In partnership with:

octopus energy

MAKE uk MODULAR

GREEN SHOOTS:
MODULAR AND THE FUTURE OF UK HOUSE BUILDING

makeuk.org

ABOUT MAKE UK MODULAR

Make UK Modular is the voice of modular housing – the most advanced form of construction in the United Kingdom. Founded in 2021, Make UK Modular champions the modular sector and seeks to create a policy environment that allows modular to reach its full potential in the UK.

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EXECUTIVE SUMMARY

Greener new homes are not just for the wealthy few or the environmentally conscious among us; they are the future of housing and are for everyone. Greener homes are better for the planet and better for the pocket, delivering savings at both ends of the housing chain.

The first saving comes at the construction end of the chain, reducing the carbon footprint in the construction of homes. The second comes at the use-end, as families move in and see the financial as well as the environmental saving of living in a greener home.

The greater the number of greener homes that we are able to build, the smaller the carbon footprint in the building phase and the lower the cost of living.

However good we think greener homes are, it is important to understand where the public is on this issue. That is why we surveyed 2,300 adults across the UK,[1] asking them about their views on greener, more sustainable, homes. The results show:

6 IN 10	Six in ten renters and buyers say that the environmental performance of a new home is important to them
5 IN 10	Five in ten people would pay more upfront for a greener home[2]
NEARLY 8 IN 10	Nearly eight in ten people would pay more upfront for a home with lower energy bills
UNDER 30s	The next generation (under 30s) sees greener homes being of the greatest importance and are more willing to pay more for them
£3,445	Not only this, but research by Rightmove has shown people would invest on average £3,445 to make their home more energy efficient.[3]

It is clear that the demand is there: the public wants greener homes, across all demographics, regions, and ages. This is only set to increase as the next generation looks to buy or rent its homes and the demand for greener homes goes up.

MODULAR CAN BUILD THE GREENER HOMES

Modular manufacturers can build greener homes at a competitive price point. Many are building homes in the top energy performance band, saving the average family up to £700 a year on energy bills, compared to the those living in the average new home being built in the UK today.[4] Some are going further, with Octopus Energy providing a Zero Bills guarantee on highly energy-efficient homes, kitted out with low-carbon tech, for at least 5 years.

Modular also cuts the energy used in the build process, which (combined with emissions saved due to better energy efficiency) means that some modular builders are cutting the carbon footprint of a house over its whole lifetime by up to 82%.[5]

The public backs modular – Government needs to get behind the sector

We need greener homes; the public wants greener homes; and modular can help significantly increase the delivery of the low-energy, low-carbon homes of the future. But barriers remain.

We are calling for a series of low-cost or no-cost policies that would fully unlock modular's potential to drive the green revolution in housebuilding that this country sorely needs and which, despite recent government decisions, we can see the public is clearly in favour of. These recommendations include:

- Creating a modern approach to Stamp Duty, which sets duty rates according to the home's energy performance
- Creating a presumption in favour of planning permission for low-energy, low-carbon (EPC-A-rated) homes, to incentivise the production of greener homes
- Supporting a sector that can deliver greener affordable homes by allocating 20% of the Affordable Homes Programme to modular building.

These changes would also secure the future of low-energy, low-carbon modular housing in the UK at no additional cost to the taxpayer.

SECTION 1: WE NEED GREENER HOMES

Responding to the dual cost-of-living and homebuilding crises is an opportunity for the Government. The UK should dramatically increase the number of greener homes that are good for the household bank balance and better for the environment.

The scale of the challenge is substantial as the UK fails to meet its housing targets year-in, year-out and supply dwindles. Another problem is that many of the homes that are being built do not offer owners or renters the best in energy saving. So, even if a family can afford to move there is a needless additional cost incurred when living in the new home. Going greener is not only the right thing to do, it is the logical decision for those in the market – but we need a viable method of construction to get us there quicker.

Greener homes boost energy security and tackle the cost-of-living crisis

In the UK, the energy efficiency of our homes is measured using the Energy Performance Certificate (EPC) system, with the best homes given an 'A' grade, and the worst performing being given an 'F' grade – a sort of performance exam for homes. The better the home does, the better the grade.

The average family home in the UK has a D grade, which means it can cost up to £1,839 more annually than running an equivalent A grade home.[6] Over the course of raising a family this equates to an additional cost of approximately £37,000 per household.

Yet, we live in a country where around 96% of new homes are still being built to below the EPC A level,[7] with the average new-build home being built today at a B grade which still costs up to around £700 per year more to heat than it should.[8] This is a not insignificant cost when raising a family or living on a fixed income, while for a modular constructor the cost difference between building an EPC A vs EPC B grade house is around £4,000.

It isn't just the energy being used to heat homes that's the issue. There are currently no regulations around the greenhouse gases involved in building a new house, known as the upfront embodied emissions. This can be up to half of the overall carbon footprint of a building.[9] This central factor is key to understanding the massive challenge in front of our country and the ways in which our political leaders think about the climate challenge.

