



Housing & Land Delivery Board

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Report title	Future Homes Strategy: Progress report
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Previous reports:	<ul style="list-style-type: none">• September and November 2022: Housing & Land Delivery Steering Group• April and October 2022: Housing & Land Delivery Board

Recommendation(s) for action or decision:

Housing & Land Delivery Board is recommended to:

- a) **Note** the work to date to develop a Future Homes Strategy including specialist consultancy support and input from the Future Homes Taskforce and local authority partners across the region;
- b) **Discuss and provide feedback** on the proposed content of the emerging strategy, the research findings to date and the technical issues summarised in this report; and
- c) **Discuss, provide feedback on and endorse** the proposed technical basis of an aligned WMCA Future Homes Standard.

1.0 Purpose

- 1.1 The purpose of this report is to update the Housing & Land Delivery Board on progress in developing a Future Homes Strategy and an aligned technical standard.

- 1.2 It is proposed that the technical standard is embedded in the Single Commissioning Framework as an investment criterion which will enable implementation of the Future Homes Strategy through WMCA's investment decisions, site acquisitions, disposals and strategic partnerships.

2.0 Background

- 2.1 In April 2022, the Housing & Land Delivery Board agreed a programme of work to develop a '*Future Homes Strategy*', a coherent strategy to accelerate delivery and investment in Advanced Manufacturing in Construction (AMC); zero carbon homes (ZCH); the accelerated roll-out across the region of changes to Building Regulations (Part L) set out in the Government's Future Homes Standard; and consequential reduced occupier costs in the new homes.
- 2.2 WMCA's proposed Future Homes Strategy is intended to build on the work to date around AMC and ZCH under the leadership of the Housing & Land Delivery Board. This new integrated strategy is directly linked to:
- unlocking the potential of the '*Manufacture of Future Housing*' economic cluster in the West Midlands Plan for Growth (launched July 2022)
 - the investment opportunity into future homes set out in the West Midlands Investment Prospectus (launched March 2022), and
 - the high level deliverables of the Housing & Land Portfolio agreed by WMCA Board in February 2022.
- 2.3 The Housing & Land Delivery Board has previously been updated on the process to develop the Future Homes Strategy including the appointment of Cast Consultancy to support the development of the strategy; the establishment of a Future Homes Taskforce with membership drawn from across the construction and residential development industry; and the launch of a series of research projects to create an evidence base to underpin the new strategy.
- 2.4 This report builds on the previous updates to the Housing & Land Delivery Board by exploring in more detail the structure and content of the emerging strategy; the research findings to date; and the technical issues and implications that are being considered to ensure that the Future Homes Strategy is ambitious, drives industry change in the West Midlands, and, crucially, is also deliverable and affordable as far as possible.
- 2.5 The Future Homes Strategy is being developed with the oversight of the Future Homes Taskforce and is supported by two key research activities which are ongoing and detailed in sections 3 and 4 of this paper. The Future Homes Taskforce met on 10 October 2022 to review the evidence collected to date, contributing insights from the industry leadership groups which taskforce members attend, including those on the general direction of future national policy.

3.0 Research Strand 1: West Midlands AMC Supply Chain Capability

- 3.1 The first of these research activities is focused on mapping the supply chain of advanced construction solutions in the WMCA area and establishing an understanding of their technical capability and capacity to support an enhanced technical quality standard in the West Midlands. This exercise has started to deliver significant insight which is detailed further below and in Appendix 1 (appended separately).

