Stephen Wasserman on the keys to green social housing

Brian Berry finds little to cheer in the FMB's survey

Patrick Mooney on the downside of demolition

HOUSEBUILDER & DEVELOPER

JUNE/JULY 2023

ROBOT-ASSISTED RETROFIT

Two Social Decarbonisation Fund retrofit projects in the north east are protecting tenants against fuel poverty, having minimised disruption with the help of a robotic installer

Meet the new EHS Mono HT Quiet

High temperature, low Noise, optimal performance

Samsung's newest eco heating system is the ideal heating solution for Europe's residential renovation market. Durable and stylishly designed, this heat pump combines advanced features and new technologies to achieve hot water temperatures of up to 70°C[1] for domestic heating purposes. It operates at noise levels as low as 35 d(BA)[2] using a 4-step Quiet mode. It is also capable of reliably providing 100% heating performance* even at temperatures as low as -25°C[3]). Installation and maintenance of the unit is easy and hassle-free, with its internal parts being accessible via a side panel which can be removed by simply undoing 3 screws.

1. Leaving water temperature, when the outdoor temperature is between -15°C - 43°C. Results may vary depending on the actual usage conditions.
2. Based on internal testing of the EHS Mono HT outdoor units. The noise level is measured 3m away from the front of the outdoor unit, in an anechoic room with an outside temperature of 7°C. Results may vary depending on environmental factors and individual use.

*Efficiency ratio of heating output (capacity) versus power input (electricity). Internally tested under lab conditions based on EN 14511, results may vary depending on the actual usage conditions.

3. Based on internal testing on an EHS Mono HT outdoor unit (AE120BXYDGG), compared to a conventional EHS outdoor unit (AE120RXYDGG). Results may vary depending on the actual usage conditions

The Quiet Mark certificate is applicable for UK & EU territories only.

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James Parker

FROM THE EDITOR

In mid-May we hosted what was our first construction industry round table, Building Insights LIVE, fittingly at the Building Centre in central London.

The event's theme of 'Solutions for Compliance: Part L and beyond' was timely, given that from 15 June, virtually all new housing developments will be required to adhere to demanding new performance standards. With the support and attendance of sponsors Recticel, Schock and IDSystems (covering insulation, thermal breaks and glazing systems respectively), our cross-disciplinary group shared a lot of key knowledge and experience from tackling Parts L, F and O, and looked forward to the Future Home Standard.

We were delighted to have Chris Carr, MD of Carr & Carr Builders, Grimsby – but also vice president of the Federation of Master Builders – on board, to give the SME perspective. He didn't hold back on the problems, going as far to say as he would be lobbying for a delay to the 2025 implementation of the Future Homes Standard, given the challenges between now and then.

Carr said that Part L had already caused a substantial uplift to build costs, way beyond published estimates, and was around 10%. He told the group that exemplar projects were needed now in order to demonstrate the way forward to other firms. While the London Plan may be calling for a 35% further reduction on Part L's 31% emission cut, in the world of SMEs, the costs are proving a major hurdle.

The other major issue addressed by our round table attendees was achieving the balance between Part L's emissions reductions, and therefore tighter builds, with the provisions of Parts F (ventilation) and more pointedly, O (the new regulation for overheating). The jury is still out on how it is going to be achieved using our current window systems, and aesthetic assumptions. Chris Carr said that what we really need now is Building Control to sit on planning teams, to try and ensure that planners know what is really required, and how it has to affect the look of dwellings.

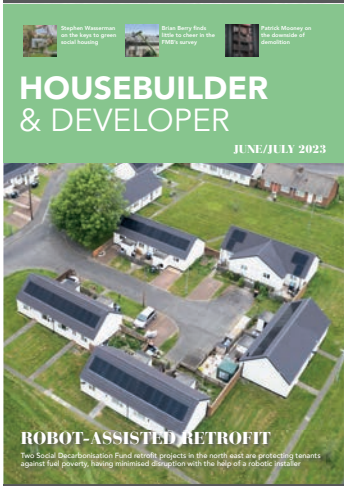
We also touched on heat pumps, an issue of national controversy given the allegiance to gas so many have in the UK, and there was some surprise expressed at the recent finding from the RICS' Building Cost Information Service that 45% of housebuilders asked said that they were using air source heat pumps to meet Part L 2021. The same survey however found that Part L compliance had only added 3.6% to build costs.

This is interesting, given that people have suggested that improvements to insulation levels and including PVs might have been adequate in many cases to meet Part L, and that heat pumps could wait until the Future Homes Standard. But it seems that many are already grasping the nettle and binning gas (pre-empting the ban on gas boilers in 2025), whereas 30% were using a combination of heat pumps and gas in their new builds, and only a few were using only gas, plus PV and extra insulation.

Our next Building Insights LIVE round table event is scheduled for October, when we'll again be bringing together specifiers, expert consultants and suppliers to look at an issue in depth and share knowledge. This time it's a narrower, but similarly challenging subject – best practice on stormwater management. We can't wait to bring you the insights from both events!

James Parker

ON THE COVER



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New research reveals social housing providers must make net zero goals 'more relevant' to households

Social housing providers must make net zero carbon more relevant to customers if they are to meet the challenge of decarbonisation, according to new research by Orbit.

In its latest report, '2500 Days – Navigating the path to net zero carbon homes with our customers,' Orbit reveals the challenge of driving the behavioural changes to achieve net zero carbon goals at a time when residents are focused on the current cost of living crisis.

From talking to over 700 households, it is clear that awareness and understanding of net zero carbon has not increased significantly among social housing residents since Orbit's inaugural report on the topic was published in September 2021.

The report sheds light onto the "creep of fuel poverty in the UK," said Orbit, with a greater proportion (80%) spending more than 10% of their income on energy costs compared to 71% in 2021. There has also been a 50% increase in the number of customers going without heat to save money in the past 12 months.

Just one in four respondents (26%) said they were clear on what net zero means compared to 22% in 2021. However, concern regarding climate change has increased, with 38% saying that they were 'very concerned,' compared to 30% in 2021.

Amid spiralling energy costs, it's not surprising that 75% of those involved in the research said they are interested in changing their behaviour to become more energy efficient. Financial considerations were also driving some of the increased sustainable behaviours reported, such as people eating less meat, fish, and dairy products (63%).

Marginal increases were seen in customers growing produce (29%) and saving water (88%), driven by a combination of protecting the environment, saving money and other factors. And despite a willingness to embrace policies around recycling (94%) and restoring habitats for wildlife (92%), there was a greater reticence among respondents to make the switch from gas boilers – with just over half (53%) in favour of such a move, again driven by financial concerns.

David March, head of environmental sustainability at Orbit, said he was disappointed but not surprised by the slow progress on increasing knowledge and understanding of net zero carbon, explaining how "it underlines the need to make the journey to net zero carbon personal and relevant to our customers. Rather than setting targets, we should talk about creating cheaper to heat, warm, comfortable homes."

"The somewhat low-key response to heating innovation is understandable, and largely driven by a lack of reliable information. It highlights a knowledge gap and sometimes a misconception – and this is something that housing associations are well placed to address, with the support of our supply chain partners."

Gavin Smart, chief executive, Chartered Institute of Housing (CIH), added: "With 20% of UK carbon emissions linked to the residential sector, the current cost-of-living crisis is a stark reminder of the need to move to net zero carbon as fast as possible, retrofitting homes so that they are no longer leaking energy. The best way to reduce the amount people must spend to heat their homes, now and in the future, is to invest in energy efficiency measures. The findings and recommendations in this report offer excellent insight into how housing providers can effectively work towards decarbonisation action plans with residents. CIH are pleased to be involved in this important work by Orbit Group."

He continued: "As the professional body for housing, it's our role to help make a positive difference across the sector and help to provide everybody working in housing with the skills and knowledge needed to deliver on decarbonisation goals to ensure that everybody has an affordable, warm, safe home."

In the report, Orbit outlines a four-point plan to drive engagement among households on net zero carbon, as it moves from the pilot phase of its retrofitting project to rolling it out across its entire housing stock. Orbit's £3.6m Social Housing Decarbonisation Fund Demonstrator project, which has received £1.4m in government funding, has made 69 homes in the Stratford-upon-Avon area more energy efficient and provides a vivid illustration of the practical challenges and costs of achieving net zero carbon emissions. It has also been invaluable in helping to shape effective customer engagement, as David March explained: "It is clear from this research that if customer communications around the retrofitting programme focus on net zero carbon as a driver to engage customers, it would be a struggle to gain traction, whereas strong messaging around the environment and energy affordability would resonate."

Paul Richards, group director for customer and communities at Orbit commented: "We are proud of the progress we have made during the past 12 months and recognise the value of the insight that we have gleaned along the way – it will inform our approach going forwards. But the fact remains that this is a difficult and complicated issue. 18 months on from the publication of our last report, we find ourselves in the middle of a cost-of-living crisis, where energy prices have rocketed to unprecedented levels for consumers and businesses alike. Consequently, it is more important than ever to keep talking to our customers about this important and complex issue to find out how the events of the past year have affected their opinions and behaviours. As a sector, social housing has not been immune to increased financial pressures. And yet, collectively, we are well placed to effect significant and positive change by improving the energy efficiency of 14% of the UK's housing stock. The benefits of such projects extend far beyond the environment, helping to address affordability and health & wellbeing issues for some of the most vulnerable households."

To download the full report please visit: orbitgroup.org.uk/media/2868/nzc-report-2023.pdf

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Redrow launches apartments in Basildon

Redrow has launched nine new apartments at its "community" of homes in Basildon, Essex. The spaciously designed Sycamore Apartments are the latest addition to the Eastern Quarter at Westley Green.

The community, located in Langdon Hills, is an area known for being one of the most sought-after in Basildon for its abundance of open green space and a short distance from Langdon Hills Country Park.

All of the apartments benefit from Redrow's traditional exteriors, with "modern and expansive" interiors and additional amenities. Some properties have balconies or an "amenity space" on the ground floor as well as open-plan kitchen, dining and living areas.

The new collection of homes are part of Redrow's award-winning Heritage Collection. Although influenced by the Arts and Crafts movement of the late 18th and 19th century, they remain "effortlessly contemporary," said the firm.

Avant Homes submits plans for £91m scheme in East Lothian

Housebuilder Avant Homes has submitted plans to build 342 two, three, four and five-bedroom homes with a gross development value of £91.6m at Blindwells in East Lothian.

The planning application follows Avant Homes' agreement to acquire the 20 acre site from developer Hargreaves Land for an undisclosed sum. The site to be acquired occupies a prominent raised position within the Blindwells development, having the benefit of views over the Firth of Forth.

Hargreaves Land secured outline planning consent for 1,600 homes at Blindwells in 2017. The developer's masterplan for the site also includes new education facilities, a healthcare hub, local retail outlets and a range of other services to help establish a thriving new community.

Avant Homes intends to deliver 240 private homes and 102 affordable homes and will showcase 16 of its new house types.

Subject to planning, the housebuilder will start work on site in January 2024 with the first buyers expected to move in that summer and the last legal completions scheduled for spring 2031.

Commenting on the opportunity, Avant Homes Scotland managing director, Iain Innes, said: "Blindwells is an excellent example of placemaking, so we are very pleased to submit our plans to contribute to what will be a remarkable new location for East Lothian."

"Our proposed development is an important part of Avant Homes' ongoing strategic growth plan in Scotland which will provide much-needed new homes for people living in and around the area. We now look forward to East Lothian Council's response to our submission."

Retirement living provider unveils three developments

Extra care and retirement living developments provider Housing 21 and Leeds based Brewster Bye Architects are working on three major new schemes that will create almost 200 new homes for local people over the age of 55.

Principal contractor Esh Construction is due to complete work in the coming weeks on a £7.5m, 60-home development on Highfield Road in Askern near Doncaster, which Housing 21 developed in partnership with Doncaster Council and Askern Town Council.

Known as Askern Vale Court, the development offers 58 one and two bedroom apartments within a three-storey building, complete with communal facilities, landscaped gardens and dedicated parking area, as well as two bungalows. All the homes are available for affordable rent.

Work is also due to start this summer on a major new extra care scheme at Cleckheaton that will provide 80 rental apartments for over 55s, who have a connection to the local area. Housing 21 is developing the scheme in partnership with Kirklees Council.

Designed to promote independent living in a community setting, a care team will be on-site 24 hours a day to deliver planned care packages to residents if needed. Facilities will include an activity room, communal lounge and gardens. An onsite hair salon and cafe for residents will also be open to the public.

Earlier this year, work started on another retirement living development consisting of 57 apartments on the site of a disused mill at Compton near Leek in Staffordshire. The part two, three, four and five-storey development will include associated ancillary spaces, gardens and parking. It is being constructed by Tricas Construction for Collaborate Living and Housing 21.

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Double appointment as Midlands property firm launches new commercial team

Midlands-based property, development and construction firm The Wigley Group has announced two senior appointments as it launches its new commercial team in the construction business.

Charles Hicks and Nick Southern have been appointed at The Wigley Group, bringing with them more than 60 years of expertise in the construction industry.

Hicks will spearhead the revamped commercial team after seven years as associate director at RPS Consulting Services and Goodrich Consulting, and previously holding commercial manager roles for Buckingham Group Contracting and Stepnell.

The firm commented: "He arrives at an exciting time for The Wigley Group's commercial division, with work shortly due to commence on two major logistics schemes in Coventry to deliver 33 units, which is worth a combined £8.5m investment for the region.

Southern joins as senior quantity surveyor from Quantum Construction, having held similar roles for national firms including Thomas Vale Construction, McCarthy and Stone and Stepnell.

The appointments build on a period of growth for The Wigley Group having recently expanded its board of directors and completed a £1.5m refurbishment of its Stockton House headquarters in Stockton, Warwickshire.

Midlands neighbourhood takes major step forward with planning permission granted

Planning permission has been granted for Spitfire Homes to deliver 48 new homes in Wolston, Warwickshire.

Spitfire Homes acquired the 5.44 acre site in Wolston to create 34 two to four-bedroom homes, plus 14 properties which will be part of the Government's First Homes scheme. Named Rosedale, the project will feature a varied palette of external materials comprising a mixture of red brick and chalky white render, paired with a combination of red and grey roof tiles. Within each property, layouts will be carefully considered and appointed with a stylish internal specification.

Located within the village, Rosedale will feature Spitfire Homes' "signature design-led properties," bringing "modern, quality features to suit a variety of lifestyles aimed at first-time buyers, individuals, couples, families and downsizers."

The 14 properties due to be delivered as part of the First Homes scheme will be available exclusively for first-time buyers at a reduced rate of the market value. These homes will be the first of their kind delivered by Spitfire, marking part of an "ongoing commitment to enable a range of buyers to get on the property ladder."

The energy-efficient new homes will all have heating and hot water supplied courtesy of air-source heat pumps and will feature electric car charging points as standard. This aligns with the priorities of buyers and Spitfire's commitment to its Sustainable Futures strategy, which outlines a number of sustainability targets the housebuilder has pledged to achieve by 2030.

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THE CLIMATE CHALLENGE

Opening up the black box on Part F and ventilation

Following the changes to Part F and Part L of the Building Regulations, housebuilders have been set the challenge of balancing carbon emissions with sufficient airflow to keep homes healthy. The importance of ventilation to health and wellbeing has been given prominence in the latest version of Part F. Steve Pearce of Vent-Axia explains more.

In November 2022, COP27 sought to accelerate global climate action through emissions reductions. Building and construction accounted for over 34% of energy demand and 37% of energy and process-related CO_2 emissions in 2021. So, it's no surprise that the new Building Regulations address how to reduce emissions to help meet the UK's carbon targets as we move towards the Future Homes Standard on the road to net zero. For housebuilders, this has meant a significant cut in carbon emissions of 30% for new homes, setting a challenge for housebuilders to improve both energy efficiency and airtightness of homes. However, as well as being tasked with making these carbon reductions, housebuilders also need to increase ventilation. As buildings become more airtight to improve efficiency it is essential to consider indoor air quality (IAQ) as well to protect the wellbeing of inhabitants.

Part F's publication heralds a vital step to improve IAQ with it setting out "significant changes", which will drive adoption of low carbon ventilation as an industry standard and improve the quality of the air we breathe in buildings.

