

# Future Homes 1: **Building-in Sustainability**



**With our new Government promising to deliver ‘the biggest boost to social housing in a generation’, social housing is currently a policy in the spotlight. However, the numbers being mentioned would require a major rethink on the way housing is designed, planned and built.**

**Add to that the imperative to build homes that are environmentally, socially and economically sustainable, and you begin to feel the scale of the challenge facing the UK’s social housing sector. At Saint-Gobain Offsite Solutions, that’s a challenge close to our hearts and, here, we present the first in a series of ‘Future Homes’ reports that investigate how – in the face of growing demand - the UK’s social housing sector can address its major challenges.**

**In conversation with industry experts, we consider how this vital sector can provide better homes for everyone – and in this inaugural report we discuss the importance of sustainability. In all its guises.**

Sustainability is a hot topic in construction at the moment - and the decarbonisation of the UK’s homes will be an essential component in the transition towards net zero. In 2022, the Institute of Public Policy Research (IPPR) called for investment to build 90,000 zero carbon social rent homes per year in England to ‘boost supply and help those on the lowest incomes’.<sup>1</sup>

Fast forward two years and, in response to the new Government’s pledge to build 1.5 million new homes in the next five years, Shelter and others have reiterated that this promise must include the funding to build at least 90,000 socially rented houses and flats in England every year.<sup>2</sup>

Deputy Prime Minister Angela Rayner says: “Unless we address the social and council housing problem in this country,

then we’re really not going to get to the root problem of the housing crisis for everybody...” and that her Government: “... is really serious that we’re going to build those houses we desperately need.”<sup>2</sup>



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# THE SUSTAINABILITY CHALLENGE

The IPPR says that decarbonisation remains the social housing sector's main challenge<sup>1</sup> - but the inefficiencies of traditional construction methods consume time, energy and resources at a voracious rate.

Construction produces more than 100 million tonnes of waste a year<sup>3</sup> - that's 62% of all UK's waste and 32% of all waste sent to landfill<sup>4</sup>. Traditional methods of construction also come with a heavy carbon cost: immediately via embodied carbon that comes with the construction of new homes and, over the longer term, in how the fabric and energy efficiency of those homes affect energy use, and how much repair and maintenance is required over the homes' lifetime.<sup>5</sup>

As such, we'd ask: if the procurement teams of social housing providers are genuinely looking to ensure the greatest possible value from their construction partners, wouldn't it be logical to investigate alternative approaches that offer more sustainable solutions that deliver greater value - to providers and their tenants - over the lifetime of the houses they build?

## INNOVATION FOR THE NATION

It's often said that if you keep doing the same thing you'll get the same results, which is why we believe that solving the sustainability challenges of the social housing sector requires an innovative approach that avoids the habits and impacts of traditional on-site construction.

Jason Redfearn, managing partner at environmental consultancy Focus agrees: "Social housing has always been a good



**Jason Redfearn**  
Managing Partner,  
Focus Consultants

test bed for innovation. It's always been grant funded and I believe that public funding should be utilised to drive innovation. Social housing should be used as an exemplar - an opportunity to develop new technologies and develop products for the wider market."

He continues: "Social housing providers want to develop homes fit for purpose - with sustainability at their core - and demonstrate their credentials in what they want to achieve on their ESG or net zero journey."

But that may not be as simple as it seems. "I think how things are procured sometimes is solely cost-driven," says Redfearn. "Social housing providers have to think about how they procure their schemes and also look at what their targets are for reducing their own impacts on the environment and try to weave those two things together."



**Lowest cost isn't always the best way to do things - or the most reliable way to deliver the best outcomes.**



# LOOK TO THE FUTURE

Gareth Morris, Saint-Gobain's head of sustainability and head of life cycle analysis sees procurement's short-term cost view as a challenge to delivering sustainability: "Too often upfront costs are prioritised, as opposed to thinking about the long-term costs to manage, operate and run the assets. Not forgetting the other benefits that come from having better housing."

Again, traditional construction may not be the best solution to this issue. "The reality is that if new homes are built to standard building regulations today, they'll have to be retrofitted," says Morris. "Even houses built to the most recent and previous versions of the regulations are likely to need renovation to achieve net-zero carbon."

The need to retrofit non-compliant homes in order to meet net-zero obligations should sharpen the focus on the way new homes are designed and built. That's a challenge that Helen Spencer, executive director of growth at Great Places Housing Group recognises. For them, building-in sustainability is essential: "Some organisations have a



**Gareth Morris**  
Head of Sustainability and LCA

substantial proportion of older homes that are going to take some serious investment to bring them up to scratch. For our new schemes, we have to determine what would be required to bring them in line with future eco-standards."