- 3.2 Suppliers have been described and categorised in line with the relevant categories of Modern Methods of Construction (MMC) set out in the Government's MMC Definition Framework. This shows a significant capability already operating in the region, across five of the seven MMC categories.
- 3.3 It is important to note that these are MMC suppliers rather than AMC suppliers. This reflects one of the Strategy's key points of difference, endorsed by both Delivery Steering Group and the Housing & Land Delivery Board at recent meetings i.e. that the Strategy would create, not pick, winners by moving away from prescribed AMC solutions to performance-driven outcomes. This approach will support more inclusive and diverse supply chain growth.¹
- 3.4 Importantly, this is not a scaling back of WMCA's ambitions for construction innovation. Instead, it is a recognition of:
- The diversity of techniques that can make up an 'Advanced Manufacturing' approach:
 - Some products designed, manufactured and assembled by a single supplier can easily be recognised as AMC. e.g. a volumetric, modular home built in an advanced manufacturing facility (see Berkeley Modular)
 - However, an 'advanced manufacturing approach' could also be achieved by incorporating pre-manufactured components and products from different elements of the MMC supply chain even though, in isolation, the benefits in terms of quality control or construction speed of these individual MMC operations on an otherwise traditional build would be limited. (By way of example, a non-structural bathroom pod would fall within the definition of MMC whereas a home which is constructed utilising that bathroom pod, alongside a kitchen and utility pod and pre-fabricated structural elements, would fall within the definition of AMC).²
 - Focusing on AMC suppliers only would, therefore, disregard the fundamental role which MMC suppliers can and do play in delivering AMC homes.
 - The opportunity to proactively support growth of the region's maturing MMC/AMC supply chain by linking the funding criteria in WMCA's Single Commissioning Framework to the region's existing and potential capabilities, in turn leveraging significant public and private sector investment to support further growth and innovation.
- 3.5 To aid the understanding of MMC and its alignment with the aspirations of the Future Homes Strategy, Appendix 2 (attached) sets out the accepted definitions of the seven categories of MMC and the impact that each has in increasing the pre-manufactured value of a new house. As the WMCA strategy development process continues, and under the guidance of the Future Homes Taskforce, a key priority will be to explore in more detail how this supply chain can be supported to win delivery projects and grow.

4.0 Research Strand 2: Carbon and Sustainability Standards

- 4.1 The second research activity is being commissioned. This will map the emerging carbon and sustainability standards applied across the construction industry,

¹ An explanation of the distinction between AMC and MMC and related terminologies is included in Appendix 2.

² Appendix 2 details how different types of MMC can be brought together to deliver AMC.

considering both regulatory requirements and influential regional or industry initiatives in terms of:

- national legislation (with a specific focus on HM Government's on-going consultation on the Future Homes Standard to be applied from 2025 onwards)
- enhanced standards that are being advocated by industry leadership groups such as the Royal Institute of British Architects (RIBA) and the Low Energy Transformation Initiative (LETI) but are not yet required by legislation
- policy positions being developed by other combined or devolved authorities, especially Greater Manchester Combined Authority (GMCA) and the Greater London Authority (GLA).

- 4.2 The results of this research will be used to inform the approach taken in the Future Homes Strategy and its accompanying technical standard to deliver '*further and faster*' on 'future homes' in a way that is deliverable and viable for developers e.g. by identifying quick wins currently missing in national legislation. More detail on how this will be achieved is set out below.