Understanding the needs of the public

While the need to build greener homes has never been more important, it is vital that we balance this with the needs of the public – itself made up of homeowners, landlords and renters. The time is right to ensure we understand what the British public actually thinks when it comes to greener homes.

SECTION 2: NEWSFLASH: THE PUBLIC DEMANDS GREENER HOMES

To get a sense of popular support for greener homes, we asked the British public for its views. Partnering with Savanta we surveyed 2,300 adults in the UK, using a nationally representative sample, asking for their views on greener homes and what they would be prepared to pay for them.

The results?

A clear public demand for greener homes, with six in ten respondents saying that they believe environmental impacts to be an important or very important consideration when looking to buy or rent a property.[10]

And when people can see that they would save money on their energy bills, over three quarters of those surveyed would be willing to rent or buy a property that was better for the environment. Rightmove have found that 83% of homeowners would spend money to improve the energy efficiency of their home, with the average amount they would be willing to pay being £3,445.[11]

Mapleton Crescent, residential complex in Wandsworth built by Tide and Vision.

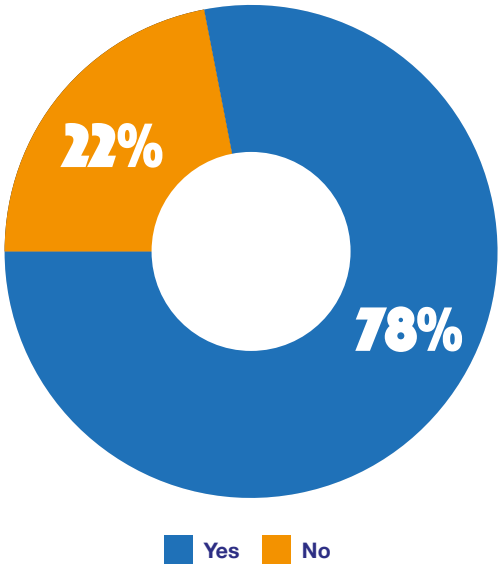


Chart 1:
Would you be willing to pay more to rent or buy a property that had lower energy bills?

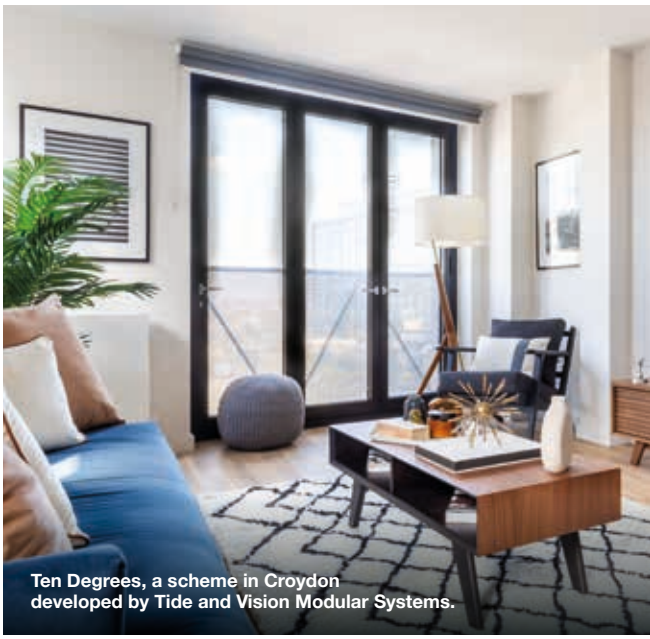
There is a clear public appetite for greener homes. This is even more the case when buyers or renters understand not just the green benefits but the potential savings that can come from them. These homes do need to be in the right places and well designed for their owners or renters – but, when they are, the appetite is there.

SECTION 3: THE CHAMPIONS OF GREENER HOMES

When it comes to the generation game, not only does the general public want greener homes, but the next generation (under 30s) wants them even more.

Our survey reveals that two thirds of adults below the age of 30 consider sustainability and environmental impacts to be an important factor when they are looking to buy or rent a property. Even the low scorers – the traditional retiree bracket – score well over 50% on this question, with the middle-aged spread filling out the centre.

Many of these younger adults buying homes over the next decade will become the next generation of middle-aged, middle-income homebuyers – and they want their homes to be better for the environment. Much of the planning for these homes is happening now, due to the lengthy period it takes to promote land and secure planning permission. It is therefore important that planning officers set the correct policies now.



Ten Degrees, a scheme in Croydon developed by Tide and Vision Modular Systems.