"We're not just building homes that are going to add to our pipeline of retrofit works," says Spencer. "We know that every new home is already future ready. But we know that not everyone is doing that, so the sector is storing up a challenge for the future."

Future-readiness is something we can get behind at Saint-Gobain Off-site Solutions. We've always believed that accounting for the sustainability of a project at the very start of the design phase, makes it easier and more cost effective to build it into a scheme - and reduces the requirement to come back and retrofit these homes in the future. Conversely, not considering carbon impact or energy performance at the outset, makes it complicated and costly to address these factors later.

And the most effective way to ensure that sustainability gets built-in from day one is to have complete control of every aspect of the design, specification and build.



**Helen Spencer**  
Executive Director of  
Growth at Great Places  
Housing Group

## SUSTAINABILITY: BUILT-IN

Off-site construction has been around a long time - but it has an image problem. With perceptions shaped by memories of cheap post-war prefabs and the more recent failures of volumetric (or modular 'category one') providers, off-site construction has had a bad press. But that's not a realistic view of what's actually possible.

Saint-Gobain's offsite construction solution uses structural panelised wall systems based on either timber frame panels, a light gauge steel frame or large format masonry panels.

All of the constituent parts are constructed in purpose-built factories, so that the structural and energy performance of every element can be built-in under strict quality-controlled conditions. We then deliver the finished components to site, optimised for quick and easy assembly.

Offsite construction significantly reduces on-site build time, minimises waste, reduces disruption, deliveries and site traffic and provides a viable template for the way homes are built in the future. More importantly, creating high-quality social housing from pre-manufactured components means that the homes you hand your tenants are constructed exactly as designed, delivering on their promised performance for the lifetime of the building.

Indeed, in a recent National Housing Federation Survey, 66% of housing associations that have used off-site construction said that environmental sustainability is its most significant benefit.



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## HOMES IN USE QUICKER

If the Government is to see its social housing ambitions achieved, homes are going to have to be delivered at a pace that traditional construction will struggle to match.

Gareth Morris outlines the advantages of looking beyond building with blocks and bricks: "The 2D panellised systems that we build at Saint-Gobain Off-Site Solutions are no different to building with timber-frame. It's the same technology, but with an element of pre-building going into it. It may cost slightly more up-front, but savings can be realised through the speed of delivery and the amount of energy being used. Plus, providers have the ability to monetise their assets much more quickly than they would if there were to build them traditionally."

He adds, "If you deliver a house in one-third of the time it usually takes to complete, you have the remaining two-thirds of unused construction time to receive rent."

# SUPPORTING SUSTAINABLE TENANCIES

Key to developing truly sustainable social housing is that it has to work long-term for all parties. Certainly, we can support providers in reducing their embodied carbon and in building high quality homes with lower operational costs over the long-term.

For their tenants, improved energy efficiency means lower bills, which reduces fuel poverty and gives them enough financial headroom to pay their rent. Building high quality, sustainable, social housing brings health benefits too, in terms of improved air quality, thermal comfort, better acoustics and access to natural daylight.

Put simply, if you make a home warmer, more comfortable and more affordable, people feel settled, safe and secure. All of which contribute to more sustainable tenancies - something that Helen Spencer understands: "If we focus on really high-quality environments, then we know that tenant turnover is much lower," she says.

"We have recent data from Blackpool that shows old, converted B&Bs/houses in multiple occupation (HMOs) with a turnover of 53%. But in new builds, it's more like 11%. That shows, if you can create a better environment, even in a challenging market like that, you can fundamentally shift the rate of turnover and create a more sustainable community where people can get to know their neighbours and feel more comfortable."

For providers, fostering sustainable tenancies also ensures a continuation of rent revenue and a reduction in the frequency/cost of refurbishment and void works.

# CONCLUSION

As the new Government wrestles with the housing crisis and the Secretary of State for Housing, Communities and Local Government makes a commitment to "... build homes fit for the future"<sup>6</sup>, the challenge remains clear: we need more houses and we need them ASAP. But it's not just about a need for speed. This and future generations need housing that is fit for purpose and, in the words of Angela Rayner: "warm, secure and, most importantly, safe."

As the sector looks for ways to meet Government targets and its own environmental obligations, we believe that offsite construction could hold the key to addressing the housing crisis - and that social housing could set the agenda for all house-building going forward.

With delivery at speed, the consistency of build quality, low carbon impact in build and in use, low energy consumption and lifetime performance standards that keep tenants warmer, safer and more secure for longer, offsite construction comes with sustainability built-in. It's the future. Embrace it.

## Sources

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