5.0 Developing a Future Homes Technical Standard

- 5.1 Previous papers have proposed that the focus of the Future Homes Strategy should be on those activities that will have the **greatest impact** and those over which WMCA has the **greatest control**. In practice, this translates into implementation of an enhanced Future Homes Standard on sites in WMCA's ownership, on land brought forward by strategic partners and on projects that are funded through the Single Commissioning Framework.
- 5.2 Success will depend on the creation of a clear and understandable definition of a 'Future Home' which sets out WMCA's expectations of developers, delivery partners and WMCA's wider stakeholder network. This requires a technical standard that balances WMCA's ambitions to accelerate and lead on the national delivery of Future Homes with the need to ensure the standard is affordable and deliverable.
- 5.3 There was a very clear steer from the Taskforce that the WMCA should look to align its expectations of developers with the standards and expectations that are being set across the industry but, crucially, should look to move further and faster in both adopting those standards (in comparison with the general trend across industry) and also accelerating the timetable and expectations of Government.
- 5.4 The key national standard in relation to enhanced sustainability performance is the Future Homes Standard. This is intended to raise the minimum requirement for all homes built in England, ensuring that homes use less energy and produce lower carbon emissions. The first move towards the establishment of the standard was introduced in June 2022; this proposed a number of changes to Building Regulations relating to energy and carbon emissions, ventilation, overheating and electric vehicle charging points. The combination of these changes is intended to lead to a 31 per cent reduction (at least) in the operational carbon emissions of a new home compared to the previous regulations introduced in 2010.
- 5.5 HM Government has also consulted on the full standard which is expected to be introduced in 2025. The currently stated ambition is that this standard will lead to an 81 per cent reduction in operational carbon emissions compared to the 2010 Regulations, to be achieved by further increasing the minimum standards of building fabric efficiency

and requiring all-electric heating and hot water systems i.e. ending the use of gas boilers.

- 5.6 A national Future Homes Taskforce has also been created by Government to establish the technical detail of how these intended improvements are to be achieved. WMCA's Future Homes Taskforce includes members from Government's Taskforce and this shared knowledge base will ensure that WMCA's technical requirement will encourage developers to move further and faster towards enhanced standards.
- 5.7 It is important to be clear on what moving further and faster is likely to entail in this context of ambition vs deliverability. In terms of the expectations of developers, it is suggested that the WMCA Future Homes Standard should focus on:
- **Achieving net zero operational carbon emissions.** This would likely be achieved by combining the fabric efficiency requirements of the Government's 2025 standard with, for instance, an air source heat pump and solar panels so that the home generates its own energy. Note that, at present, the Government's 2025 standard is expected to state that new homes should be 'net zero ready', not actually net zero. The WMCA standard could therefore move faster than Government regulation, in requiring an enhanced fabric efficiency standard before 2025.
 - **Targeting reductions in embodied as well as operational carbon.**³ At present there is no regulatory requirement to measure or reduce embodied carbon in new homes, although this is the case in an increasing number of countries. Industry bodies such as RIBA have set best practice targets for reducing embodied carbon and there is an industry proposal, known as "Part Z", to do the same. In exploring a requirement in relation to embodied carbon, even if this is likely to be a monitoring requirement in the first instance, the WMCA standard would go further than Government regulation.
 - **Introducing required processes into the development process.** This is likely to include requiring developers to undertake a **whole life carbon assessment** of their plans; this has the effect of requiring the developer and their team to focus on designing out carbon from the outset. There is precedent for this elsewhere, with carbon-conscious developers adopting these measures as standard and as a requirement for large projects in London but the measures are not yet being implemented through regulation.
 - **Setting a requirement relating to the level of MMC in terms of Pre-Manufactured Value (PMV) and connecting developers to the local MMC supply chain with known solutions for, for instance, high energy performance building performance.** Appendix 2 contains a definition of PMV and sets out the relative contributions that the different categories of MMC can make to increasing the pre-manufactured content of a new home.
- 5.8 The key in setting a technical standard on these aspects is that it will need to be ambitious yet deliverable and affordable. For instance, the development cost implications will need to be understood: a UKGBC study in 2020 found that the implications of developing to medium targets could be in the region of a 10%-15% uplift in cost, and that for some of the longer term aspirations there were no current solutions in the market.

³ Embodied carbon is the carbon associated with the production and installation of the materials in the new home, the maintenance and use of those and subsequently the demolition and end of use stage.