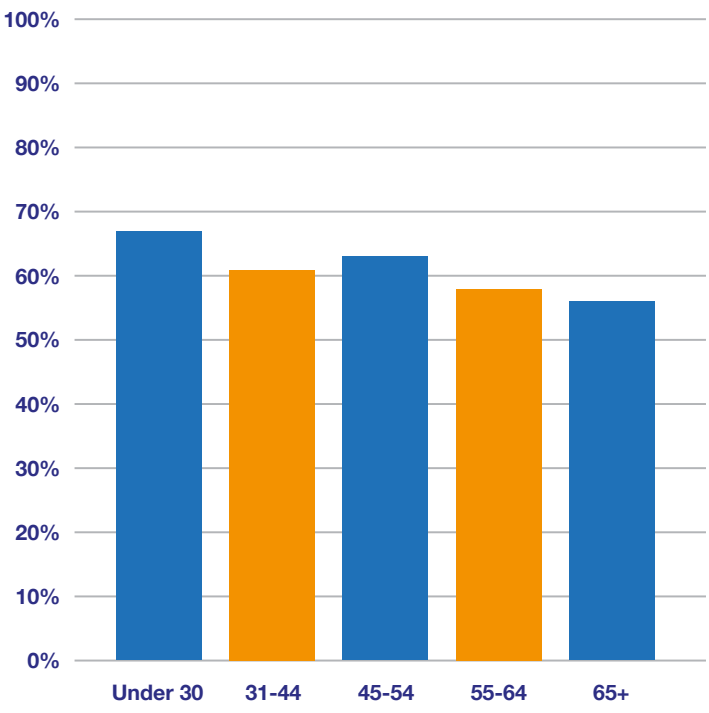


Chart 2:
How important are sustainability/environmental impacts when you consider renting or buying a property? (% net important)

Ten Degrees, a scheme in Croydon developed by Tide and Vision Modular Systems.

Over half of adults under 30 would be willing to pay more to rent or buy a property that was better for the environment – compared with just over a third of people aged 45 to 54, and a quarter of those over 65.

When consumers see a financial return on having a greener home, they are more likely to spend more to buy or rent one. The difference in motivation for investing in a greener home is most obvious amongst the oldest generation. While over 80% of all adults under 30 would pay more upfront for a more energy-efficient home with lower energy bills.

24% OF OVER 65s STATE THAT THEY WOULD PAY MORE FOR A HOME THAT WAS BETTER FOR THE ENVIRONMENT, VERSUS 75% WHO WOULD PAY MORE UPFRONT FOR A PROPERTY THAT HAD LOWER ENERGY BILLS.

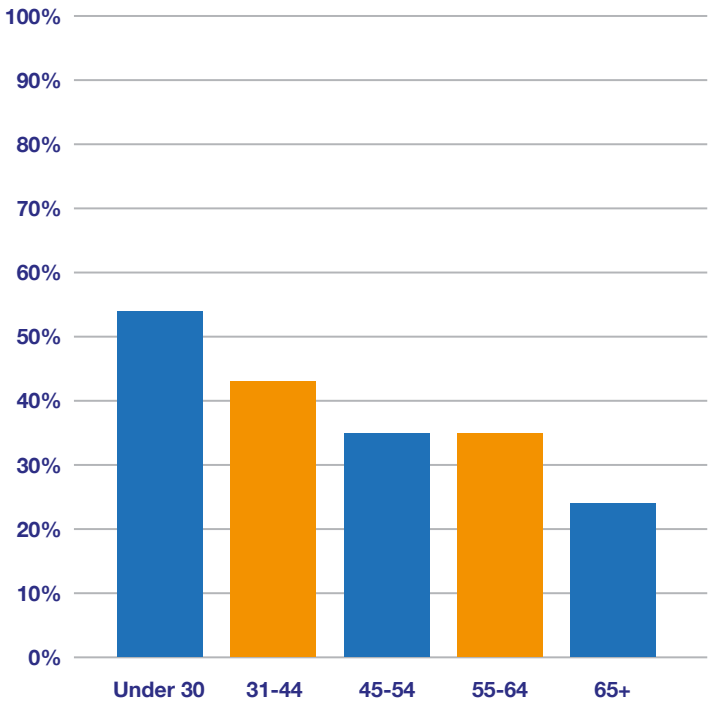


Chart 3:
Would you be willing to pay more to rent or buy a property that was better for the environment? (% 'yes' responses by age)

This is the way the market is heading: the next generation is entering the housing market, demanding action on greener homes, and is willing to pay more for it.

We can see the direction of travel towards greener homes is on a clear upward trajectory, with nothing short of a groundswell emerging in the UK.

