the flat roof – being installed the wrong way round and needing to be redone.

Patsy agreed prices for all contractors upfront – "if they were onsite for longer I wasn't paying any more," and gave each a diary of when they were due onsite, detailed to coincide with daylight hours. Although she took a strict line, she did also make sure her workers were well looked after, including different breakfasts each day of the week, which "meant they liked coming to the site."

The house was constructed using both oak frame for the single storey section and blockwork for the two storey section, with both elements finished with oak cladding. Patsy chose zinc for the roof, which inspired the house's name Little Gem, due to its sparkle.

As well as it being a harmonious material for the surroundings, she chose oak for its sustainability attributes, a very important element for Patsy. "I work with a company called Energy Zone, and talked to them early on about how to make it as sustainable as possible," she says. Along with the large windows, installing an air source heat pump was a "non-negotiable" she budgeted for from the start. There is also underfloor heating throughout the house.

INTERIOR

As you enter the large master bedroom with open plan ensuite is on the left, with this level also featuring the second bedroom and main bathroom (a Jack-and-Jill style affair shared with the second bedroom). At the end of the large hallway are stairs up to the kitchen – at ground level due to the sloping site. Here bi-fold doors frame a view of the nearby church, which was a key goal of Patsy's. From the second bedroom a set of stairs lead down to the basement level, housing a cosy living area, additional bathroom and plant/utility room. From here a set of spiral reclaimed stairs, shot blasted to colour-match the floor, take you back up to the kitchen.

Large windows, including within the gable end where the master bedroom sits – as well as skylights – have been installed throughout. Patsy used the same flooring throughout the whole house: "I think that's important for making it feel bigger because your eyeline never breaks at any section," she says.

With a strict build budget of £190,000 to stick to, Patsy found herself using creative thinking to save money wherever possible. An example was when she found (on Facebook Marketplace) an unused kitchen that had been intended for a show at the NEC, which was cancelled due to Covid. Patsy picked it up for £5,000 – including appliances!

Because the kitchen features no extraction or ventilation, Patsy was recommended to install a fire suppression system from Plumis. The panels housing the system are more discreet than more traditional systems, and in the event of a fire, it releases steam that reduces the oxygen in the air to suppress it. "It made sense to have them, and they're pretty!" Patsy says.

When designing how the interior would look overall, Patsy aimed for a 'boutique' modern style. Each room features a different colour scheme – purple in the master bedroom, yellow in the second bedroom, black and gold in the kitchen, and green in the living area. "I feel like it reflects my personality in each room," she says. "I went with colours that I love." Knowing the budget would be getting tight towards the end, Patsy bought a few statement pieces early on.

Having been living in the house for nearly two years, Patsy says she "loves everything about it. There isn't anything I would change." The house has won two awards: following a suggestion from the building inspector she put it forward for an LABC Building Excellence Award, in which it was Highly Commended. With added confidence, Patsy entered her home in the Homebuilding & Renovating Awards 2021, and it won the Spirit of Self Build award – just as her mum's project had, two years prior. "I think we were a bit competitive!" she says.

Moving forwards, Patsy would like to see the Government introduce more opportunities for young people to undertake self- or custom-builds. "Quite often new builds are nothing like how you'd actually want to live," she says. "I think we'd have a lot more interesting property. I want to champion what a young person can do."

As for whether she'll do another build in the future, it's a maybe, but not for a while. "I would do it again in a heartbeat but I'm not in a rush," she says. "I'm just enjoying this one at the moment!"

CONTACTS/ SUPPLIERS

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BUILD ARCHITECT

Eclipse Architecture 01384 357740

MAIN CONTRACTOR

Chris Longmore www.chris-longmore.co.uk

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LOW POINT

"Two and a half years of planning battles, and doors slammed in my face. I also had a wobble when I ordered some plasterboard in the wrong thickness."

— Patsy Parr

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BUILDING

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Total Home Environment 0345 260 0123 www.totalhome.co.uk

BATHROOMS & SHOWERS

Grant Westfield 0131 337 6262 www.grantwestfield.co.uk

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DOORS & WINDOWS

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