The new 2021 edition of Part F, L and O took effect on 15 June 2022 in England, but there is a 12-month grace period, which ends in June. Historically Building Regulations applied to each site but following the end of the grace period, each individual plot must follow these regulations in order to comply. This means if a site designed to previous regulations hasn't started every plot by June, any remaining plots would need to be redesigned to meet the 2021 edition.

THE SOLUTION

The focus on ventilation has increased in Part F to support the safety of residents, meaning housebuilders are making an overall move to more advanced ventilation solutions, such as Mechanical Ventilation with Heat Recovery (MVHR). However, MVHR is not the only ventilation solution that complies. Housebuilders can instead opt for Continuous Mechanical Extract Ventilation (MEV) in combination with decentralised MEV (dMEV).

MEV and dMEV provide a simple and effective solution to help housebuilders meet the Building Regulations and the Future Homes Standard. The Standard

THE FOCUS ON VENTILATION HAS INCREASED IN PART F TO SUPPORT THE SAFETY OF RESIDENTS

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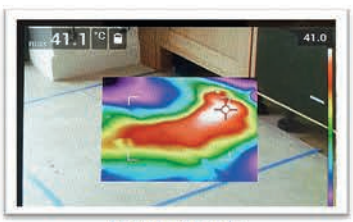

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requires new build homes to have world-leading levels of energy efficiency, including a further lowering of Dwelling Emission Rates (DER) as part of the drive towards carbon neutrality.

MEV

What alternative does MEV offer to MVHR? A reliable, highly efficient, quiet and easy to operate ventilation system is key to unlocking a healthier, greener future. MEV is a whole house extract ventilation system that extracts air continuously at a low rate. It is a low energy ventilation system designed with multiple extract points to simultaneously draw moisture laden air out of wet rooms, bathrooms, kitchen, WC's and utility rooms providing a quieter and more efficient system compared to separate fans.

Some MEV units will include a humidity sensor, designed to increase the fan speed in proportion to relative humidity levels, saving energy and reducing noise. Other models include a CO_2 sensor, meaning when you have increased occupancy in a home, the unit will increase ventilation rates to ensure the best indoor environment.

Housebuilders should look for a MEV unit that offers market-leading efficiency combined with ultra-quiet performance and sufficient airflow. This will help housebuilders meet DER requirements and improve IAQ for homeowners. Housebuilders should also look at the PCDB list for the best performing MEV systems, with some boasting a specific fan power as low as 0.14 W/l/w and airflow of up to 159 l/s.

There are even MEV units available that are made from recycled plastic, keeping plastic in the circular economy rather than landfill.

dMEV

What type of ventilation is dMEV? A decentralised Mechanical Extract Ventilation (dMEV) system is a low energy, continuous mechanical extract ventilation system designed to draw moisture laden air out of wet rooms, bathrooms, kitchen, WC's and utility rooms providing a quieter and more efficient system compared to intermittent fans. They also ensure good IAQ as they continuously extract the stale air out of the room and ensure it is replaced by fresh air via trickle vents.

High-pressure development and a silent mixed flow impeller mean dMEV units can meet the ventilation requirements of many domestic installations without the need to use a traditional centrifugal fan. Housebuilders opting for this technology should choose a unit that's been tested to the new SAP 10 performance requirement and listed in the PCDB. dMEV units can achieve exceedingly low SFP values as low as 0.08 w/l/s, combined with almost silent operation at 7.4 dB(A), protecting households from noise pollution. A single high efficiency EC motor delivers these low specific fan powers.

Housebuilders should also look for dMEV units with an IPX5 rating that allows installation in Zone 1, 2 and 3; the option of 100 mm and 125 mm models; and with variable speed setting for easy installation and commissioning. Units that provide fully adjustable airflow mean whole house rates can be achieved easily using fewer fans, delivering increased ventilation rates at the lowest sound levels with the fewest fans, helping housebuilders meet ventilation requirements.

Whether you choose MEV or dMEV, look for units that offer an easy-to-operate control platform, compact design, easy installation, as well as simple and accurate commissioning. And ranges that feature a wealth of control and switching options give housebuilders the flexibility to provide a solution for any new build scenario.

With the deadline for meeting Part F and Part L of the Building Regulations upon us, housebuilders should look for ventilation that helps them meet DER requirements while improving IAQ. Other growing trends include opting for ventilation with a low SFP and ultra-low noise levels.

As we move towards the Future Homes Standard and net zero, our homes will become ever more airtight to meet CO_2 targets and so it's essential that energy efficient ventilation is installed in every new home to ensure healthy homes in the future.

Steve Pearce is NBR product manager at Vent-Axia

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Delivering Biodiversity Net Gain (BNG)

Biodiversity Net Gain (BNG) regulations effective from November will affect all new planning applications. Key challenges for the industry include the requirement of 10% biodiversity enhancement and the delivery of this onsite, offsite or via BNG credits.
A minimum of 30-year management and monitoring of these enhancements will be required. With a lifetime adoption model, over 25 years of award-winning open space management experience and BNG trained in-house ecologists, **Meadfleet** are already delivering the principles of Biodiversity Net Gain across their portfolio and are here to help developers through the process.

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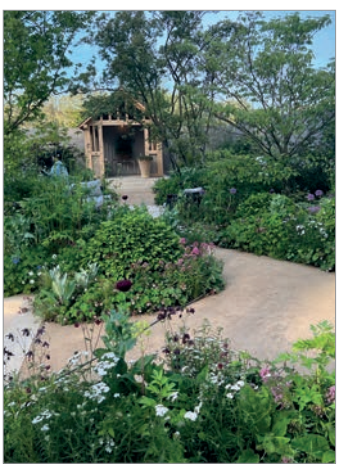

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JACKOBOARD® has helped notch up a major win at this year's Chelsea Flower Show.
Working with the multi-award winning G.K. Wilson Landscape Services led by Company Director Gareth Wilson, JACKOBOARD® products have been a key element in the RBC Brewin Dolphin Garden, which has won a Silver Gilt Medal at the Show.
JACKOBOARD® XPS Construction Board provided the ideal backing for the tiling work, due to its high bond strength, high weight supporting, lightweight and waterproof characteristics and the fact that it is very easy to cut and shape on site creating no dust or other mess.
"We went with JACKOBOARD® following an industry recommendation," says Gareth Wilson, company director of G. K. Wilson Landscape Services. "We were advised that the company was reliable and good to work with. That has certainly turned out to be the case – and that is at least as important as the quality of the products, which cannot be faulted in our experience. I would like to thank JACKOBOARD® very much for their support in sponsoring us and also congratulate them for being a part of our success."

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Beko plc Appliance Partners welcome new Head of Customer Care

Beko plc Appliance Partners, the specialist division of Beko plc which offers bespoke home appliance solutions to housebuilders, build-to-rent providers, developers and contractors, have announced the appointment of Sharif-Paul Anton as their new Head of Customer Care, strengthening their operations and customer care team.

With a 20-year career in this field, including roles working with a number of major global brands, Sharif-Paul brings to Beko plc a wealth of experience in delivering the highest levels of customer care.

Focusing on diligent and speedy service, Sharif-Paul and his team will continue to provide hassle-free and effective support for housebuilders and developers throughout the appliance purchase process, continuing to offer advice and guidance to their partners' customers as end consumers of their products.

Sharif-Paul comments, "I am thrilled to be joining Beko plc, heading up the customer care team and supporting Beko plc Appliance Partners contract division. I am extremely passionate about delivering a world-class level of customer experience, having dedicated my career to this field.

"The Beko plc Appliance Partners team are already providing a fantastic service to both our partners and their customers. I will build on these excellent foundations and help us become even more renowned in the industry for delivering the very highest levels of customer care."

Beko plc Appliance Partners provide freestanding and integrated appliances with solutions tailored specifically for the residential property sector, offering a choice of leading brands featuring a vast range of technology-rich, energy efficient products. Their flexible end-to-end service, overseen by a dedicated Specification Manager, is tailored to each project's unique requirements, with a strong emphasis on providing effective ongoing support.

Sharif-Paul's appointment demonstrates the company's commitment to continuous investment in colleague development to enhance product knowledge across the business, ensuring their highly trained customer care team continue to provide an industry-leading level of support to all partners and their customers.

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Stephen Wasserman

COMMENT

DELIVERING SOCIAL HOUSING THAT MAKES A DIFFERENCE

Stephen Wasserman of National Housing Group discusses the keys to delivering good quality 'eco' social housing

From ITV's ongoing investigation to young influencer Kwajo Tweneboa's tireless social media campaigning, social housing is becoming an inescapable subject, and rightly so. Plainly put, there isn't enough social housing to go around and much of the housing stock out there is, frankly, abysmal.

All too often landlords are not held accountable for poor quality housing. We've heard horror stories first hand from our tenants of their experience with mould, broken facilities, safety concerns and rodent infestations to name just a few. It seems it's only with the recent implementation of Awaab's Law that people are understanding the severity of poor (or absent) housing.

There has been a huge decline in the affordability and availability of housing in the UK. Statistics released at the start of 2023 by Shelter show that one in every 208 people in the UK is homeless – that's 271,000 people, including children, without a place to live. The number of people living in temporary accommodation has skyrocketed by 74% over the last decade.

National Housing Group (NHG) was founded to combat the housing crisis and homelessness. By salvaging disused properties we have so far housed more than 150 people in high-quality social housing. Working specifically with local authorities, housing associations and charities, we are collaboratively providing social housing for those who are homeless or at risk of homelessness.

We provide high quality and above-industry-standard homes, while also providing realistic business margins. We believe developers can provide high quality social housing, positively affect homelessness and the housing crisis, reduce the cost of living for tenants and help the Government on its way to net zero by 2050.

WE'VE SEEN DEVELOPERS TALK ABOUT BUILDING ON THE GREEN BELT AS A SOLUTION, BUT THIS JUST ISN'T NECESSARY

RETROFITTING FOR PEOPLE & PLANET

According to the National Housing Federation, 340,000 new homes need to be built in England each year to keep up with housing demand. We've seen other developers talk about building on the green belt as a solution to finding more space for new homes, but this just isn't necessary.

The Ministry of Housing, Communities and Local Government last year put the number of empty homes in England at 648,114. That number is likely to have increased in 2023 and doesn't take into account second homes and other empty houses, commercial or mixed-use freeholds.

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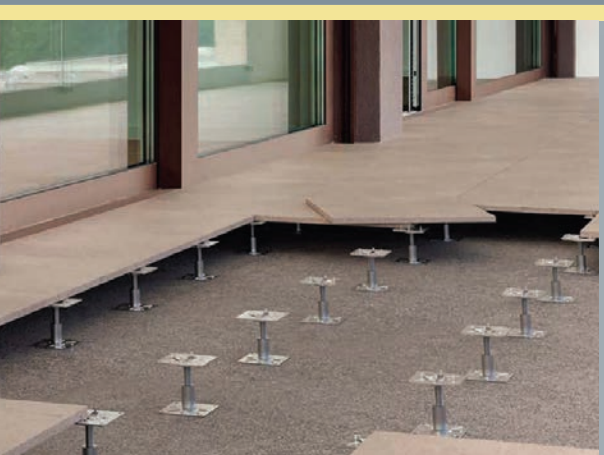

FRSL New Class A1 Pedestals

transformations of disused properties, from care homes to two-bed apartments. In Aylesbury, we are working on an abandoned care home which had been empty for more than five years before we started renovations. By targeting properties like this, we have lots of space to play with and single buildings which can provide new homes for lots of people and improve neighbourhoods for existing residents.

At one project in Essex, we transformed an abandoned care home into a fit-for-purpose, freshly decorated and retrofitted social housing property with 25 self-contained units. The property has enabled a number of local people to stay in their own area and, by working with the charity Social Interest Group, we have been able to create a home complete with additional space for health and social care work to take place. One of our tenants is so pleased with the support he receives that he is hoping to become a member of staff and help others in his situation.

GREEN LIVING IMPROVES LIVES

There's a long list of eco features we'd like to install in all our properties, from biomass boilers to ground source heat pumps, but from a cost perspective that's just not realistic in every case. In saying that, we do have some key components which are fitted in all our properties to help with emissions, durability and the cost of living for our tenants.

Replacement double glazing, electric ecostrad radiators, energy efficient and durable appliances, wooden flooring and enhanced insulation are some of our regular eco features. At another project, which is also in the south east, we've estimated that these features will save tenants more than £500 per year. In turn, this gives them a better chance at regaining independence and allows them to spend money on things which will improve their quality of life; gym memberships, healthy food shops and transport to spend time with family.

By launching our 'green homes initiative,' we are able to limit our reliance on fossil fuels and reduce fuel poverty. We work closely with our solar panel provider which has seen tenants pay as little as 50p per day for their electricity as a result of the energy their solar panels are delivering.

The project (in Essex) is a big building with more than 50 solar panels installed on the roof, converting 15 kWh per hour. On a sunny day these panels can produce up to 80 kWh per day. To put this into context, a three bedroom house uses an average of 10 kWh per day. Tenants now have a huge energy supply for their home, resulting in money saved for them and energy being supplied back to the grid.

HOW PRIVATE LANDLORDS CAN BENEFIT THE SOCIAL SECTOR

Private landlords don't come with the best reputation, but it's a stigma the NHG team is working hard to shake. We work closely with our partners to deliver their exact needs and often manage the properties too, asking for feedback and tending to issues within 24 hours of them being reported as standard.

Without private landlords developing properties there wouldn't be enough stock; even with private input there is still a long way to go to get on top of the hundreds of thousands of properties we need to see, year on year.

Bigger budgets and more flexibility mean that social housing can result from redundant properties. Private intervention means faster turnarounds, higher quality homes and custom-built properties in keeping with a local authority or housing association's specific requirements.

We welcome new legislation which will ultimately see private landlords held accountable for the state of the properties they manage, in turn giving social tenants a better quality of life.

THE 'HOUSING FIRST' MODEL

The Housing First model tells us that housing is a fundamental human right. Through education and the expertise we have in-house, we hope to eliminate the stigma that surrounds social housing and homelessness. Our tenants come from all walks of life and are often struggling with addiction, ill health or other troubles in their personal lives. They can be in desperate need of support and a place to live.

Housing First directly impacts those in need of a home and has a knock on effect on the rest of the community too. Reducing the number of people on the streets means less worry and cost for councils and less of a strain on the NHS and other healthcare providers.

A home gives people stability, protection, a safe haven, increased self-worth and improved mental and physical health. While social housing in this country is a long way from where it needs to be, positive change is happening. By starting to chip away at the existing building stock in England, whatever their original purpose, we can start to really level the playing field in terms of available properties for those in desperate need of high quality, safely managed social housing.

Stephen Wasserman is CEO and founder of National Housing Group

WHILE SOCIAL HOUSING IN THIS COUNTRY IS A LONG WAY FROM WHERE IT NEEDS TO BE, POSITIVE CHANGE IS HAPPENING

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Brian Berry

HOUSEBUILDING IS STILL A STRUGGLE

Brian Berry, CEO of the Federation of Master Builders (FMB), discusses the latest data from the FMB's State of Trade Survey and finds few reasons to cheer

As you will be aware, for too long we have not been building enough homes to address the growing housing crisis, resulting in overcrowding and young people not being able to afford to get on the housing ladder. The proportion of 25-34 years olds who owned a home in 1989 was 51% but that percentage figure has now fallen to just 28%. What is very concerning is that the Government lacks a clear plan to solve the housing crisis, with the result being that the housing market continues to soften, house prices increase, and more and more people are stuck in rented accommodation.

While there are plenty of complex issues holding back housebuilding, fundamentally we just need the Government to get to grips with delivery and allow more local housebuilders to deliver high quality homes fit for their communities. The Government must recommit to building 300,000 every year and give hope to both consumers and house builders alike that it is serious about increasing the supply of new homes.

THE UK GOVERNMENT MUST RECOMMIT TO BUILDING 300,000 HOMES EVERY YEAR

STATE OF THE MARKET

In May we launched our latest FMB State of Trade Survey, which is a quarterly tracker of the SME construction market. In terms of our housing data, it unfortunately matched up with what we'd seen with other market trackers, such as the Office of National Statistics (ONS), in that it showed that the housing market is struggling. While those reporting an increase in workload had increased in the previous quarter, it's still not a positive picture, with enquiries only moderately improved, but still very poor.