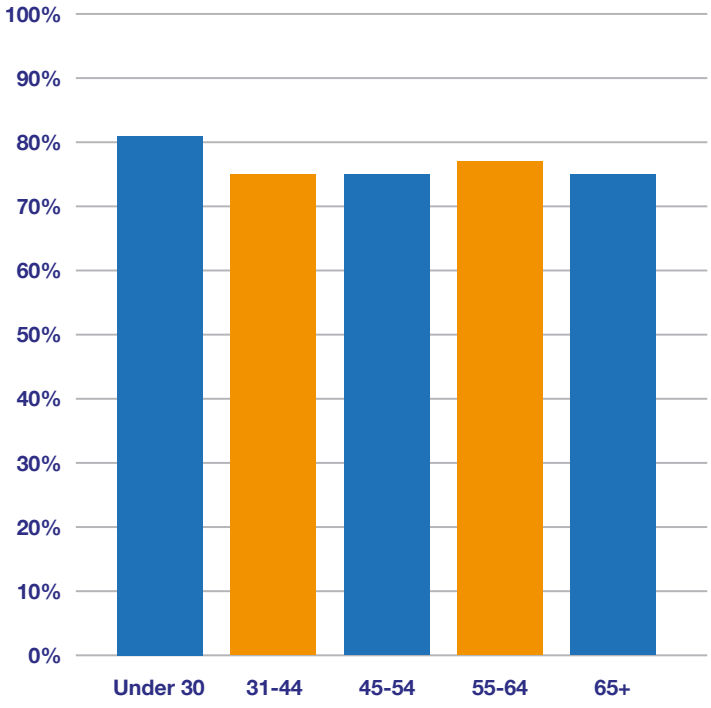


Chart 4:
Would you be willing to pay more to rent or buy a property that had lower energy bills? (% 'yes' responses by age)

SECTION 4: MORE ADDITIONS, LESS EMISSIONS

The UK's draughty, poorly insulated housing has led to the country being labelled the 'Cold Man of Europe'.[12] Today, only 2% of all UK homes fall in the top two energy efficiency grades and only 4% of new builds falling under the top EPC A grade.[13]

The result?

Addressing the climate challenge will mean we need to upgrade nearly every single home in the country – a pricey solution known as 'retrofitting'.

The UK needs to reduce needless future high costs of further retrofits by building more greener homes today. But the construction industry faces a major challenge.

With an ageing workforce, the construction sector is set to lose half a million people through retirement alone in the next ten years. To make matters worse, the UK will need an extra 220,000 skilled workers in the next six years just to retrofit homes.[14] Last year we trained just 11,000 apprentices in construction skills.

The problem is around how we build more homes while also freeing up more labour to retrofit existing ones at a time when thousands of job vacancies in the sector are not being filled.

Modular housing provides a state-of-the-art approach to building greener. Re-thinking the construction process, modular brings most of the building work off-site and into a factory.

Data from our members shows that modular can:[15]

- Reduce build times by up to 50% through use of assembly line processes
- Boost productivity in housebuilding by up to 40%, using fewer people to build

Solving the labour challenge

Modular can sidestep major labour shortages through its assembly line manufacturing methods, requiring far fewer construction workers. This allows manufacturers to draw on a wider pool of talent.[16] It also means that modular can boost housing supply without needing large numbers of extra tradespeople, which we simply do not have in the UK.

This ability to grow the housing supply in the face of a shrinking workforce is one of the key reasons for the emergence of modular in recent years.

Driving up energy efficiency, cutting bills

The manufacturing environment makes it easier for modular homes to be built to the best energy efficiency. This keeps a house at the right temperature for longer, meaning that residents can use less energy to keep themselves warm in winter. Modern ventilation systems can be used to ensure that houses stay at the right temperature all year round.

Modular homes are routinely being built with solar panelling. So, it's cheaper and easier for modular homes to meet the gold-standard EPC A grade. Not only does this cut emissions, it represents a real financial saving for homeowners and renters.

CASE STUDY: OCTOPUS ENERGY LAUNCHES ZERO BILLS™ PROPOSITION FOR GREENER HOMES

The renewable energy provider Octopus Energy is partnering with housing developers to deliver the UK's first Zero Bills™ homes, which are so energy efficient that residents are guaranteed not to pay a penny towards the energy they use for a minimum term of five years.[17]

Modular makes it easier and more cost effective to meet the Zero Bills™ 'spec' – building highly energy-efficient homes equipped with the latest green technology.

How does this work?

- Developers build highly energy-efficient homes to minimise the amount of energy required to heat them
- The home is equipped with an air-source heat pump, which uses a third of the energy that a gas boiler uses for heating
- Solar panels on the roof generate power during the day. With the right number of panels, surplus energy can be stored in the home battery
- Octopus manages the home battery and heat pump to sell excess energy (generated by the solar panels and stored in the battery) back to the grid at the most expensive, peak times of the day, while drawing from the grid as needed at the cheapest time of the day, when demand across the grid is lowest and greenest
- The homeowner sets their heating preferences via the Octopus app and lives normally with the Zero Bills™ tariff, which guarantees zero energy bills for at least five years.

These homes aren't a pipe dream – following the success of two pilot homes in Stanford-le-Hope, Essex, in 2022, Octopus opened up its Zero Bills™ proposition to all developers and providers in the UK. To date, it has accredited nearly 1,000 new homes for Zero Bills, with ambitions for 50,000 in the UK and beyond by 2025.

Reducing embodied carbon through modular building

A house's carbon footprint includes more than just the energy used to heat and power the building. It also includes all the carbon emissions involved in the construction process – from the fumes generated by transportation, to the emissions generated by firing glass and baking bricks. This upfront embodied carbon can account for half of the whole-life footprint of a new home. Reducing the amount of emissions generated during the building process is essential to reaching net zero.

Using innovative low-carbon materials and modern methods of building, modular is finding ways of reducing this embodied carbon in our homes. From timber-framing to brick alternatives, from recycling to waste-reduction, modular is pioneering the next generation of greener homes.

CASE STUDY: TOPHAT REDUCES EMBODIED CARBON BY 82%

The modular manufacturer TopHat is pioneering the reduction of embodied carbon in new homes by:

- Making substantial carbon savings through **substituting structural timber in place of carbon-intensive materials** like steel, bricks and concrete
- Coating houses with a **proprietary brick slip system,** applied over the insulation. This looks like normal brickwork but uses 10% recycled brick aggregate, making it an ultra-low carbon product
- **Sending zero waste to landfill** during the construction of a home
- Using the controlled manufacturing process to build **more energy-efficient homes,** reducing the emissions generated when the home is being used
- Building homes with **air source heat pumps,** which use less energy to heat a home, and **solar panels**

TopHat's efforts to drive down embodied carbon, reduce waste and improve energy efficiency have resulted in an **82% reduction in the embodied carbon** of their homes, compared to a traditionally built equivalent. The embodied carbon in TopHat home is just 221 kg of CO_2e per m^2, compared with RIBA's benchmark of 1,200 $kgCO_2e/m^2$ for the average new-build home today.

Furthermore, TopHat's homes can **cut operational embodied carbon** (the emissions generated in the use-phase of the building's life) by up to 50%.[18]

CASE STUDY: VISION MODULAR SYSTEMS EXCEEDS AMBITIOUS EMBODIED CARBON TARGETS

In densely populated cities like London, land is scarce and housing demand is very high – so building apartment schemes often represents the best way to deliver more homes. However, it's not often possible to make tall buildings using timber-framed systems.

Vision Modular Systems has responded to this challenge by:

- Using lower quantities of the carbon-intensive materials like steel and concrete that would have been used had the project been delivered on-site solely through traditional building methods
- Shifting production to the factory setting, which reduces site visits, deliveries and waste, thereby cutting indirect emissions involved in the construction process

To demonstrate the value of their approach, Vision commissioned an independent study by academics from the University of Cambridge and Edinburgh Napier University which compared Vision's systems with equivalent traditional methods in line with RICS's professional standard for undertaking carbon assessments.

They studied Vision's 546-home Ten Degrees high-rise towers, and their 321-room student accommodation in Gants Hill, finding that:

- In the two developments, Vision's modular approach cut whole-life embodied carbon by 41% and 45%
- This was the equivalent of saving 8,000 tonnes of embodied carbon emissions during construction, the equivalent of all the CO_2 absorbed by 1.1mn tree annually.
- The developments, completed in 2020, already met the Royal Institute of British Architects and LETI's Band C embodied carbon target for 2025, and one reached their Band B 2030 target.

SECTION 5: HOW TO SECURE MODULAR FOR THE FUTURE

With over 3,000 modular homes being built in the UK annually and with current capacity for at least five times that number,[19] modular can lead the green revolution in mass housebuilding in the UK. It can deliver homes that are more energy efficient, cheaper to run, greener to build, while being competitively priced. Modular sidesteps the wider industry's labour shortages, helping the UK to build more homes while meeting national climate commitments.