We have also for the first time started to track how many starts per quarter are being made in this survey and this will continue,

so that we can build a picture of our members' output. All this data, along with the annual House Builders' Survey later in the year, help to build a picture of market conditions for SME housebuilders – a sector we know is not heading in the right direction, delivering only 10% of new homes compared to 40% just over 30 years ago.

The FMB is working hard to put forward a voice for our housebuilding members and is in regular contact with those responsible for housing at national and devolved government level. Given current government actions, such as the Housing Secretary Michael Gove calling in one major development for being too 'generic' for the area it was sited, they must start looking seriously at SMEs as part of the solution to the housing crisis. Small, local housebuilders excel in delivering high quality, diverse in design homes, far from the 'cookie cutter' type of schemes that we have become all too used to across the UK.

PLANNING FEES

The future of planning fees is currently being considered by the Government, with a few ideas on how they'll look recently consulted on, but one thing seems clear, they will likely be increasing. However, our members have made clear that they do not feel enough progress has been made in Local Planning Authorities regarding the speed of applications to justify a rise in costs.

There is a clear need for extra resourcing in planning teams and this is well understood by local housebuilders who are on the front lines of a creaking planning system. For many years FMB members were supportive of increases to planning fees and even championed it. But, given the poor state of the small house building market; the rise in costs from new regulations; and increasingly strained relationships with local planning teams, they do not feel a rise in fees, taken out of the pockets of small house builders, is justified. The Government must think carefully at the damage a rise in fees may inflict on small housebuilders, and produce a meaningful plan on what support it will provide to boost their output.

WHAT NEXT?

Housing is clearly ramping up the agenda, it's rarely out of the headlines. The lack of action to build new homes is seemingly filtering down into public discourse, which can often be the most potent incentive for any government to act. A bold plan going into party conferences would be nice to see, or even an outline plan ahead of the election next year, but I don't hold out much hope. We'll have to wait and see.

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Patrick Mooney

GROWTH UNDER THREAT FROM DEMOLITION

Patrick Mooney, housing consultant and news editor of Housing, Management & Maintenance magazine discusses how the push to demolish ageing buildings could seriously undermine social housing's growth agenda.

Efforts to increase the stock of council housing to meet the growing demand from homeless and overcrowded families, could be seriously damaged by the need to demolish or refurbish high rise blocks erected in the 1960s and 70s.

A growing number of tower blocks across the country are approaching the end of their useful lives (or have already long passed those dates) and require countless millions of pounds to be spent on them to tackle their growing list of disrepair items. The list covers everything from water ingress, condensation and mould to big ticket items like leaking roofs, unsafe electrics, asbestos, inadequate fire safety and draughty windows.

Under pressure from the Housing Secretary Michael Gove, the social housing regulator and the Housing Ombudsman, social landlords are having to redouble their efforts to upgrade the standard of rental housing they let out, while at the same time trying to build new homes for the more than 1.3 million people stuck on housing waiting lists.

This is happening at the same time as landlords are being tasked with retrofitting energy efficiency into their housing stock as well as upgrading the fire and safety components of residential buildings. Combined together this is quite a storm that is hitting social housing at the same time, while financial resources are also under severe pressure. It really is a tough ask.

A GROWING NUMBER OF TOWER BLOCKS ACROSS THE COUNTRY ARE APPROACHING THE END OF THEIR USEFUL LIVES

MOUNTING PRESSURES

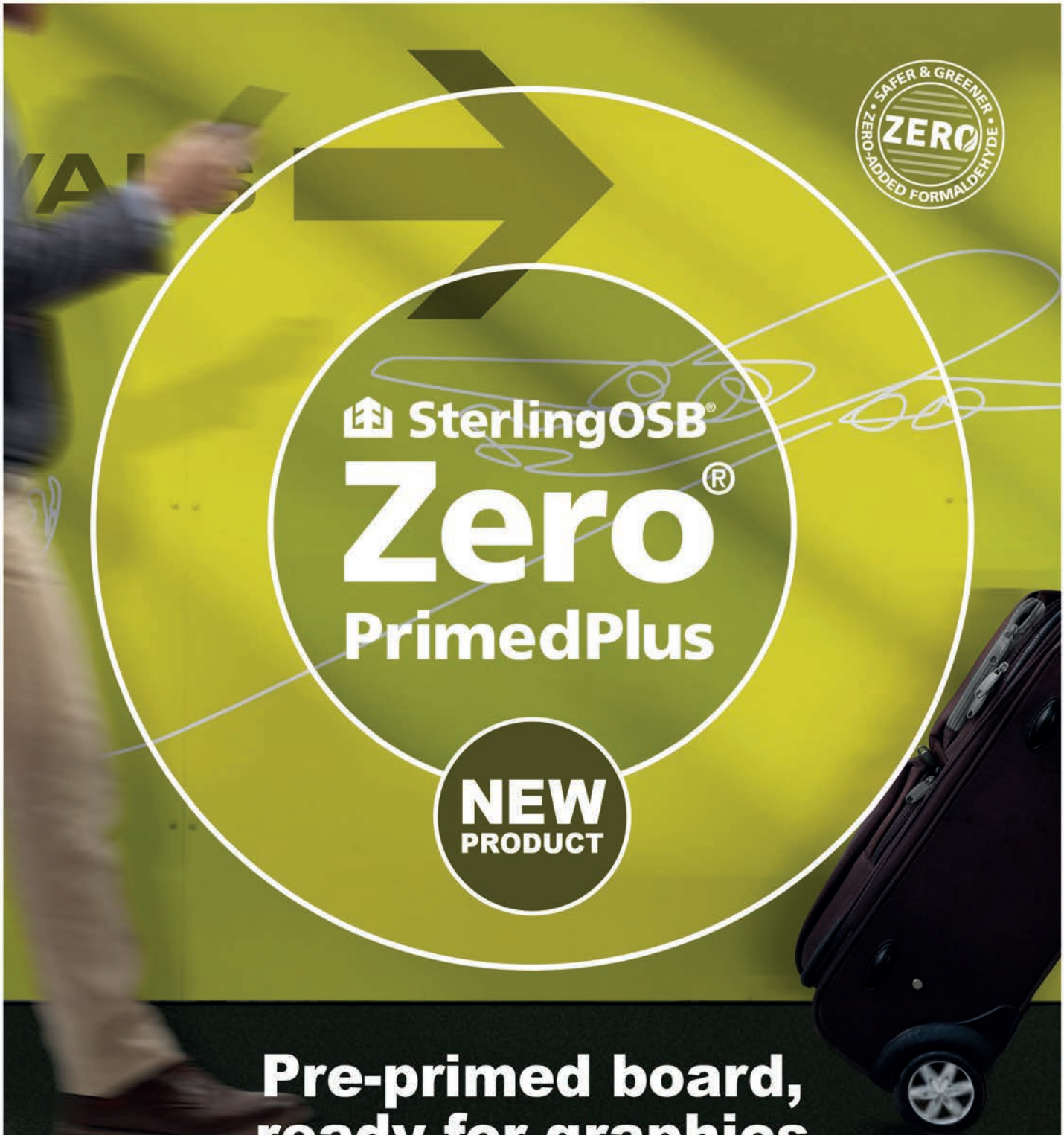
The death of two-year-old Awaab Ishak from prolonged exposure to mouldy conditions in his parents' Rochdale flat prompted Gove to apply even more pressure on social landlords over the quality of accommodation they provide.

Under the new Awaab's Law, social housing landlords will need to investigate and fix health hazards, including damp and mould, within strict new time limits. Timescales of 14 days for a landlord to investigate a problem and seven days to make good on the repairs are being consulted on. Or they will need to rehouse the tenants where a home cannot be made safe.

Failure to comply will attract attention from the various watchdogs overseeing the sector. The social housing regulator is being given new powers to proactively inspect landlords, to issue unlimited fines over poor or dangerous housing and in the worst cases to order changes in the management of properties.

Meanwhile the Housing Ombudsman is being tasked with ensuring landlords learn from past mistakes. The ombudsman will be able to instruct landlords to measure their service against guidance on issues such as damp and mould, to help drive improvements following complaints from tenants.

As a result, social landlords are facing a high stakes Hobson's Choice, where they can tackle poor conditions or face the consequences. All the choices are likely to involve spending huge sums of money at some stage – either



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DEMOLISH & REBUILD OR REFURB?

The situation is perhaps best demonstrated in the capital city where a growing number of London councils are consulting tenants on plans to demolish their homes, as refurbishment work is proving to be prohibitively expensive, represents poor value for money and is often incapable of delivering modern living standards.

Among the latest examples of this dilemma are the outer London boroughs of Enfield and Croydon, which are situated on opposite sides of the capital, but face almost identical problems.

In the north and bordering the leafy suburbs of Hertfordshire is Enfield Council, where members recently decided to knock down two 17-storey blocks after it estimated their refurbishment would cost more than £50m, or roughly £260,000 per flat – but that is just the cost of making them habitable.

Shropshire and Cheshire Houses on the Shires Estate in Edmonton were built in the 1960s and comprise 204 homes. According to a report for the council's cabinet, the blocks have become "increasingly difficult and costly to maintain" due to the way they were built – using large panel system construction – and "limited resources" for their maintenance.

The council estimates the cost of retaining the buildings in a safe state of repair over 30 years would be £53m, with £40m of this needing to be spent in the next two to three years. This estimate does not even include the cost of such work as replacing external cladding, replacing the lifts and upgrading the lobbies and stairwells. None of this work is cheap!

More than 75% of residents who responded to a recent consultation exercise run by the council, backed plans to be moved into alternative housing rather than remaining in the two high-rise blocks.

WORST HOUSING CONDITIONS

Across London to the far south, where Croydon reaches down into the Surrey commuter belt, a similar issue is being wrestled with by the local authority and its tenants on the Regina Road estate in South Norwood. The estate first hit the headlines just over two years ago in March 2021 when ITV broadcast one of

its early features on poor housing in the social sector and the appalling conditions which some tenants were having to endure.

The estate was built in 1965, was re-clad in 1999 and had water sprinklers fitted after the Grenfell tower fire. But two years ago a TV news film crew found that in one of the blocks water was running down internal walls that were black with mould, water was damaging ceilings and floor coverings as well as posing an electrocution risk to the residents. Furniture and personal possessions were being destroyed. Experts called the conditions among the worst they had ever seen.

Two years on from then, the council has been consulting tenants on whether they should demolish most of the estate, including three 11-storey high-rise blocks and four medium rise blocks, comprising 191 homes in total. The council is proposing to replace the existing homes with between 380 and 450 new homes, subject to planning conditions and of course, the availability of money for the work.

At the risk of tempting fate, I would guess the Regina Road estate tenants will vote for its demolition and their rehousing, rather than for another round of refurbishment works. Writing that sentence is a remarkably easy task, whereas putting it into effect will be a wholly different challenge.

A potentially even bigger issue for the council is that the Regina Road tower blocks are typical of a number of other high rises across the borough, where more than 20 tower blocks are of a similar age, design and construction type. If these blocks experience the same problems as those at Regina Road, then the council is facing an extraordinarily large bill to sort things out.

QUANTITY OR QUALITY

You may have noticed that both the Shires and Regina Road estates were built during the 1960s – at a time when councils were under enormous pressure to build homes in huge numbers and at speed. After the post war building boom was over, the rate of council house building rose again during the 60s to hit another peak in 1967 when 159,300 new homes were completed across England and Wales.

To deal with the pressures existing at the time, the new housing was generally built at high density and a relatively low cost. There is an awful lot of this sort of housing up and down the country, much of it in our larger towns and cities or on peripheral estates. Some of it has already been demolished as part of expensive regeneration projects, or to tackle low demand and unpopularity.

Council house building has cut back dramatically since then although attempts are being made to mount something of a revival in recent years. If the country is to build 300,000 new homes a year then councils and HAs probably need to be building between 75,000 and 100,000 of them.

This is on a completely different scale to the house building of the 60s and 70s, but the Greater London Authority and London Mayor have recently been celebrating the news that they have started work on more than 10,000 new homes in the past year and will have met their target of starting 20,000 new council homes by 2024 a year early.

The capital's mayor Sadiq Khan said that work began on more council-built homes in London in 2022 than in any year since the 1970s. But in a sobering comment he added that London was building double the amount of council housing than the rest of England combined together. The 4,325 council homes that were started in the rest of England (in 2021/22) was a "national scandal," he said, and called for new government funding exclusively for the building of council homes.

However, it was also acknowledged that despite this success with building new homes there are persistent problems. London Councils estimates that 166,000 Londoners – equivalent to the entire population of Oxford – are currently homeless and living in temporary accommodation. With demolitions continuing at pace it is difficult to see how the building of new social homes will be able to make significant inroads into the waiting lists. Even with recent falls in the number of Right to Buy sales, it is becoming very difficult for councils to make real additions to their stock totals.

THE COUNCIL ESTIMATES THE COST OF RETAINING THE BUILDINGS IN A SAFE STATE OF REPAIR OVER 30 YEARS WOULD BE £53M, WITH £40M HAVING TO BE SPENT IN THE NEXT TWO OR THREE YEARS

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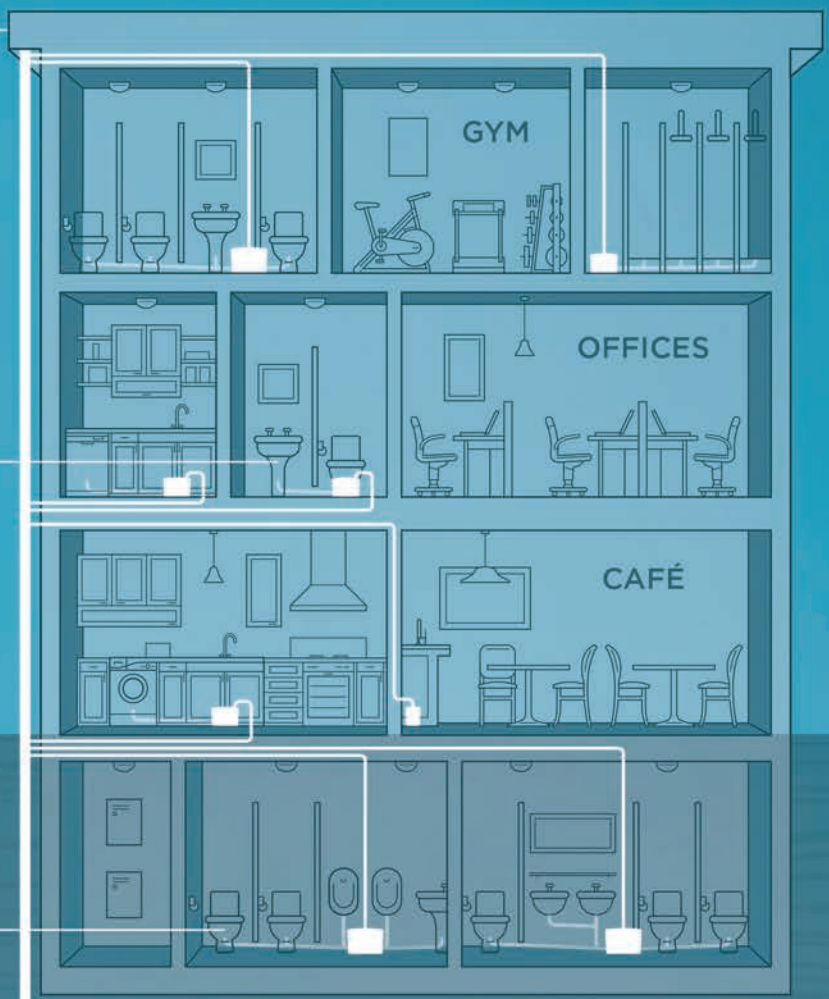

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PROJECT REPORT

The brave new world of low carbon retrofit

A large-scale retrofit project to bring energy efficiency of social housing across Northumberland and County Durham up to a C rating saw a housing association deploying robots to upgrade homes with minimal disruption. James Parker reports.

The Socal Housing Decarbonisation Fund (SHDF) was launched in October 2021 by the Government, as a key part of its Heat and Buildings Strategy, dedicated to upgrade the efficiency of the most in-need rented social housing across England.

The Government initially announced £160m worth of funding for projects, including heating upgrades, energy efficient doors and windows, and upgraded insulation, to make a significant difference to social housing tenants' energy bills (estimates putting savings around £170 per year). One of the projects in the first wave (chosen for funding based on a criteria of having EPC ratings of D or lower), is a £2.5m retrofit programme by housing association Karbon Homes. It covers 91 homes in two locations, one delivered in partnership with Northumberland County Council and the other with Durham County Council.

This is a scheme which tackles housing in differing settings, but both in severe need of low energy retrofit, and by so doing has demonstrated some substantial improvements for residents. Fabric

improvements – chiefly insulation – were at the core of the measures which Karbon undertook, including fitting external wall insulation (EWI), as well as cavity, loft and underfloor insulation. However, the latter saw some unusual innovation in the social housing sector, using a robot to install it and thereby minimise disruption to tenants.

As well as insulation, the project also included re-roofing many of the properties, and adding PV panels to assist in reducing their carbon footprint. PV has been added to help reduce fuel bills and support "grid resilience" for the homes, however the team had to demonstrate that all fabric options had been explored first. The PVCu windows across the schemes still had a considerable life left in them, so replacement was not required.

The scheme comprised a mixture of bungalows and houses with cavity walls, and a variety of heating methods from gas to solid fuel – some even had air source heat pumps. Before the project, the homes' EPC energy performance ranged from D to F. A number of the properties are in rural locations, and in an area where residents have a 15-20% likelihood of experiencing fuel poverty.

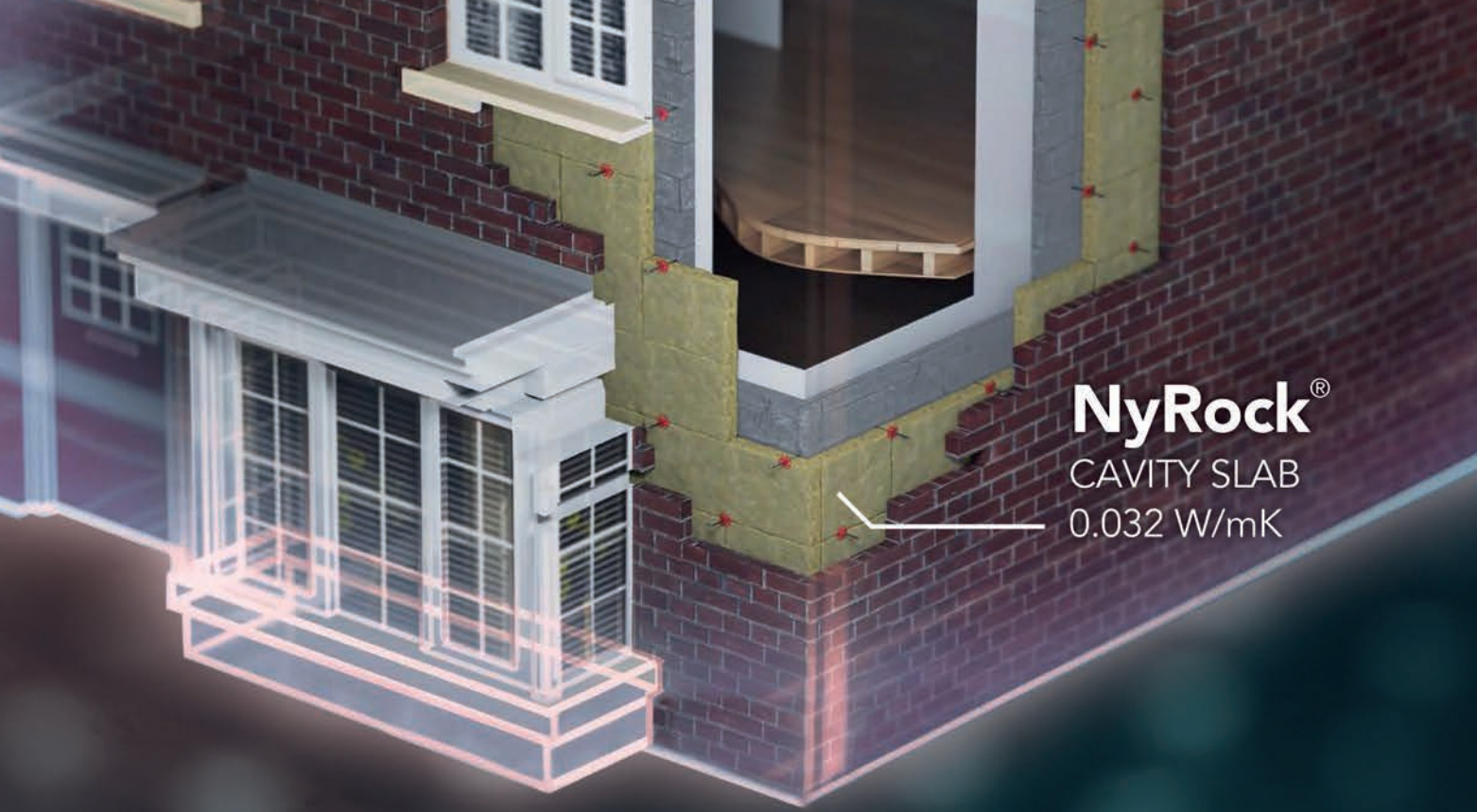
BACKGROUND

Karbon Homes formed in 2017 as a merger between three north east housing associations, and now owns and manages close to 30,000 homes across the North East and Yorkshire. The overall Karbon Group it belongs to spans beyond further across Yorkshire; as far as Leeds to the west and Hull to the east. The Group also includes 54 North Homes, which formed at the end of 2022 with the merger of two housing associations, Leeds & Yorkshire Housing and existing subsidiary of the Karbon Group, York Housing Association.

Karbon Homes covers a wide range of social housing properties, from those in dense urban areas, to others in very rural communities. One of the organisation's key aims is to "shape strong and sustainable communities," and this energy retrofit project is a striking example of that goal in action, by enabling people to have energy resilience for the long term.

As it embarked on the project, Karbon had a big learning curve in terms of not only the right energy efficiency measures to approach, but firstly just to gather a large amount of data on the condition and need of its properties. As Craig Lonsdale, asset and sustainability manager at Karbon Homes told Housebuilder and Developer, "we spent a lot of time analysing all of our homes from an energy perspective."

David Milburn, head of investment at Karbon Homes explains that the two schemes – at Ouston, an urban location in Chester-le-Street, and a rural street in Otterburn in Northumberland, were "very different." Despite their differences, both schemes had suffered similar energy



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efficiency issues, including the failure of the original cavity wall insulation.

TARGETS

The overall driver is that all 'fuel poor' social rented homes will need to be EPC rated C or above by 2030, according to law; the Government's 'EPCC' initiative. They discovered they had 7,000 homes that didn't come up to that standard, so the task was clear.

It was timely that the Government announced (in 2020) the SHDF funding at a similar juncture, says Lonsdale: "a nice sum of money to treat your worst homes first." He says that having been through the process to understand which the worst performing homes were, it meant that they could target the "worst first," he says, adding that the "two streets stood out." These were D and E rated mid-20th century homes in both locations. Otterburn was off grid, with a combination of LPG and storage heaters, meaning their homes had a lower EPC rating than normal, despite having loft and cavity wall insulation.

Lonsdale adds: "Installing EWI and solar PVs was the only way those properties were going to get the next level of performance for the C rating."

As well as better thermal comfort for residents, and improved aesthetics from measures like EWI, the project is hoped to be able to save residents up to 40% on their energy bills. By significantly reducing the homes' carbon footprint, the housing association has modelled a potential saving of 60 tonnes a year from this first wave of the project alone.

PROCUREMENT AND PLANNING

The housing association had to lodge a bid for the funding, which they in turn submit to the Government. But because the two streets were in different local authority areas (Durham CC and Northumberland CC), that meant two separate bids. Karbon's bid included surveys, measures deemed appropriate per property, and "it was a mixed bag of works," says Lonsdale. However, they would all receive EWI and a 4 kW solar PV array, which none had previously.

The project team used data modelling software to identify what the most cost-effective route to take each home from an E rating to a C, based on their current state. The software looks at each property in turn, and outputs the costs, projected fuel bill reductions, and further results in terms of "what it looks like on completion." In addition, as Milburn explains, thermal imaging has exposed "huge gaps" in the previously installed cavity wall insulation, which also had to be addressed.

Milburn says candidly, "there were a lot of companies that went around doing cavity wall insulation for housing associations, and the insulation basically wasn't fit for purpose. It was put in by incompetent contractors." The result has been tenants living in properties with condensation and mould in some cases.

There are two contractors involved in delivering the refurbishments; energy company Eon carried out the work at Otterburn, and north-east regeneration specialistsRE:GEN Group at Ouston. The project is progressing to its hoped completion in October, but with the programme taking place largely over the winter, there were some challenges, particularly with the EWI, a wet trade; "you can't put it on when it's too cold,"

ALL THE WORKS HAVE BEEN DESIGNED TO PAS 2035 STANDARDS – THE NATIONAL FRAMEWORK STANDARD FOR ENERGY RETROFIT

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says Lonsdale. In fact, it needs to be above 5 degrees for a 12-hour period for the installation to be effective, and Northumberland winters won't always cooperate with that requirement.

All the works have been designed to PAS 2035 standards – the national framework standard for energy retrofit. Craig explains that Karbon "relies on its retrofit assessors" to ensure that the installations comply, as well as the contractor itself. As part of the funding arrangement, Karbon provides regular coordinated design updates to the council to demonstrate the "relentless push" towards a C grade EPC, in order to have the staged funding released.

Getting residents to "sign up" was challenging, says David Milburn – but the project team held open days where the residents could meet the contractors, discuss the works and the benefits they would bring, as well as aspects of the programme. He says that although they "could not make promises their gas bills would be halved," but reducing their expense was the key message.

RETROFIT MEASURES

When it came to which properties would receive which solution, as well as the software's judgement, there was also an overriding aesthetic consideration, says Lonsdale. "With EWI, you've got to do all the properties." However this meant challenges, as every installation was weather dependent, notwithstanding keeping the planners happy on the precise render colouring, as it was a change from brick to a more uniform colour. The proof in the pudding is that neighbouring private owners who didn't have their exteriors insulated, were asking the housing association when theirs could be done, reports Milburn.

The project software used gave the team a lot of detailed info in terms of how to treat each property, including the recommended and appropriate product solutions in each home's case (for example it won't suggest triple glazing in a conservation area). This also came down to the exact dimensions of EWI to be installed, for example, which might be constrained based on where a damp proof course was, or if air bricks needed to be left uncovered. The software's other benefit is providing estimated running costs of the properties, however energy price rises are making this increasingly complicated.

One of the major hurdles for making the PV installations a success was ensuring that the customers contacted

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their own energy supplier to install the necessary isolator switches in each property – this could not be done by the contractors, and the cost was down to the customers. In addition, the energy suppliers were not all swift in doing these installations; legislation has since changed meaning that a wide range of firms can now install them. The solution arrived at was the customer making the outlay but the housing association reimbursing them quickly, so they can start saving money from renewables quickly.

Further measures included re-roofing some properties at Ouston, including aesthetically attractive integrated PVs, and adding wall ties where needed to structurally protect them. The Otterburn off-gas scheme had a few more air source heat pumps installed, but some of the properties already had them.

ROBOT-INSTALLED INSULATION

The Chester-le-Street scheme had solid concrete floors, so underfloor insulation wasn't an option, but the wooden floors at the more rural Otterburn scheme meant it was possible. However, to do it without disrupting tenants – many of whom were older residents in bungalows – meant a very innovative approach was needed. While lifting tenants out of fuel poverty is the most important aspect of the scheme, the most eye-catching is the fact that to make the installation of underfloor insulation possible without the expense and upset of residents having to be decanted, the team called in the help of a robot.

Provided by Q-bot, the remote controlled robot, which moves using tracks, is inserted into the underfloor void through a small hole cut in the floor, and sprays insulation to the underside of the suspended floors – taking around half a day per property. Crucially, the robot then verifies that the work has been done correctly, thereby obviating any chance of a 'performance gap,' given that it is operating unseen by human eyes (although visible through the camera).

As well as quickly stopping heat loss through properties' floors, it also stops draughts, bringing greater comfort all round. According to Karbon, it is a "straightforward, no hassle and cost-effective solution," despite the apparently futuristic nature of the approach. But moreover, it meant a full fabric insulation was possible in a retrofit scenario in many of the properties (underfloor space permitting), making them 'net-zero ready' as the grid continues to decarbonise.

CONCLUSION

EPCC 2030 is a major challenge, but Karbon Homes and the projects' stakeholders have taken a large step towards success, at least in these two initial schemes.

Karbon Homes is also pursuing modern methods of construction (MMC) including timber framed houses and full modular builds for its new home programme. With the predictable quality from factory construction, it hopes to produce even better energy performance for its residents. In addition, the housing association is looking to provide percentage estimates to customers on running costs through its software, which will be less prone to being sabotaged by volatile wholesale energy costs, and the vagaries of residents' different tariffs and contracts.

In April 2023, Karbon Homes was given funding from the Government's Social Housing Decarbonisation Fund Wave 2.1, a grant of over £580,000 to upgrade more homes. Added to the existing money for the retrofits already underway, Karbon is putting £3.6m into improving the energy efficiency of 218 of the most energy-challenged homes in Northumberland and County Durham over the next two years.

This next project contributes towards a wider £80m retrofit investment across the North East and Yorkshire, delivered by a consortium of 18 housing associations, councils and local authority-owned organisations (ALMOs), and led by the North East and Yorkshire Net Zero Hub. Taken together, the consortium's projects will see energy efficiency investments made to 5,525 homes across the region, supported by a total of £32.4m pledged by the Department for Energy Security and Net Zero.

This not only demonstrates the awareness and foresight of the housing association, but how the Government is finally tackling the large-scale retrofit which is essential for the UK to have a chance of getting close to 2050 net zero targets. And with the cost of living crisis still biting hard for many social housing tenants, this innovative project as well others underway by Karbon will provide a huge relief long-term. ■

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ENERGY HOUSE 2.0 SPOTLIGHT

eHome2: to 2025 and beyond

Oliver Novakovic of Barratt Developments takes us inside the Energy House 2.0 test project in Salford, focusing on eHome2 – the three-bedroom family home built by Barratt & Saint-Gobain with a host of product innovations to take it past the Future Homes Standard.

I am standing in the future. I am in an enormous, tightly-controlled climate chamber, the largest of its kind in the world. The only other chamber to rival Energy House 2.0 is believed to be owned by The Department of Defense in the US – although this is probably classified info!

Energy House 2.0 stands on the University of Salford's campus. To one side, it is flanked by the Faculty for Health, the campus nursery and a cafe. On the other side is acres of green parkland, which feels like a well-hidden secret, given that the city of Salford is known as being at the forefront of the industrial revolution.

The revolution happening at Energy House 2.0 couldn't be further from the smoke-fuelled chimneys of that era. The research taking place over the next two years is designed to test clean, renewable energy sources to power the homes of tomorrow.

The Energy House 2.0 was designed and built by the university, with £16m of funding from the European Regional Development Fund and the university. The facility can fit 24 double decker buses inside, and viewed from the outside is a huge, jet black box, but with bright red trim at the entrance. You could be forgiven for thinking it is something straight out of a Marvel film – Iron Man's latest experiment perhaps. While the reality is far more humble, the research from Energy House 2.0 could have more far-reaching consequences.

As the country's largest housing developer, Barratt Developments partnered with Saint-Gobain and the University of Salford, a leader in research into the built environment and the effects of climate change, to lead our transition to net zero ahead of Government targets.

THE RAPIDLY CHANGING IMPACT OF CLIMATE CHANGE

Climate change, water and resource scarcity are the most critical challenges of our time.