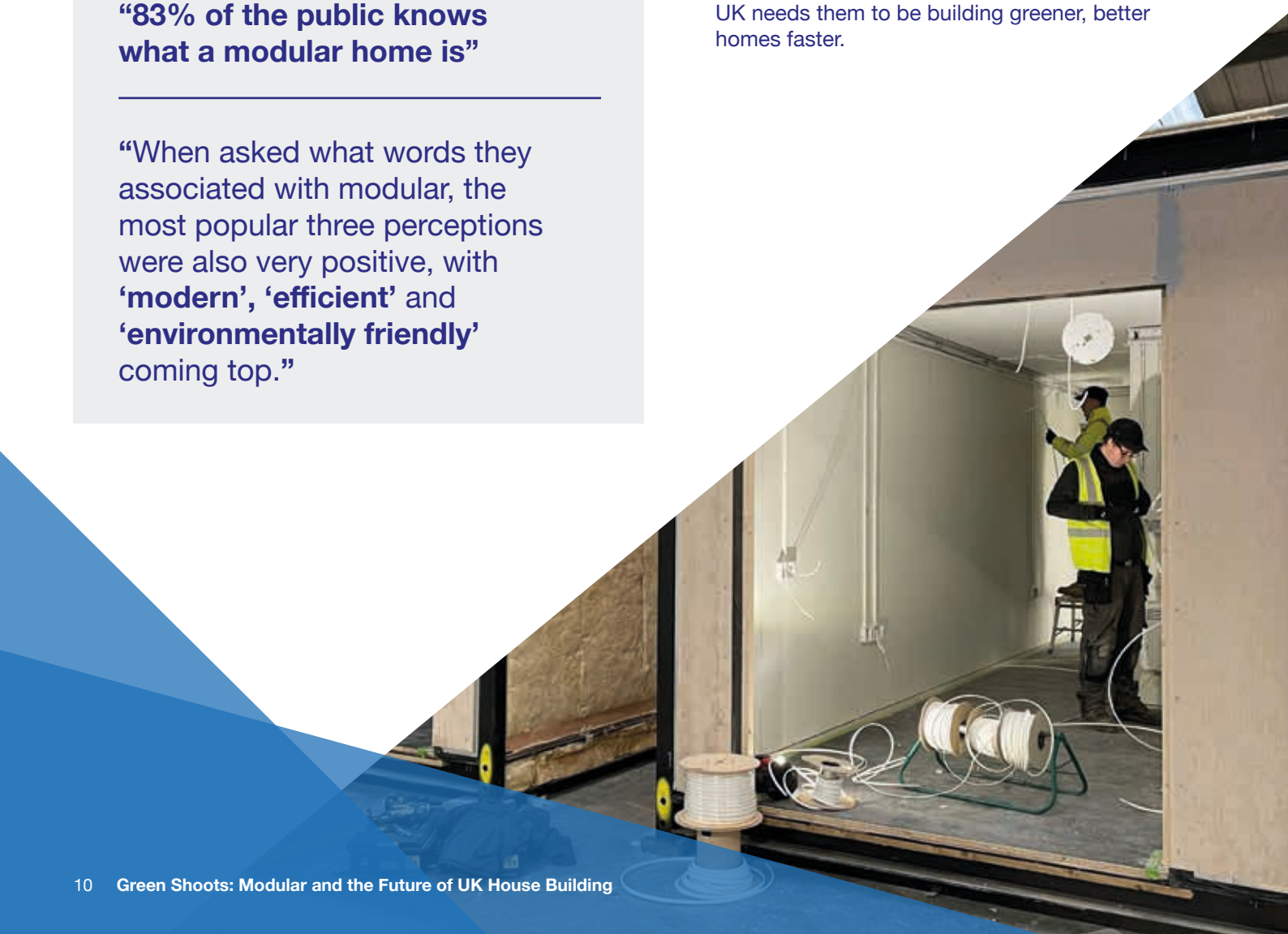
What's more, the public knows modular and likes what it sees. We asked our survey respondents what they thought of modular homes:

> **"83% of the public knows what a modular home is"**
>
> "When asked what words they associated with modular, the most popular three perceptions were also very positive, with **'modern', 'efficient'** and **'environmentally friendly'** coming top."

These results show an advanced understanding of modular housing among the wider public and the benefits that using the modular system of construction can bring, not only to a home owner or renter but to the environment too.

The public support is there for a delivery track of greener homes. Modular construction can deliver these homes. But the launch costs for modular builders can be high: setting up factories, developing and testing, and recruiting a permanent workforce. All this before building a house can begin. Nearly £1 billion of investment has so far bridged the gap between modular factories launching and the delivery of new homes – scaling up quickly is crucial to unlocking the potential of this vital industry.

Modular manufacturers are unfortunately facing barriers to growth at the very moment when the UK needs them to be building greener, better homes faster.



To transform housebuilding in the UK, and deliver the energy-efficient, low-carbon homes that the public wants and the planet needs, Government should support modular today by

1. Creating a modern approach to Stamp Duty, based on the energy performance of newly built homes.

Incentivise the demand side of the housing market and deliver value for both new home-owners and the public purse. Government could boost growth in the wider economy and reduce our reliance on imported fossil fuels, while home-owners could see valuable savings for doing the right thing and buying the most energy-efficient home possible.

2. Increasing the modular home building allocation of the Affordable Homes Programme to 20% (split evenly between Category 1 and Category 2 modular techniques).

This would help to ensure that those who need affordable homes not only benefit from lower costs of rent or purchase but also lower living costs as well, as modular building techniques deliver greener homes that are genuinely affordable. An added benefit will be to allow for greater economies of scale across the whole industry and creating a mass private market of cheaper homes.

3. Reforming our planning system so that it incentivises the production of greener homes.

This can be achieved by creating a presumption in favour of planning permission for EPC-A-rated homes, helping new home-owners and renters attain low-carbon and low-energy homes.

If we are able to deliver the gains that are possible through the proper use of new technologies and building techniques, the UK can be a world leader in the supply of greener homes. This will:

- **decrease the construction industry's carbon footprint**
- **build greener homes that are more affordable to live in**
- **ensure that costly retrofits are not needed for newbuild homes in the future**

These three elements would be huge wins for the UK and they are available today, if modular providers are given the chance to deliver the greener homes we can see the public both needs and wants.

THE POWER OF ZERO

As we stare down the triple barrel of housing, carbon, and cost-of-living crises, the evidence is clear to see. Energy efficient homes are fast becoming hot property, promising the comfort and peace of mind for which the next generation of buyers and renters is looking.

Yet as this report sets out, the overriding pull of greener living is not the carbon story or the potential of future-proofing a home. It is the financial savings it promises – most importantly, lower energy bills. As 'greener' becomes associated with 'cheaper', so too consumer appetite for energy efficient homes is building.