The extreme heat seen last year has broken records around the world, bringing raging wildfires across Europe, Australia and the US. A total of 28 countries experienced their warmest year on record in 2022, including the UK, China and New Zealand. Large parts of the globe have suffered droughts over the past year, and three-quarters of the world is predicted by the UN to suffer regular droughts by 2050.

In the UK, we've had the 10 hottest years on record since 2002. The hottest-ever day – exceeding 40˚C – was recorded last summer, leading to red weather warnings for heat. The south and midlands are predicted to be in serious, prolonged drought by 2030. This year has already seen horrendous earthquakes in Turkey and floods in Pakistan.

Construction has to transform to meet these challenges. As a leading national sustainable housebuilder, we know we have a big role to play in reducing carbon emissions and our impact on the environment. We need to build high-quality sustainable homes today, as well as innovating and adapting our designs for the future climate.

BUILDING A GENERATION OF GREENER HOMES

Building eHome2 within the Energy House is one of the most significant

THE EHOME2 HOUSE HAS BEEN BUILT WITH AN ADVANCED CLOSED-PANEL TIMBER FRAME SOLUTION WHICH CAN BE PRE-CLAD

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projects that Barratt has ever undertaken. Along with Saint-Gobain and the University of Salford, we're leading the way to test the impact that extreme temperatures caused by climate change could have.

We have to reduce our reliance on fossil fuels, wherever they come from. With homes responsible for 16% of the UK's carbon emissions, and with energy bills driving inflation and putting pressure on households across the country, it's vital to green the country's housing stock.

We need to innovate and test low carbon technologies to find solutions that make being green easy and cheap for everyone. We need to have enough suppliers, with products such as air source heat pumps, available at the scale and price required to meet demand. We need a skilled workforce to install and maintain this technology.

And we need the electricity grid to be ready to take the strain, with the capacity to cope as we shift to electricity.

With the cost of living higher than for generations, we need consumers to come on the journey too. As we transition to the Future Homes Standard, there is an urgent need to prepare people for what will be needed in a zero carbon world – and more sustainable living.

Creating eHome2 will create a new blueprint for building homes at volume that are capable of operating at net zero carbon level, consuming far less water, and creating less waste. At times like this, with the cost of energy at a critical point, new solutions to create comfortable, efficient homes that will cost consumers far less to heat are essential.

COMMITTED TO LEADING SUSTAINABILITY

To build a sustainable business that delivers value for shareholders, employees, partners and communities, we must act responsibly. Our approach to sustainability will help us to maximise long term value for communities, the environment and for the economy.

To embed sustainability throughout Barratt, we are focused on the issues that matter to our customers, shareholders, employees and other key stakeholders, and have set long-term goals that define an ambitious future research and innovation road map.

Barratt was the first national housebuilder to set science-based carbon reduction targets, along with a number of other sector-leading commitments across our supply chain. This is led by a commitment for all of the homes that we build to be zero carbon from 2030 and for Barratt to be net zero in our operations by 2040.

Barratt is continuously working alongside the Future Homes Hub, and challenging our supply chain to become more innovative and support the sector to achieve its sustainability goals. A key part of this is the Supply Chain Sustainability School, a transformative partnership in the construction sector that enables companies large and small to share learnings and drive change.

SPEEDING-UP CLIMATE CHANGE RESEARCH

The specially-built climate chamber at Energy House 2.0 is recreating temperatures ranging from -20˚C to +40˚C, as well as simulating wind, rain, snow and solar radiation. The chamber enables us to perform testing within a few months that would ordinarily take years.

The data will help to inform how the wider housebuilding sector can design homes that are future-proof, while cutting bills for consumers.

We've begun the first set of research at eHome2, using 95 sensors and kilometres of cables to provide accurate data that will inform the construction sector around the world. Over the coming months, we'll also have people staying in the home to provide a real world view of the technology and comfort levels in the homes. Just last week, we had a BBC reporter stay in the house – the first real road test.

So far, the eHome2 is performing as predicted. The first set of robust data will be released later this year.

The 18-month project will inform us to build net zero housing at scale, using off-site methods of construction and lower carbon products that reduce the impact on the planet.

BUILDING ON ZED HOUSE

The built environment accounts for 40% of the UK's carbon footprint. Achieving the Government's carbon reduction targets will require a step-change in the design of new homes. Barratt, Saint-Gobain and The University of Salford are working together to create a blueprint for future homes, including working in partnership to develop new low carbon products, such as the use of timber and render, instead of brick and block.

The Energy House is the next step from Barratt's zero carbon concept home, known as Zed House, to integrate new and improved products and technologies into eHome2. Zed House, built in collaboration with the University of Salford and 40 innovation partners, reduced embodied carbon by 125%.

HARNESSING THE POWER OF RESEARCH AT ENERGY HOUSE 2.0

Professor Will Swan, director of Energy House Labs at the University of Salford comments: "The growing challenges of climate change and the cost of living crisis mean we need to consider how we build and operate our homes. Energy House Labs' mission is to work with industry and policy makers to provide evidence for what works."

"Energy efficient, high performing homes can change people's lives. The importance of this agenda is one of the main reasons behind the University of Salford's major investment in Energy House 2.0, which is a critical piece of research infrastructure that can help us find solutions to these problems."

Richard Fitton, professor in building performance at the University of Salford, adds: "The development of Energy House 2.0 has taken over six years and £16 million of funding."

He concludes: "Our work with some of the largest housebuilders and product manufacturers in the UK will help to answer difficult questions about how we reach the zero carbon target in future housing. The facility will help us to stress test these buildings under extreme hot and cold climates, to provide data on energy efficiency and overheating in homes."

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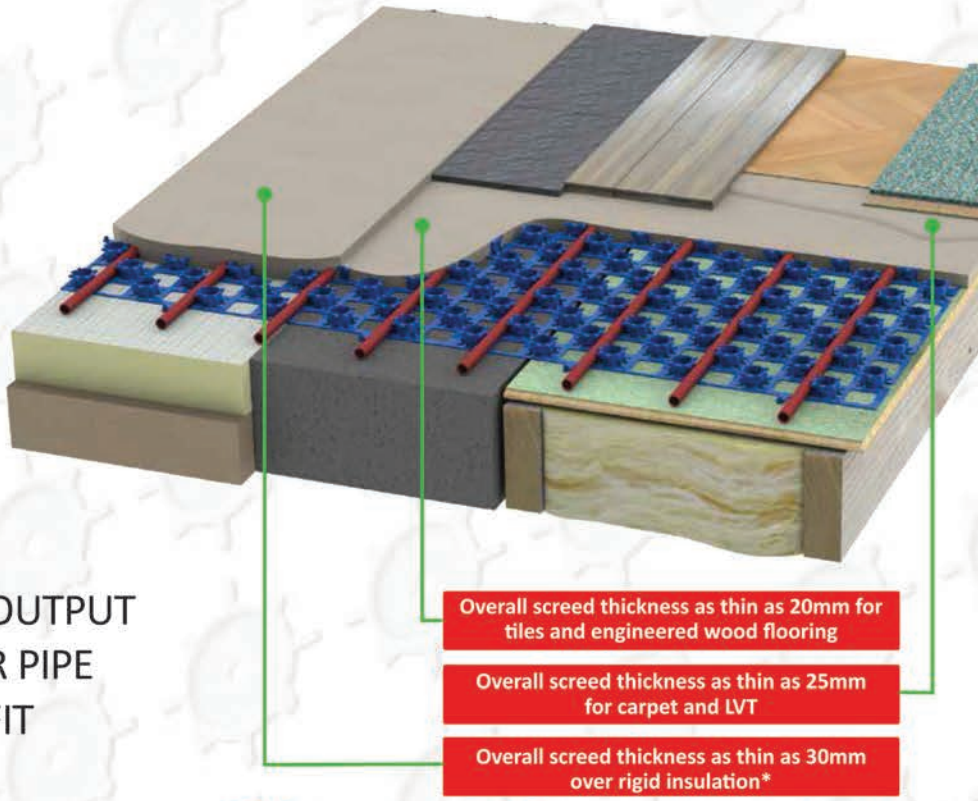

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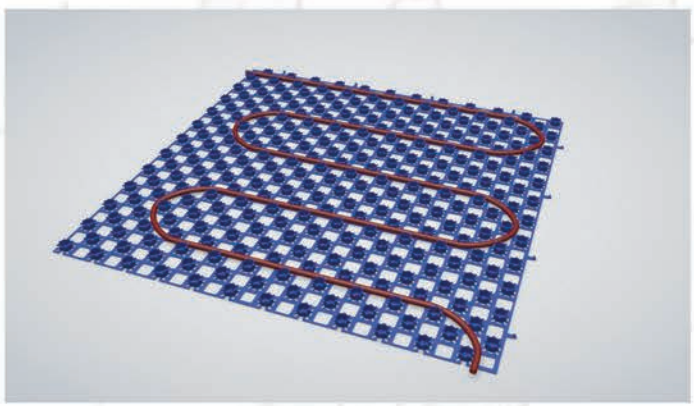

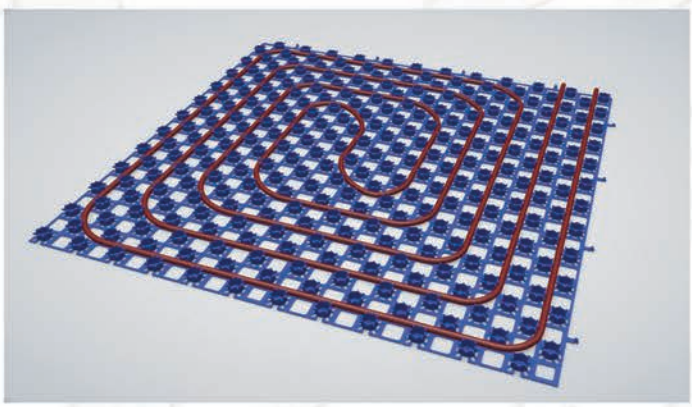

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CREATING EHOME2 WILL CREATE A NEW BLUEPRINT FOR BUILDING HOMES AT VOLUME THAT ARE CAPABLE OF OPERATING AT NET ZERO CARBON LEVEL

SPOTLIGHT ON INNOVATIONS

eHome2 is being built with an advanced timber frame solution, pre-insulated walls installed at the factory, and lightweight render-based bricks. The house was built in 14 weeks – half the time it takes to build a standard home.

MMC

eHome2 has used an advanced closed panel timber frame solution which can be pre-clad. The application of advanced MMC and lightweight cladding has reduced built time by 40% compared to an equivalent masonry build. The skills required to deliver the building are also different, again impacting our mix of trades on site.

A FABRIC-FIRST APPROACH

Barratt believes that a fabric-first approach to building design, which involves maximising the performance of the materials that make up the building itself, is the key to building sustainably. eHome2 is built using a high-performing timber frame system – Scotframe's I-Stud timber frame system – which meets Future Home Standard thermal values.

WHOLE LIFE CARBON

eHome2 achieves 100% reduction in operational carbon through the use of solar PV and an air source heat pump. The embodied carbon of the building is also significantly reduced through the use of a brick slip system, which has significantly lower embodied carbon compared to traditional brick. This brick system also lowers the whole life carbon impact in areas such as transport and waste. The reduction in brick thickness on the exterior of the building, also means we can add more insulation.

DUAL HEATING

eHome2 has the ability to switch between heat sources and renewable technologies, easily via the Smart Home app. The house is trialling two completely different innovative systems.

As an alternative to radiators, which can look unattractive and hinder where you place your furniture, the house has a combination of an electric-based system of Infrared Panels on walls combined with an air source heat pump for hot water. In addition to this, the house is trialling a truly innovative Thermaskirt system that heats skirting boards – both creating a more ambient heat in a room combined with a Vaillant aroTHERM air source heat pump, which provides both heat and hot water.

DUAL VENTILATION

The home has two systems installed within the home to demonstrate the impact on internal air quality. Firstly, Vent-Axia Multivent, a centralised ventilation system, as well as Vent-Axia Sentinel Kinetic Advance Mechanical ventilation heat recovery system, supplying pre-heated fresh air to all habitable rooms while extracting from wet areas. The smart controls enable homeowners to switch between the two systems. This is part of Barratt's commitment to use products within the house that deliver healthier environments for people by improving the air quality.

SMART HOME CONTROLS

With the average consumer fitting a lot of technology in the modern home, there is a potential for conflict between technologies, with multiple apps or interfaces on the wall.

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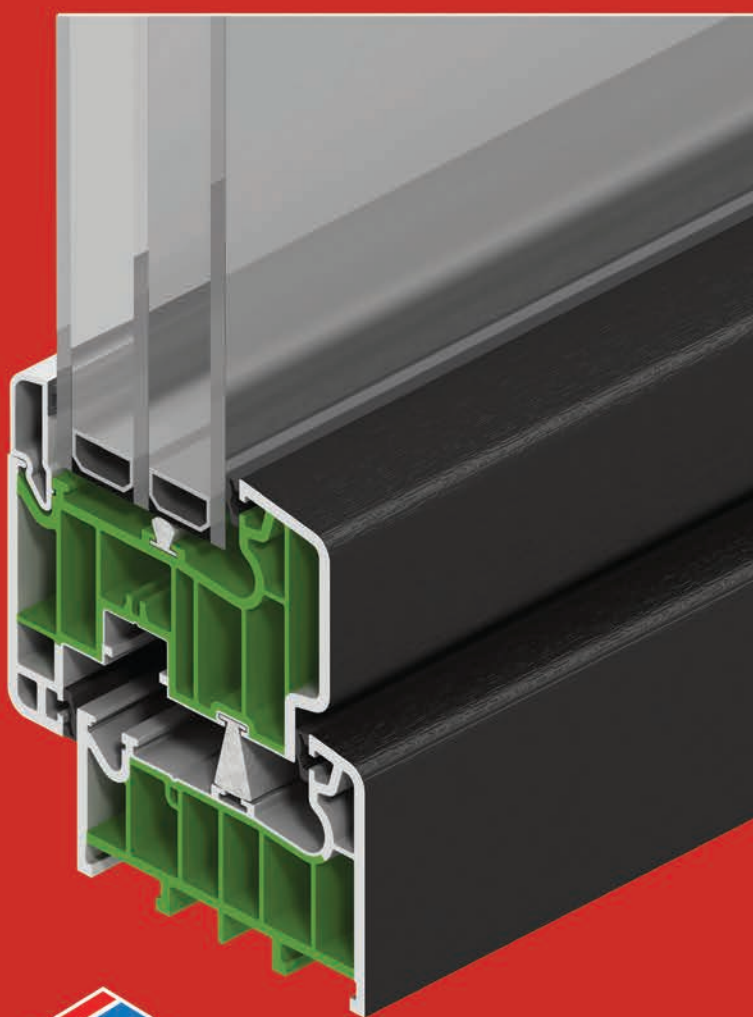

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THE GROWING CHALLENGES OF CLIMATE CHANGE AND THE COST OF LIVING CRISIS MEAN THAT WE NEED TO CONSIDER HOW WE BUILD AND OPERATE OUR HOMES

EHOME2 RUNNING COSTS (COMPARED WITH A 'TYPICAL OLDER HOME'):

- Using current energy costs, eHome2 would be £85 per month
- A Barratt new home sold today would be £105 per month
- A Victorian house would be £250 to £350 per month

The revolutionary Loxone control system automates the eHome2 to maximise the efficiency of all technologies installed without any input required from the homeowner – this is the 'brain' of the home.

The smart system controls everything from heating to TVs, lighting, audio and window blinds. Loxone can use excess PV generation to heat the hot water or charge the electric vehicle for free. It can detect that your teenager has left on the lights and it can turn off the heating when you are in the office.

With extreme temperatures becoming more common, the system can passively heat rooms using solar gain by lifting the blinds before bringing on the heat source or in a heatwave, it can also cool rooms automatically by tracking the trajectory of the sun to make the home comfortable and efficient. The system can be controlled automatically, through sensors or voice commands, through smart home devices, such as Google and Alexa.

The eHome2 has lots of smart technology that will make our customers more comfortable in the future. Bigger than this, is the fact that Energy House 2.0 is a critical piece of new research infrastructure.

The growing challenges of climate change and the cost of living crisis mean that we need to consider how we build and operate our homes. As the cost of gas and electricity continues to be unstable, this work is even more important to create a sustainable and economically viable future for this country and the world.

Oliver Novakovic is technical & innovation director at Barratt Developments

More info

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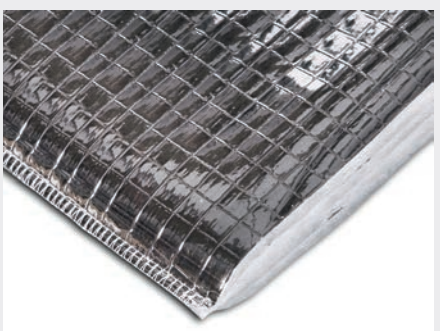

In an era of increasing environmental consciousness, the demand for energy-efficient homes is on the rise. As homeowners strive to reduce their carbon footprint and achieve cost savings, the importance of effective insulation cannot be overstated. YBS Insulation is at the forefront of innovation in this field, and its ThermaQuilt product is revolutionising the insulation market.

The introduction of the government's new ECO+ (Energy Company Obligation) Homes Scheme provides funding to help households become more thermally efficient through grant-funded insulation measures and home improvements. With this in mind, it's time to shed light on the incredible benefits of ThermaQuilt and its potential to transform homes across the nation.

EFFICIENCY AND AFFORDABILITY

ThermaQuilt, a flexible and easy-to-install multilayer insulation product, is the ideal solution for homeowners seeking to enhance the energy efficiency of their homes. Unlike other multilayer insulation products on the market, ThermaQuilt offers a more affordable alternative without compromising on quality. Its unique composition effectively deals with all forms of energy transfer, ensuring maximum performance at a lower cost.

One of the standout features of ThermaQuilt is its versatility. Suitable for roofs, walls and floors, this two-in-one insulation and vapour control membrane simplifies the insulation process for homeowners. By combining insulation and vapour control in a single product, ThermaQuilt not only saves time but also reduces the risk of condensation, providing a comfortable and healthy living environment.

DURABILITY AND SUSTAINABILITY

YBS Insulation takes pride in delivering products that stand the test of time, and ThermaQuilt is no exception. Unlike other insulation materials, ThermaQuilt is non-degradable, maintaining its thermal performance and product integrity over the years. This durability ensures homeowners can enjoy the benefits of insulation for an extended period, saving both energy and money in the long term. Moreover, ThermaQuilt has been independently tested and certified to the latest industry standards, including the prestigious BDA Kiwa certificate of Agrément, guaranteeing its quality and reliability.

THE DIY ADVANTAGE

For homeowners who prefer a hands-on approach to home improvement, ThermaQuilt is the perfect choice. Its user-friendly design and easy installation process make it accessible to DIY enthusiasts, empowering them to take charge of their home insulation projects. By choosing ThermaQuilt, homeowners can take pride in their own craftsmanship.

While ThermaQuilt is an excellent choice for roofs, walls, and floors, YBS Insulation also offers complementary products for conservatories and garages. These additions ensure that every part of the home benefits from enhanced insulation, creating a consistent and comfortable environment throughout. By integrating these products into the ECO+ Homes scheme, homeowners can achieve a comprehensive and cohesive insulation solution.

A GREENER FUTURE

As we embark on a journey towards a more sustainable future, YBS Insulation's ThermaQuilt product emerges as a game-changer in the insulation market. The new ECO+ Homes scheme presents an opportunity for homeowners to transform their properties, benefiting from cost savings, a more comfortable living environment and reduced environmental impact. With its affordability, versatility, durability, and DIY-friendly nature, ThermaQuilt stands as the ultimate choice for those seeking a comprehensive insulation solution. Embrace this innovative product to make your home more energy-efficient, comfortable and eco-friendly and together, we can build a brighter future, one installation at a time.

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SHOW PREVIEW

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SHAPING THE FUTURE OF BUILDINGS & DECARBONISATION

Installer SHOW – the UK's largest event for influential installers and specifiers of heat, water, air and energy technology – will discover one of the biggest challenges on the road to net zero, the tools and solutions for decarbonising buildings.

Taking place on 27 – 29 June at the NEC, Birmingham, the show will feature over 450 of the UK's leading net-zero innovators in heat water, air and energy, as well as hosting over ten different live content areas featuring inspiring and informative discussions on all the latest approaches to creating buildings that are ready for net zero.

The topic of energy efficiency – how to tackle fuel poverty for households and keep energy costs down for businesses and organisations – is at the forefront of everyone's mind as we grapple with record high energy prices, and will play a major part in the content at the show. There is also increased focus on water efficiency and indoor air quality, other important pieces in the net zero puzzle.

The two main elemental theatres – Decarbonising Buildings and the Housing Hub – will include sessions on everything from delivering low-energy retrofit in hard-to-treat homes, the importance of improving heat network efficiency, energy generation for local authorities, the Future Homes Standard and more.

Confirmed speakers so far include representatives from Carbon Trust, Midland Heart, DESNZ, Orbit Group, Cundall,

National Home Improvement Council, Heat Trust, Energy UK and Birmingham Energy Institute, to name just a few.

Several exciting keynote speakers and hosts have also been confirmed, with former footballer and TV pundit Gary Neville joining for a live Q&A – he is well known for his enthusiasm for energy-efficient buildings, plus his concerns about the number of people in fuel poverty and poor housing. Also joining the line-up is former housing minister Esther McVey, Greenpeace director Ed Gillespie, environmental journalist Roger Harrabin and The One Show presenter, and eco writer, Lucy Siegle. More names will be announced in the weeks leading up to the show.

As well as this, InstallerSHOW and elemental are thrilled to be working with National Home Improvement Council (NHIC) to deliver its Home Upgrades Conference as part of the 2023 event.

The NHIC sessions at the show will be an integral part of elemental's Housing Hub, with a series of expert-led panel discussions – throughout the three days – on the challenges and opportunities facing the housing sector as it strives to achieve low-carbon retrofit at scale. Topics to be covered will include energy efficiency, skills and getting homes ready for net zero, with full details to be released in the run up to the show.

Anna Scothern, chief executive of NHIC, said: "Upgrading our homes to become energy efficient has never been more important and we're excited to be hosting our conference with elemental at InstallerSHOW 2023.

The event brings together all the key parts of the retrofit supply chain and we know our delegates will appreciate the chance to network, share knowledge and see the latest low-carbon technologies."

Registration for this year's InstallerSHOW is open now. Register for your free visitor pass by scanning the QR code.

Article supplied by the InstallerSHOW

THE SHOW WILL FEATURE OVER 450 OF THE UK'S LEADING NET-ZERO INNOVATORS IN HEAT WATER, AIR AND ENERGY

Henco to make connections at Installer Show

Henco, a pioneer in producing high quality sustainable pipes, connections and fittings for the heating and cooling sector, is set to launch an innovative new fitting at this year's Installer Show, taking place at the NEC, Birmingham on 27-29th June 2023 on stand D182. The new cost effective and WRAS approved 'Pro-Fit' fitting, will be on display for the first time at the show enabling visitors to get hands on with the inventive new product. Pro-Fit requires no press tools, calibration or pipe insert meaning installers can simply cut the pipes and push them into the new Pro-Fit fitting, enabling a fast and easy install.

info@henco.be www.henco.be/en

Schlüter-Systems – Installer Show preview

At this year's Installer Show, **Schlüter-Systems** will be focusing on their impressive range of underfloor heating solutions which comprise both electric and hydronic (water-fed) systems. The new DITRA-HEAT-PS is a peel and stick version of the company's established electric system. The membrane enables simple, clean and quick installation of electric underfloor heating with a thin layer of pre-applied pressure sensitive adhesive on the underside. Samples will also be available to collect from the Schlüter-Systems stand at The Installer Show and will allow installers to see for themselves how well it sticks. In addition, Schlüter-Systems will demonstrate Schlüter®-BEKOTEC-THERM, the water-fed underfloor heating solution with low construction height.

www.schluter.co.uk

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A THERMAL BRIDGE TOO FAR?

Following changes to Part L in 2021, carbon emissions in new builds have to be significantly lowered. Simon Hill of Schöck says specifiers need to be aware how greatly thermal bridges can affect insulation values


Hendon Waterside

A localised area of the building envelope with significantly higher thermal conductivity than surrounding areas is known as a thermal bridge. Typically occurring where a material with high thermal conductivity penetrates the insulation layer. Cantilevered balconies are critical examples, resulting in higher heat transfer through the building assembly and colder surface temperatures on the warm side. The main consequences will be non-compliance with Building Regulations, higher energy consumption for heating, condensation and the formation of mould growth. The 2021 edition of Part L (which replaces L1A 2013) sets out the minimum thermal requirements for avoiding such issues.

Thermal bridging must now be included in fabric heat loss calculations and the Standard Assessment Procedure calculation (now updated to SAP 10.2) includes the term HTB (heat loss due to thermal bridging). A further

change involves an onsite audit for new dwellings. It is now required that before different construction junctions are concealed by subsequent work, an audit should be undertaken to confirm the designed details have been constructed. Photographs should be taken to verify that the products used are those shown in the original design. If there are substitutions, the revised specification should be reflected in the SAP calculation and report in the Building Regulations England Part L compliance report (BREL report). This information needs to be signed off by the SAP assessor.

General tightening of U-values – requiring greater insulation requirements and the construction of better performing thermal break details – are also included in the revised Part L. Additionally, it encourages HTB assessment to be carried out through thermal calculation for a more realistic evaluation of existing thermal junctions. The default Y-value has been increased to 0.20 W/m^2.K in the new update to discourage generic estimations – as this does not reveal the performance of thermal break junctions, including

failure to meet surface temperature performance factor (fRsi) figures.

THERMAL PERFORMANCE & STRUCTURAL INTEGRITY

Many designers are still not fully aware of just how significantly thermal bridges can affect insulation performance – and that the most effective way to minimise thermal bridging at cantilever balcony detailing is to incorporate a load-bearing structural thermal break. This is a highly efficient balcony connector that minimises the flow of thermal energy between the interior and exterior of a building, providing both structural integrity and thermally isolating the balcony.

A structural thermal break has a very specific purpose and for long-term effectiveness requires certain physical characteristics – optimum thermal insulation thickness for the application in question, load-bearing components and a combination of reinforced and stainless steel. Solutions are available for applications as diverse as concrete-to-concrete, concrete-to-steel, steel-to-steel, renovations, even Passivhaus.

CONDENSATION & MOULD GROWTH

One consequence of thermal bridging is that cold surfaces can form condensation, resulting in both visual deterioration and structural damage. However, an even bigger concern is mould growth. To identify areas where there is a risk of condensation and therefore mould growth, a 'surface temperature factor' (fRsi) should be used.

It allows surveys under any thermal conditions and compares the temperature drop across the building fabric with the total temperature drop between the inside and outside air. The recommended (fRsi) value for offices and retail premises is equal to or greater than 0.5; and to ensure higher standards for occupants in residential buildings, equal to or greater than 0.75.

RESPONSIBLE DESIGN FOR THE FUTURE

The UK has set in law a target to bring all its greenhouse gas emissions to net zero by 2050. As part of that journey, there is a commitment to introducing the Future Homes Standard in 2025 – and the higher performance targets of CO_2 emissions being reduced by 31% for dwellings and 27% for other buildings – is an interim step towards that standard. The thermal performance of the building envelope is therefore of increasing importance – and critical to this is the avoidance of thermal bridging.

THIRTEEN PRODUCT VARIANTS FOR HENDON

One ongoing current project with a demanding variety of cantilever balconies – and therefore thermal bridging challenges – is Hendon Waterside in North West London. Situated alongside the Brent Reservoir, the scheme involves a six-phase regeneration of a 1960s housing estate. The masterplan will deliver around 2100 new homes being constructed in twenty-three blocks. The construction of the many balconies involved vary in their design demands and to ensure the risk of thermal bridging is minimised, Schöck has supplied over thirteen different structural thermal break variants.

Simon Hill is product and marketing manager at Schöck

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Leading the way during Energy Cost Crisis

Sealmaster and Intumescent Seals of Cambridge have been an industry leader in sealing solutions for doors, windows, glazing and a variety of applications since 1960. The family run business manufactures a wide variety of products designed to keep your heating inside and the weather out. Whether you need acoustic, draught, weather, glazing, intumescent, fire or smoke seals – Sealmaster is the place to go. Sales & marketing Director, Natasha Malcolm-Brown said: "We are so proud to make everything in Britain, and our team will be glad to help with all of your questions to find the right solution for you. In this challenging time of rising costs and energy hikes, our products can help you keep costs down."

01223 832851 www.sealmaster.co.uk

On hand to serve the housebuilder

Haddonstone has built strong relationship with the UK's housebuilders. Toby Marlow is the Director leading Haddonstone's Building and Construction team. He is engaged on a day-to-day basis with ensuring client architectural projects are run and completed to achieve best possible outcomes. Callum Jensen fills the complementary role of Export and Business Development Manager, overseeing all the company's sales and other activities outside the UK. Haddonstone has always invested to ensure its diverse range of standard products, as well as its continuous output of bespoke items, are manufactured to exceed industry standards, whilst also respecting the environment.

www.haddonstone.com/en-gb/building-and-construction

Airtightness simplified for development

Wraptite® the only self-adhering vapour permeable air barrier certified by the BBA is at the heart of an innovative mixed-use town centre development in south Dublin. The Cherrywood project is a Strategic Development Zone that will create a new town including over 7,700 new homes, six schools, three major parks, and retail and leisure facilities. Partition and ceiling specialist contractor Platt Reilly installed the Wraptite System, from the **A. Proctor Group**, as an external air barrier and alternative to a traditional standard breather membrane. The use of conventional membranes require mechanical fixing and add to the overall installation time. In this case, the Wraptite self-adhesive membrane was applied externally, quickly and easily to the external steel frame in continuous pieces. The self-adhered nature of Wraptite and its high level of water resistance and simplified detailing made it an ideal choice. Wraptite is designed as an effective vapour permeable air barrier to maximise the energy efficiency of buildings, combining the critical properties of vapour permeability and airtightness in one self-adhering membrane. The high vapour permeability of Wraptite means that the substrate beneath will dry quickly, and moisture vapour can escape, reducing the likelihood of mould, mildew, condensation, timber distortion and metal corrosion.

01250 872261 www.proctorgroup.com

Offering free upgrade on sectional garage doors

Garador is offering a free upgrade to the police driven security initiative, Secured By Design, on its premium sectional garage doors.

Garador is offering this highly regarded SBD accreditation on all its sectional garage doors which meet the eligibility requirements. These include the 42 mm Premium insulated sectional garage door, without windows, fitted behind the opening and automated by a GaraMatic operator. The door must also be fitted to the Secured by Design standard.

01935 443722 www.garador.co.uk

Introducing MSP Capital

Property finance specialist **MSP Capital** has agreed a £100m development funding facility with London-based asset manager and private equity firm Pollen Street Capital. The deal is the latest of several strategic moves MSP Capital has made to ready itself for more growth – including the expansion of several directors' roles and the introduction of new associate directors. Michael Katramados, Partner at Pollen Street, said: "MSP Capital has a fantastic track record, with over 40 years' experience in property finance and deep knowledge of their local markets, representing a great fit for our senior secured credit strategy. MSP Capital is a principal bridging and development lender based in Poole, Dorset, offering funding solutions to property professionals of up to £20 million.

01202 743400 www.mspcapital.co.uk

USE THE RIGHT CHANNELS TO LIGHTEN THE LOAD

When it comes to specifying drainage channels, there are vital factors that enable a system to meet requirements of a housing development project. Rob Butcher of ACO Water Management looks at the standards that must be upheld from the earliest stages of the project.

Many areas of the building design process have guidelines in place to help housebuilders and developers avoid confusion. There is, however, still some misunderstanding around drainage. Coming in January 2024, Schedule 3 of the Flood Act will see changes to the legal requirements around drainage systems across England, making sustainability mandatory across new schemes. Because of this, it is vital that all involved in property building and development understand drainage channel specification, though the reality is that many are unaware of some crucial points.