But the holy grail of a significantly lower energy bill still remains out of reach for most. In a climate where pockets are pinched and consumer confidence remains at rock bottom, the 'how much' becomes the overriding question. By how much will a home's bills be reduced if it were to be kitted out with solar, heat pump, battery?

That's what prompted Octopus to push the principle of cheaper, greener homes to its furthest degree. Our world-first smart proposition, Zero Bills™, brings together high-performing homes (many of which are modular) and low carbon tech under the simplest product imaginable: a zero energy bill, guaranteed for a minimum term of 5 years.

For the average household, that's an annual saving of £1,800, relative to the energy costs of a typical dual-fuel home, based on current rates.

Octopus works with developers of all shapes and sizes – but modular is extremely well positioned to drive this green, bill-free housing revolution. When kitted out with low carbon technologies, they can deliver enhanced energy performance and improved running costs over their bricks-and-mortar counterparts.

And the demand is there. An online survey conducted by YouGov has found that two thirds of people with a mortgage in Britain are willing to pay more to live in an energy efficient home, if it means not having to pay any energy bills at all.[20]

In another survey, we've found that people would pay, on average, £51k more for a Zero Bills™ home, with younger generations being warmer to the idea than their parents'.[21] On our Zero Bills™ pilot scheme, carried out in partnership with a modular housing developer, homes were valued at 10.7% more than their bill bearing counterparts by CBRE – over £40k – an uplift which it deemed to be conservative.[22]

Zero Bills™ homes can sell for more, then — but greener needn't mean more expensive. The good news is that people can access these higher-value assets without necessarily needing to earn more money. For bill-free homes like these – with decent fabric and kitted out with heat pumps, solar PV and batteries – green financing already exists, with many more products coming soon.

By letting people feel the full benefits of high-performing homes through smart tariffs like Zero Bills™, the housing and energy sectors can together decarbonise the built environment at pace, while fundamentally upgrading people's lives in the process. After all, it goes beyond just the financial benefits – improving comfort, quality of life, and providing peace of mind.

All of which creates an extremely compelling consumer proposition. We call it the 'power of zero'.

Partner with Octopus Energy to build bill-free homes: **octopus.energy/zero-bill-accredited**

APPENDIX A

Data from the Savanta survey

Would you be willing to pay more to rent or buy a property that had lower energy bills?

	Under 30	31-44	45-54	55-64	65+	Total
Yes	76%	67%	66%	68%	64%	**69%**
No	18%	22%	22%	20%	21%	**20%**
Don't know	6%	11%	12%	13%	15%	**11%**

Excluding 'don't know':

	Under 30	31-44	45-54	55-64	65+	Total
Yes	81%	75%	75%	77%	75%	**78%**
No	19%	25%	25%	23%	25%	**22%**

How important are sustainability/environmental impacts when you consider renting or buying a property?

	Under 30	31-44	45-54	55-64	65+	Total
Very important or quite important	66%	61%	62%	57%	54%	**60%**
Not very important or not at all important	10%	13%	15%	19%	18%	**14%**
Neither important nor unimportant	22%	26%	22%	22%	25%	**24%**
Don't know	1%	1%	1%	2%	3%	**2%**

Excluding 'don't know':

	Under 30	31-44	45-54	55-64	65+	Total
Very important or quite important	67%	61%	63%	58%	56%	**61%**
Not very important or not at all important	10%	13%	15%	19%	19%	**14%**
Neither important nor unimportant	22%	26%	22%	22%	26%	**24%**

APPENDIX A CONTINUED

Would you be willing to pay more to rent or buy a property that was better for the environment?

	Under 30	31-44	45-54	55-64	65+	Total
Yes	54%	43%	35%	35%	24%	**40%**
No	33%	40%	40%	40%	49%	**40%**
Don't know	13%	18%	25%	25%	28%	**20%**

Excluding 'don't know':

	Under 30	31-44	45-54	55-64	65+	Total
Yes	62%	52%	47%	47%	33%	**50%**
No	38%	48%	53%	53%	67%	**50%**

What is your perception of 'modular homes'?

Note: top three responses and 'don't know'

Term	% respondents who selected this term
Modern	36%
Efficient	29%
Environmentally friendly	27%
I don't know what a modular home is	27%

END NOTES

1 Make UK/Savanta – Perceptions of Modular Survey (2023)

2 50% of respondents said yes when asked 'Would you be willing to pay more to rent or buy a property that was better for the environment?'

3 Rightmove, Greener Homes Report: A Study Looking into the Challenges and Changing Behaviours on the Journey to More Sustainable Homes (London, 2023), p. 9.