In fact, the results of an ACO survey of 100 highways and infrastructure engineers strongly pointed towards a lack of clarity around the key factors that need to be taken into account when designing drainage schemes. Only 1% of survey respondents said that they do not face barriers in SuDS schemes, and fewer than half claim to fully understand load class specification requirements. So, what is the need-to-know on load class specification?

LOAD CLASS

An often-overlooked aspect is drainage channel load classes, defined by BS EN1433. In cases where the wrong load class is specified, the risk of flooding is increased. This is because the channel may sustain significant damage if it is unable to bear the load from traffic passing over it. When drainage channels fail, costly repairs are incurred as well as devastating losses to businesses and homes. In some cases, such as roads where people are travelling at high speeds, the collapse of a drainage channel can result in fatal accidents.

It is the anticipated use that determines load class, ranging from A 15 to F 900. This covers pedestrian use (A 15) through to heavy industrial and military installations (F 900).

Sometimes it is wrongly assumed that residential developments only need A 15, however, if vehicles are going to be driven over drainage channels, A 15 will not be sufficient and will break prematurely. To be certain that the correct load class is specified, it is of course always best to consult an expert.

In areas with fast-moving traffic, it may be better to use a monolithic drainage channel. This means the channel and grating comes as a single, one-piece design and there is less risk of the grating coming loose and posing a danger to vehicles and pedestrians.

One point to keep in mind is that the load class is based on the combination of the grating and channel. For example, a channel with a B 125 rating, when used with an A 15 rated grating, automatically becomes an A 15 channel and should only be used in areas where pedestrians and cyclists are likely to be going over it.

The load class specification should also take into account whether vehicles will likely be turning as they pass over the drainage structure. The turning motion can increase the pressure applied and therefore a different load class may be required to ensure safety. It is because of nuances like this that drainage experts should be involved with a project right from the design stage.

SOMETIMES IT IS WRONGLY ASSUMED THAT RESIDENTIAL DEVELOPMENTS ONLY NEED AN A 15 LOAD CLASS, HOWEVER, IF VEHICLES ARE GOING TO BE DRIVEN OVER DRAINAGE CHANNELS, IT WILL NOT BE SUFFICIENT AND WILL BREAK PREMATURELY

IN HEAVY RAINFALL EVENTS, AND WHEN APPROPRIATE CAPACITY HAS NOT BEEN PROPERLY CONSIDERED, DRAINAGE SYSTEMS CAN OVERFLOW AND LEAD TO A DEVELOPMENT SITE FLOODING

CHANNEL CAPACITY

Our survey also revealed that the element deemed least important was channel capacity (30%). This may be surprising given its significance in managing water runoff and mitigating flood risks. A reason for this is perhaps that full channel integration embedded within a drainage network model is frequently overlooked due to being a time-consuming process to factor into design. However, ignoring this can be counterproductive. In the long-run, channels that have the optimum hydraulic capacity will prove to be a more cost-effective approach.

In heavy rainfall events, and when appropriate capacity has not been properly considered, drainage systems can overflow and lead to site flooding. Repairs can subsequently be very expensive due to the potential retrofitting required. Going forward, developers need to make the most of design consultation during these decisions.

Thankfully there have been several advances in digital design tools such as MicroDrainage or Causeway Flow. These can be used in tandem with Channel Design software to incorporate the capacity provided from linear drainage channels within a whole site drainage model.

EXPERT CONSULTATION

Although steps are being taken to manage surface water effectively, the survey results show that there remain areas that require further attention. Drainage channels should be a foremost consideration with sustainability, performance and maintenance collectively held up as key priorities. To meet the changing demands, the industry as a whole needs to become more collaborative.

At the same time, it is crucial the challenges in achieving these ambitions are addressed, especially with regard to knowledge gaps. One of the first and most important steps to take is to understand the different products available and how to design these effectively. By consulting with local authorities and ecologists as well as drainage manufacturers, property developers can be equipped with effective drainage systems that protect people and buildings, while enhancing biodiversity for decades to come.

Rob Butcher is design services manager at ACO Water Management

Reducing water waste, without active customer participation

Leakage and domestic consumption are the two primary strands of water conservation in the UK.

REDUCE LEAKS, DESIGN OUT JOINTS ON PIPES AND PREPARE FOR SMARTER METERS

It has been calculated that 25% of water leakage on the customer side, i.e. service pipe leakage. Whilst this can be due to old and corroded lead supply, the majority of leaks originate from joints in the supply pipe.

Adopting surface mounted meter housings such as Groundbreaker, follow The House Building Federation (HBF) and Water UK issued best practice guidelines. It allows for no joint installation of water supply pipes and future proofs water supplies.

Steve Leigh, Managing Director Groundbreaker, and developer of the wall mounted boundary box has over 40 years' experience in the Water Industry. 'We've been putting pipes in holes in the ground to protect them from frost for decades', he explained. 'Although it works, today's new materials allow for a much better solution. Keeping pipes on the surface reduces the risk of leaks developing and allows for easy repair and maintenance. It's just a must better method of working.'

Steve continued, 'The advent of new smart metering options has also highlighted the problems of burying meters in a hole in the ground. Groundbreaker allows for a stronger communications signal strength relative to underground meter installation. Such systems have been proven to be able to be read from over 2 miles away from a single pick-up point and worldwide if linked to the internet.'

REPLACING SUPPLY PIPES, THE QUICK AND EASY SOLUTION

Surface mounting and joint free supply does not need to be restricted to new build. Traditionally, any supply replacement program requires major excavations outside a property and causes huge disruption within. Resulting in mess and disturbance to householders over several days. This disruption has often been the cause of users' reluctance to have the work undertaken, hence allowing leaks to persist.

Using insulated supply pipes and surface mounted boundary boxes, a new water service can be routed up the external face of the building and connected to the internal plumbing above ground level, whether this is the ground floor or upper storey. INSUduct® only requires one simple core drilled hole through the wall, at an appropriate point to connect with the internal plumbing. This enables most water supply replacements to be completed within a couple of hours, without the traditional mess and disruption to the householders or occupiers.

Just as in a new supply, a no joint method of installation is used.

REDUCE USAGE, A FIT AND FORGET SOLUTION

Water conservation is the key to reducing energy bills. Heating water accounts for nearly 1/5th of energy use in UK homes.

Approximately 40% of domestic water usage is from bathroom and kitchen taps and showers. 'Eco' or water saving shower heads are designed to restrict the water flow to a single outlet are highly effective but retrofits like these come at a price, especially larger properties with multiple bathrooms.

The alternative is whole site flow reduction. Fitting a device such as Groundbreaker's NRv2 LoFlo®, at the meter regulates the level of flow entering customer premises – regardless of network pressure. As the flow of water into the premises is limited, then the amount used in 'time controlled' activities is also limited – but without providing a degradation of service.

01379 741993 www.groundbreaker.co.uk

EnviroVent expands its ventilation range

EnviroVent has launched a new MVHR (Mechanical Ventilation Heat Recovery) range, which is Passivhaus certified. The Sabik 350 & 500 series has been designed to provide balanced and sustainable ventilation for new and refurbished homes, incorporating modular features, with user-friendly controllability. The Sabik 350 and 500 systems have significant airflow capacity of up to 414 m^3hr and 601 m^3hr respectively, and are suitable for handing airflow directions and drain on site to offer flexibility when it comes to ducting configurations. These modular units incorporate a range of features as standard, including integrated relative humidity sensor, touchscreen controller and frost protection.

0845 27 27 810 www.envirovent.com

Vent-Axia offers award-winning MEV

Vent-Axia has extended its award-winning Lo-Carbon Multivent MEV range with the addition of the MVDC-MSH Uniflex MEV unit. Designed specifically for use with semi-rigid ductwork the MVDC-MSH Uniflex MEV offers further flexibility and ease of install for housebuilders, especially where space is restricted. The unit features all the benefits of the existing Multivent MEV range with direct spigot connections to Vent-Axia's easy-to-install Uniflexplus+ semi-rigid ducting, which is a simple "plug-and-play" alternative to the market standard of rigid ducting. The MVDC-MSH Uniflex, continues to offer the market-leading performance and benefits of the existing Multivent, but the compatibility with Uniflexplus+ semi-ridgid ducting allows a range of extra benefits for housebuilders.

0844 856 0590 www.vent-axia.com

Better efficiency solutions with multifoil insulation

On 30th March, the government announced a new version of the Great British Insulation Scheme. Starting this spring, the Scheme will run until March 2026, helping to improve the thermal efficiency of more British homes. It states that installing loft insulation and cavity wall insulation could save households £300 to £400 per year on energy bills. These measures clearly show the value of insulation in terms of efficiency over time, and many homes will not meet requirements for government assistance. Homeowners have already become more savvy about efficiency measures, but we expect this to increase with the continuing hikes in energy prices. Multifoil insulation will save time, space and money, and should definitely be considered as part of any plan to insulate a new or existing project. Made up of insulating wadding sandwiched between thin reflective film layers, multifoil insulation is highly versatile in many ways including its application, its use alongside other types of insulation, the U-values it can achieve and its installation. **SuperFOIL** products are suitable for use in the roof, walls and floors, are compatible with other more traditional types of insulation, and can be used for both new build or retrofit projects to increase their efficiency, as well as by DIY consumers for smaller scale projects.

01636 639 900 www.superfoil.co.uk

Hidden gems – New easy-fit VitrA frames

Designed to make installing wall-hung and back-to-wall WCs simple, VitrA has introduced its new range of versatile frames and concealed cisterns, including models for floor fixing, floor and wall fixing, reduced height and back-to-wall installations, with 3/6 litre and 2.5/4 litre cisterns.

The new frames have clever features to make installation easy, quick, and fault-free; these include spring-loaded feet to bear the weight and an adjustable clamp to secure the waste pipe in place - both allowing a one-person installation. Water and electrical connections to allow the installation of shower toilets and electrical flush plates, are included. The conduits can be accessed through the flush plate opening, meaning they can be connected in the future retrospectively without causing damage to the wall.

The new frames include a host of technical USPs. Each comes with a wall connection fixing kit, including fully adjustable fixation brackets and front adjustment mounting bolts. There are three water inlet options – left, top and back – for extra flexibility. Spring-loaded feet for perfect positioning make it easy for one-person installation, as well as the adjustable clamp which holds the waste pipe in position, with 50mm of adjustment. Clean water and wastewater pipes are also fixed together with load-bearing clamps.

The thickness of the frames is 30mm x 40mm for perfect rigidity, and the V stopper and flush plate area have reference points that can leave an imprint on the plasterboard to show where to cut the holes. The frames and cisterns are all subject to rigorous reliability and performance testing, and the 3/6 litre cistern option has WRAS approval.

Margaret Talbot, VitrA Marketing Manager, explains, "Our new concealed cisterns and frames have been produced to be especially trouble-free and super easy to install in various settings – exactly what installers have been asking for. Ease of installation, quiet in operation and a fast first-fix option."

VitrA offers a range of mechanical and electronic flush plates for use with the frames. For helpful online advice on installation, VitrA has collaborated with Plumberparts on a series of how-to videos.

01235 750990 www.vitra.co.uk

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Showhome proves a runway success

When **Designer Contracts** was asked to develop two very different show home interiors for a new development within striking distance of Edinburgh airport, the team passed the challenge with flying colours. The Barratt Homes development involved creating two unique show house schemes marketed toward first and second time 'move up' buyers, for its four bedroomed show homes – The Crombie and The Campbell. Said Abbie Lockett, design sales manager for Designer Contracts: "The brief was both challenging but very exciting and gave us an opportunity to incorporate some local touches and develop a sustainability story. We did some real out-of-the-box thinking to come up with two very different stories for house types with a similar footprint."

01246 854577 www.DesignerContracts.com

Reginox unveils latest addition to sink range

Reginox UK – sinks, taps and accessories manufacturer, has unveiled an addition to its hugely successful sink range – the New York. The New York Jet Black has been crafted from premium quality stainless steel with a matt inox finish. The stunning sleek and modern sink, available in both 40x40, 50x40, has no welded or folded seams, and has a black strainer. The New York Jet Black is a hardwearing stainless steel sink with a contemporary jet black finish. The New York can be fitted in three different ways – integrated, semi-integrated or undermounted – making it an incredibly versatile product and a stunning additional for any modern monochrome kitchen.

01260 280033 www.reginox.co.uk

Housebuilder & Developer website

The Housebuilder & Developer (HBD) website is an online provider of past and present products and news items for the housebuilder and developer. hbdonline.co.uk is a one-stop source for all the latest press releases providing any visitor with access to information about products and services that they may require. From the website, you can find links to digital issues that have live links to advertisers' sites, as well as daily email alerts to keep you as informed as possible.

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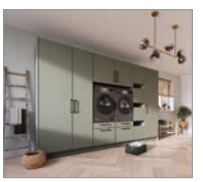


Keller Kitchens has launched an extensive all new range of utility room furniture in numerous finishes and configurations. Designed for clever but stylish solutions, this range can also be used within storage and laundry rooms too. With the range of tall, base and wall units, along with complementary interior fittings and handles, the homeowner can create a truly personalised utility room, where ease of use and great design go hand in hand. The units can be combined with Keller's existing kitchen ranges for an overall, streamlined scheme. Keller is well known for offering the widest range of colours (2,050 NCS) and finishes in the kitchen furniture market. Pictured is Keller's Bolton range in Sage Green.

www.kellerkitchens.com

BATHROOM TECHNOLOGY: A SMART CHOICE

Today's consumers have lived through some of the biggest technological changes in the home since the industrial revolution. Sophie Weston of Geberit looks at the untapped potential in bathroom spaces that housebuilders can offer.

The 'hotelisation' of the home has had an enormous impact on the residential property market in recent times. The pandemic has, of course, played its part, with homes transformed into multi-functional spaces that are part gym, office and sanctuary. Indeed, we looked at the impact of this in our new report 'Why Bathroom Technology is a Smart Choice for Housebuilders' and what this means for the expectations of today's homebuyers. Grant Bates, realtor at Hamptons International and contributor to our report, sums it up neatly thus: "Leaving home is a choice, not a necessity for occupants."

The end result is a buyer whose main consideration is prioritising day-to-day enjoyment of life and one willing to pay a 'convenience premium'. As Grant points out, "…the practicality and convenience of the home are as important as the interior design."

SMART EXPECTATIONS

Developers are, naturally, responding to these growing expectations and ensuring that homes are "… using the latest technology to accommodate a new world with a focus on self care, hygiene and flexible space."

There is no doubt that some spaces do lend themselves to smart innovations more obviously than others. Think Bluetooth enabled white goods, smart fridges and touchless taps in the kitchen, for instance. Likewise, as Grant points out, many home office spaces are increasingly "akin to a professional YouTuber or influencers. Lighting, backdrops and high performance web cams are all a necessary part of any work from home set up as remote meetings replace the commute to the board room."

In fact, when we commissioned a YouGov poll of 1,200 UK homeowners to seek their views on technology and smart devices in the home, the most popular spaces to see such innovations featured were the living room (70%), followed

IF A SPA IS THE BRIEF FROM YOUR BUYERS, COULD TECHNOLOGY HOLD THE KEY TO UNLOCKING THIS?

by the kitchen (34%) and home office (29%). Trailing behind at just 2% was the bathroom.

It's clear, then, that some areas of the home are advancing more rapidly than others when it comes to technology, and the bathroom has evolved at a relatively slow pace. Perhaps this reflects the fact that housebuilders do not typically offer the same range of specification options for the bathroom as they might do for, say, the kitchen.

Yet, we must not underestimate the significance of the bathroom in our lives. For instance, research by Geberit in 2018 found that nearly three quarters of us struggle to find time to relax and, in the quest for some respite, the bathroom was the most popular place of escape. Homeowners are increasingly looking for a sanctuary in their home. If a spa is the brief from your buyers, could technology hold the key to unlocking this? And are your buyers willing to pay more?

CONVENIENT INVESTMENT

We put this question to our respondents. More than a third (35%) told us that they would be willing to pay more for a new home with technology and four in 10 of those polled believed that there could be more technology in new homes.

There is clearly, therefore, a desire to see more innovations in new builds and a willingness to pay the so-called 'convenience premium'.

But let's return for a moment to the bathroom, where only 2% of homeowners rely on smart devices or technology. The sanctuary of the home. Are housebuilders missing a vital opportunity here? "Bathrooms are critical to selling a new home," Grant points out. "For housebuilders there is a clear opportunity to improved saleability through bathroom design, specification and technological integration."

SOLUTIONS

The good news for housebuilders is that bathroom technologies are generally fuss free solutions. When we asked our respondents what bathroom technology they would expect to find in a new build, odour extraction (39%) topped the list, followed by orientation lighting (34%). More than one in four (28%) expect to see touch-free flush plates and one in five (22%) believe that shower toilets should be a common feature.

Of course, such innovations are nothing new for manufacturers. Shower toilet incorporates a number of smart features from odour extraction and built-in orientation lighting to a warm air dryer and user recognition. Infra-red taps, meanwhile remove touchpoints in the space for a premium hygienic finish.

Lighting, too, can provide a simple way for housebuilders to add perceived value across projects. Mirror cabinets can have integrated USB ports for charging devices and LED bathroom mirrors can create discreet (and flattering!) lighting. Indeed we can expect to see manufacturers continue to innovate with future designs likely to display the news and weather or stream a favourite television show.

It's worth remembering, however, that technology in the bathroom doesn't always have to mean connectivity and automation. With new builds getting smaller, housebuilders must meet the challenge of creating attractive and practical bathrooms. Wall-hung toilets and sanitaryware create the illusion of space by lifting products from the floor and can open up greater design flexibility across projects.

HOUSEBUILDERS

So what are housebuilders' attitudes to this? We spoke to a number of individuals from across the sector to better understand their attitudes to technology. The results further highlight the appetite for continued growth in home technology solutions.

All our respondents agreed that UK new build homes could feature more technology and the vast majority intend to enhance their specification offer in the coming years. Drivers for doing so included differentiation from competitors, brand reputation and meeting buyer demand to help expedite sales. Most of the respondents do currently feature bathroom technologies and plan to install additional innovations in future projects, recognising the importance of technology in attracting buyers and adding value.

CONCLUSION

"Developers should be focusing on the wow factors, the principal suites, entertaining spaces and bathrooms," advises Grant Bates of Hamptons. "If any buyer is choosing between two similar schemes, they will opt for the product that makes their everyday life better and smart technology does just that."

There is clearly a growing expectation from homeowners for more smart innovations in the home as personalisation and technology become more important to buyers. Perhaps the bathroom can provide the answer. It's time for housebuilders to widen their scope to take advantage of buyer demand.

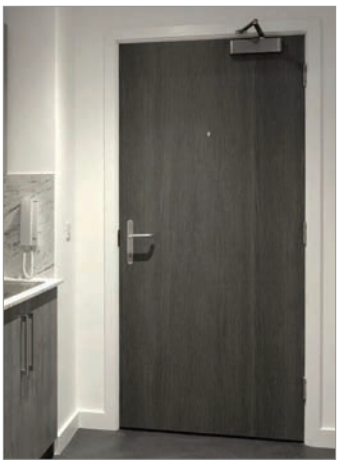
To download the full report on smart bathroom technology, visit: www.geberit.co.uk/technology

Sophie Weston is marketing manager at Geberit

Luceco at Meadow Mill

Luceco has recently supplied luminaires to a residential renovation in Stockport. Meadow Mill is a stunning 19th century industrial building that has been transformed into 213 luxury apartments over seven floors. Andy Whalley, Project Manager at Luceco said: "we worked with Hurstwood Environmental Consulting, based in Bolton, regarding the electrical services within this Grade II listed building. The mill's original features have been sensitively retained with the original brickwork along with the steel beams and large windows, therefore the lighting design had to be carefully considered to compliment the surrounding environment. We lit the communal and circulation areas, plant rooms and car park facilities for around 175 vehicles. We also supplied luminaires for elements of the living spaces." J.E.M Electrical (Widnes) installed the lighting along with other electrical services. LED luminaires installed included Celeste and Climate both with dimmable microwave sensors, Atlas bulkheads and Tempus emergency downlighters. Celeste is an attractive circular LED luminaire featuring a 'corona' backlight effect with a direct / indirect light distribution. The fitting is ideal for many commercial and residential lighting applications offering up to 100,000 hours working life and available as standard output, digital dimming and with microwave sensor as used at Meadow Mill.

01952 238 100 luceco.com/uk



JB Kind launches innovative new PAS 24 compliant door leaf

Door distributor **JB Kind** is launching its new PAS 24 door leaf to doorset manufacturers, and its PAS 24 fire resistant security doorsets service to developers, architects and specifiers, after investing in an innovative new door core which has met the stringent set of standards required to be awarded the PAS 24 accreditation. Forming the basis of the company's new PAS 24 fire resistant, security doorsets, the new PAS 24 door leaf enables manufacturers to use it within their current offering, or for residential developers to purchase fully assembled PAS 24 compliant entrance doorsets. Doorset fabricators are able to integrate JB Kind's innovative new door leaf into their current product ranges whereas developers are able to specify PAS 24 compliant doorsets, in both standard and bespoke sizes, and in a wide range of alternative finishes. Architects and specifiers now have the option to request the new JB Kind fire resistant PAS 24 doorsets, as well as its matching internal doorset counterparts. Suitable for apartment and flat entrances, and compatible with a range of door designs and styles, developers, architects and specifiers can choose from a selection of veneered, painted and primed finishes, available as plain flush or with a number of grooved design options, all with the knowledge that whichever they choose, the security doorsets have met the stringent PAS 24 criteria.

01283 554 197 www.jbkind.com

Introducing the brand new Rio flush fit door range.

The latest addition to REHAU's Rio Flush fit range comes the introduction of the Rio flush fit door system. This new door innovatively uses Rehau's deep bottom rail section, which was developed to complement the original window system, as a flush door sash. Available as a single open-out door and French doors. Both designed to provide a consistent aesthetic to homeowners wanting matching window and doors.

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This brand new door range with its appealing bespoke look, also provides the durability, outstanding energy efficiency and security benefits which is already associated with the Rio flush fit window frames. Get in touch today to find out more.

GRAB THE PRODUCTIVITY BENEFITS OF LIGHTWEIGHT TIMBER SYSTEMS

Andrew Orriss of the Structural Timber Association (STA) urges housebuilders to continue to invest in timber frames, exploring how the method can meet sustainability demands as well as those of efficiency and productivity.

The UK housebuilding industry has faced numerous challenges in recent years – ranging from Brexit to a global pandemic – not to mention the economic challenges we are all facing today. Regardless, the structural timber industry has continued to grow and with the advantages timber brings to the construction table – from its environmental credentials and design flexibility to reducing site time, vehicle movements, and relieving skill shortages – the increasing appetite for timber frame isn't letting up.

With productivity a 2023 watchword, the use of timber frames and Structural Insulated Panels (SIPs) construction is a way to move the industry forward.

LIGHTWEIGHT TIMBER SYSTEMS – THE DIFFERENCES & PRODUCTIVITY BENEFITS

Timber frame and SIPs are lightweight timber systems that are favoured for low and medium-rise buildings. The popularity of these systems in Scandinavia and even as close as Scotland, where 85% of homes are timber-framed, showcases the full adoption of timber as a renewable construction material. In comparison, timber comprises only around 10% of the market share in England. However, the UK market share for timber is slowly increasing, which is a positive development.

Offsite timber frame construction offers faster build times and higher sustainability standards compared with traditional construction methods. There are two types of timber frame systems – open and closed panel systems. The main difference between these systems lies in the amount of factory value added to the closed panel timber frame.

Open panel systems are panels that are structurally engineered to serve as the load-bearing inner leaf of the external wall. They consist of studs, rails, and sheathing on one face, with a breather membrane. On the other hand, closed panel systems are pre-insulated, and some come with fitted windows and internal service zone battens for easy installation and construction.

The other popular lightweight timber system in the market is SIPs, which can be used for walls and roofs. This advanced method of construction uses composite panel techniques whereby an insulating foam core is sandwiched between two structural facings, normally Oriented Strand Board (OSB).

SIPs, like timber frame systems, are produced in factory settings and can fit any building design. They provide a lightweight build system that is extremely robust, energy-efficient, and quick to erect. This offers a greater opportunity to meet emissions targets while also achieving quick construction and completion.

DESIGNING FOR NET ZERO BRINGS ESG & COMMERCIAL BENEFITS

The recognition of the versatility and sustainability benefits of timber is now widespread. Timber offers the

WITH PRODUCTIVITY INCREASINGLY A WATCHWORD ACROSS THE SECTOR, THE USE OF TIMBER FRAMES AND STRUCTURAL INSULATED PANELS (SIPS) CONSTRUCTION IS A WAY TO MOVE THE INDUSTRY FORWARD

construction industry an opportunity to significantly reduce its carbon footprint through zero carbon design and low embodied carbon. The demand for environmental, social, and governance (ESG) principles in construction projects driven by clients is on the rise, as illustrated by market research conducted by PwC.

Furthermore, timber offers specifiers a genuinely renewable alternative to traditional construction materials. Typically, for every tree cut down in a well-managed and maintained farmed forest, another five are planted.

In terms of energy consumption of buildings in use too, energy-saving technologies make it easier to super insulate a timber frame or SIPs home, which will significantly reduce the energy required to heat the home. Achieving the same fabric efficiency in a traditional masonry build would be much harder, taking more space as well as costing more time and money. This is a positive development for both the environment and the homeowners' budgets, making a home cheaper to heat and cutting its emissions over its lifetime.

Apart from substantially reducing carbon emissions, the use of timber in construction offers other benefits. When

considering Pre-Manufactured Value (PMV), a timber frame building can represent between 30% and 55% of the building fabricated offsite. So, for those housebuilders looking to develop their social housing share as a result of the Government's £11.5bn Affordable Homes Programme 2021-26 (AHP), under which 25% of funded projects must be delivered using MMC, there's real commercial potential.

MAINTAINING PROGRESS & COMPLIANCE

As the economic downturn begins to impact everyone across the construction industry, we certainly encourage construction companies to not revert back to traditional methods of construction, and instead consider the whole life costs of the building.

We need to continue the progress made with the use of timber in construction, but it must not happen at the expense of standards and build quality. The Structural Timber Association's Quality Assurance Scheme – STA Assure, offers firm reassurances that STA members are supplying products and systems to an audited quality scheme, meeting or even exceeding current legislation and regulatory requirements. The scheme ensures that members keep on top of the constantly increasing industry expectations on quality and competency, and as legislation continues to evolve, the technical support offered by the STA is invaluable. The importance of these schemes cannot be overstated and offers all stakeholders confidence in the quality of the homes built.

In what is a challenging 2023, and looking forward, it will be essential for industry stakeholders to collaborate to achieve growth. By prioritising compliance, early engagement and collaborative working, there is plenty of cause for optimism for the year ahead.

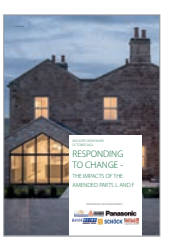
Andrew Orriss is the chief operating officer of the Structural Timber Association (STA)

SterlingOSB Zero strikes the right pitch

Essex Pitch UK Ltd, which undertakes the most challenging joinery and timber frame constructions, has been making extensive use of **West Fraser's** SterlingOSB Zero boards including for a development of stick-built homes on a site in south Essex. A director of the company commented: "We choose to use SterlingOSB Zero because it is net carbon negative and more cost-effective than the alternatives. It is also a heavier, stronger material than other OSB boards. The boards are versatile as well as being available in larger sizes when we require them."

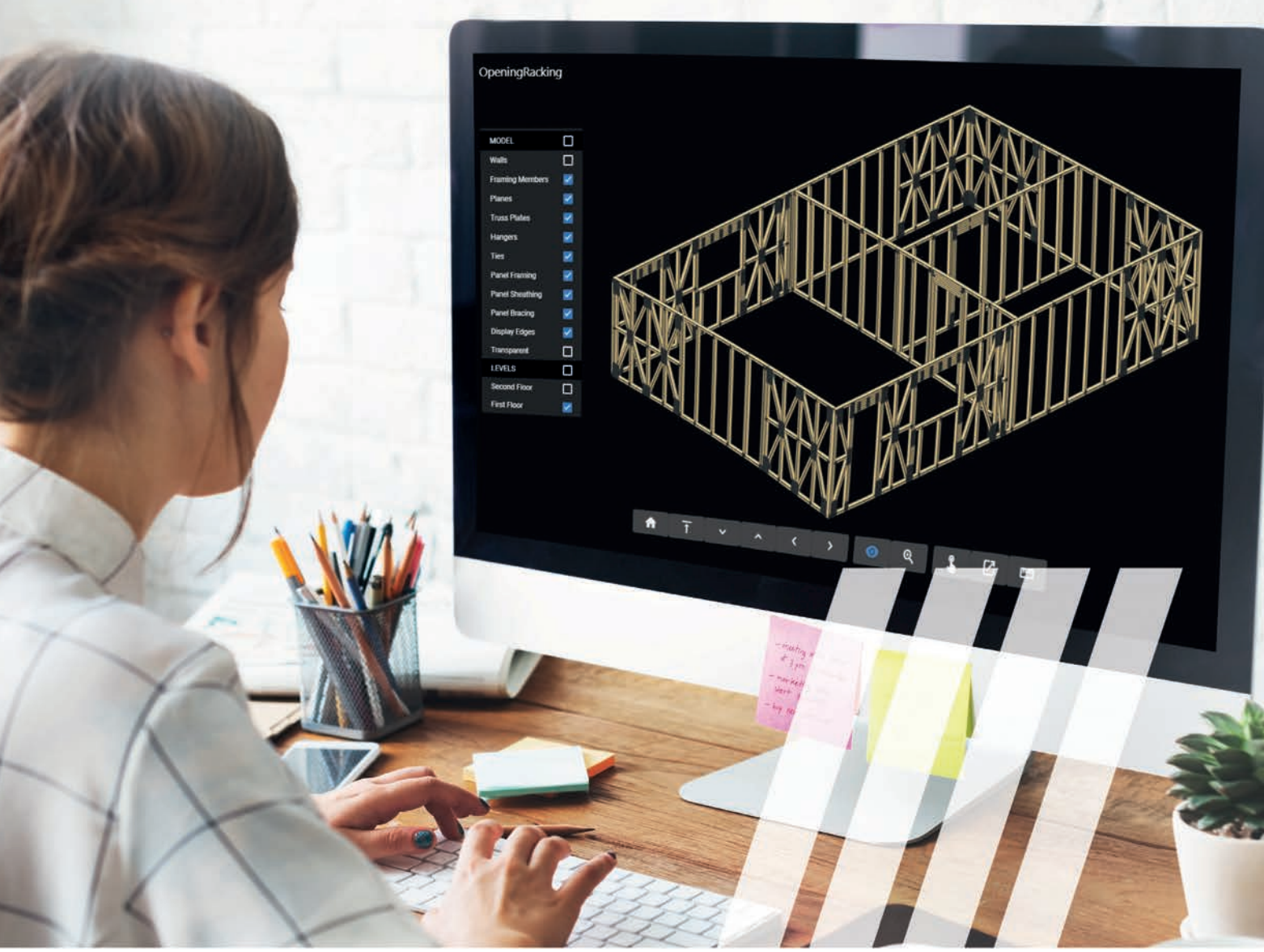
uk.westfraser.com/housebuilders

The Impacts of the Amended Parts L & F



As of 15th June 2022, new homes starting construction must produce at least 31% less carbon than under the previous regulations, legislated under changes to Part L and F of the Building Regulations. Intended to perform as a stepping stone towards the wider Future Homes Standard, the new Building Regulations will eventually evolve to a target of 75% less carbon by 2025, and net zero by 2050. In this research, **Housebuilder & Developer** intends to find out how their readers are adapting to these changes, how well these and future changes are understood, and the impacts they will have on their businesses. Request your free copy of the report today.

https://bit.ly/3z4sLmD



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NEW Gang-Nail iPanel timber frame software

With the introduction of Gang-Nail's new iPanel software, timber frame panel designers can now take their drafting to the next level. iPanel provides new tools to ensure maximum efficiency and accuracy for timber frame panel designers. iPanel is a robust panel design tool that manages all the information needed to draft, estimate, manufacture and install wall panels.

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