4 For a 3-bedroomed home with 4 occupants. Data: modelling from the LENDERS consortium (2017) provides baseline estimates for the average energy bill in this scenario for EPC A and EPC B homes. This has been updated to October 2023 prices by deriving an energy price multiplier through comparing the average energy bill in 2017 (£1,126) with an estimate for the average energy bill in October 2023 (£1,979.95) derived from multiplying the Typical Domestic Consumption Values of 3,100 KWh for electricity and 12,000 kWh for gas, with Ofgem's October 2023 unit and standing charge price cap. This gives a price multiplier of 1.76; when applied to the LENDERS data, this yields a typical annual energy bill range of between £1,122 and £1,519 for an EPC-A-rated home, compared with between £1,660 and £2,247 for an EPC B equivalent. For the 2017 average energy bill, see Ofgem, State of the Energy Market: 2017 Report (London: 2017), p. 27.

5 Based on the TopHat case study on p. 9 below.

6 For methodology, see endnote 4. We have used the EPC D baseline from the LENDERS consortium data, updated using the same calculations as in footnote 4 and compared with the EPC A figure derived earlier. This shows that the cost of heating an EPC-A-rated, 3-bedroom home with 4 occupants can typically range from £1,122 and £1,519 a year, compared with between £2,481 and £3,359 a year for an EPC-D-rated equivalent.

7 'Official Statistics: Energy Performance of Buildings Certificates Release: April to June 2023 England and Wales', Department for Levelling Up, Housing and Communities, 27 July 2023 (figure 1). This is in line with previous quarters, which have ranged from 3% (in Q4 2022) to as low as 2% (in Q2 2021); see, 'Official Statistics: Energy Performance of Buildings Certificates Statistical Release: October to December 2022 England and Wales', Department for Levelling Up, Housing and Communities, 26 January 2023 (figure 1); and Lucie Heath, 'Only 2% of New Homes Meet Top Energy Efficiency Standard', Inside Housing, 29 July 2021.

8 See endnote 4.

9 M. Spear et al (for the Climate Change Committee), Wood in Construction in the UK: An Analysis of Carbon Abatement Potential (Bangor, 2019), p. 6.

10 60% of the respondents said environmental benefits or sustainability were 'very important' or 'quite important' considerations when buying or renting a home. Question: 'How important are sustainability/environmental impacts when you consider renting or buying a property?'

11 See their report, Greener Homes Report: A Study Looking into the Challenges and Changing Behaviours on the Journey to More Sustainable Homes (London, 2023), p. 9.

12 See, for instance: National Energy Action, The Cold Man of Europe (London, 2015).

13 For all stock, see UK Government, Heat and Buildings Strategy (London, 2021), p. 99; for new builds, see 'Official Statistics: Energy Performance of Buildings Certificates Release: April to June 2023 England and Wales', Department for Levelling Up, Housing and Communities, 27 July 2023 (figure 1).

14 Construction Industry Training Board, Building Skills for Net Zero: Industry Insights and Analysis (Bristol, 2021), pp. 51–52 (Figure 4.1)

15 See Make UK Modular, Greener, Better, Faster: Modular's Role in Solving the Housing Crisis (London, 2022).

16 For more information, see Make UK Modular, Who Will Be The Builders?: Modular's Role in Solving the Housing Labour Crisis (London, 2022).

17 Excludes EV charging, Limits and T&Cs apply – available at https://octopus.energy/policies/smart-tariffs-terms-and-condition/#octopuszero

18 Data supplied by TopHat.

19 Make UK Modular, Greener, Better, Faster: Modular's Role in Solving the Housing Crisis (London, 2022), p. 8.

20 All figures, unless otherwise stated, are from YouGov Plc. Total sample size was 2001 adults. Fieldwork was undertaken between 26th - 29th May 2023. The survey was carried out online. The figures have been weighted and are representative of all GB adults (aged 18+).

21 Octopus surveyed a random audience sample of 448 people between the ages of 32-99 from the United Kingdom (excluding Northern Ireland) on 6/5/2023. Participants were given a link to an online survey (Results here) which the authors created using Survey Monkey (http://www.surveymonkey.com). Audience selection was random, unbiased and not selected by the author.

22 Source: Gresham House and SOResi.

ABOUT

Make UK Modular is the voice of the modular housing sector. We exist to help modular housing scale up, provide expert advice about the sector's needs, foster collaboration to overcome political issues, and work with members to grow their businesses.

The UK needs more homes, and fast. It needs homes, which are green to build. It needs homes which use less energy. It needs homes to be great quality and good value. And it needs new people to build them. It needs homes: greener, better, faster. It needs Modular.

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Octopus Energy is a global energy and technology group, driving the affordable, green energy system of the future. Its operations span 14 countries and the entire energy value chain. The group invests in, builds and flexibly manages renewable energy, operating a £6 billion portfolio of projects – one of Europe's largest.

Octopus serves 5.4 million customers through its retail arm, and has licensed its advanced data and machine learning platform, Kraken, to support 30 million customer accounts worldwide through licensing deals with energy companies, including EDF, E.ON and Origin Energy.

Kraken enables Octopus to drive the electrification of heat and transport through smart tariffs and innovative cleantech. Backed by pension funds, investors and energy giants, Octopus Energy Group businesses deliver cheaper, greener energy and cutting-edge tech to countries and customers worldwide. For more information, check out our **website.**

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DP.JB.06.11.23