- 5.9 Over the coming month, a further research study will provide an assessment of the realistic alignment of the WMCA Standard with emerging best practice, ensuring that it is deliverable and that the likely costs and solutions are known, and specific to the West Midlands context. The intention is that the new standard will be incrementally applied and tested and options for doing so will be prepared for consideration.
- 5.10 Key to the deliverability of the proposed technical standard will be the ability to maintain proportionality in its application on projects supported by WMCA investment to ensure that, whilst the WMCA and its partners help to deliver enhanced standards, the proposed approach does not have counterproductive consequences for delivery in the region. The Future Homes Taskforce will, through its engagement with public and private sector partners, work to ensure that the technical standard maximises the approach set out in this paper.

6.0 Next Steps

- 6.1 Outstanding research will take place throughout November 2022 with findings further informing the Strategy's contents and the technical standard.
- 6.2 A draft of the full strategy contents and technical standard will be brought to the next meeting of the Delivery Steering Group in December 2022, with a view to the final version being agreed by the Housing & Land Delivery Board in January 2023.

7.0 Financial Implications

- 7.1 At this stage, the direct financial implications of the work for the Future Homes Strategy, as noted in this progress report, relate to the costs of external advice to support the development of the strategy, the costs of research activity and other costs associated with commissioning activity to support the research and other planned activity noted within this report.
- 7.2 There may be, in future, other financial implications arising from decisions to progress projects in delivering a regional increase in homes built to higher standards using new technology but any such decisions would be subject to WMCA's approved governance and assurance processes.
- 7.3 Note that, at present, there is no dedicated funding for the higher standards implied by the use of new technology and application of higher standards; any investment in these matters through WMCA will come through the existing devolved funding. An investment case for an AMC Acceleration Fund was previously submitted to HM Government by WMCA but, to date, this additional funding has yet to be secured.
- 7.4 Any WMCA investment into future homes delivery would be governed and administered through the WMCA Single Assurance Framework and in line with the accounting and taxation policies of the WMCA and HMRC

8.0 Legal Implications

- 8.1 It is noted that the purpose of this report is to update the Housing & Land Delivery Board on progress in developing a Future Homes Strategy and an aligned technical standard. It is proposed that the technical standard is embedded in WMCA's Single Commissioning Framework as an investment criterion which will enable implementation

of the Future Homes Strategy through WMCA's investment decisions, site acquisitions, disposals and strategic partnerships.

- 8.2 Legal advice should be sought at appropriate stages in the development and implementation of the Future Homes Strategy to ensure compliance with governance and legal requirements. Once established the requirements will need to be embedded into end to end processes and into the Single Commissioning Framework to ensure consistency of implementation throughout the various interventions.

9.0 Equalities Implications

- 9.1 There are no immediate equalities implications in relation to this report. However, individual strategies and delivery schemes will need to take into account local area needs and local stakeholder needs to ensure the schemes benefit local residents, including harder to reach groups. To that effect, equality impact assessments will need to be conducted to understand demographics, key inequality issues and how investment can help address key inequality gaps. Engagement and consultation with key equality stakeholders is also crucial.

10.0 Inclusive Growth Implications

- 10.1 The proposed Future Homes Strategy will be used to inform WMCA's approach to growing the AMC sector, zero carbon homes and new energy standards in an equitable way, maximising economic benefits, housing quality and job/skills opportunities across the region's communities.

11.0 Geographical Area of Report's Implications

- 11.1 The recommendations of this report apply to the whole of the WMCA area.

12.0 Other implications

- 12.1 None.

13.0. Schedule of Background Papers

- 13.1 None.

Appendix 2

Manufacturing definitions

- 1.1 In 2020, WMCA adopted and published a '*Roadmap for Advanced Manufacture in Construction*'. This established a framework for future action in the region in driving advanced manufacturing methods into the delivery of new homes in the region and growing the regional manufacturing supply chain at the same time. It also made clear how the definition of AMC differed in content and focus from the wider definition of MMC as follows:
- **MMC covers a broad range of pre-manufacturing techniques in construction.** Pre-manufacturing encompasses **work executed away from the final workplace** (i.e. building plot) including in remote factories, near site or on-site "pop-up" factories. These techniques are alternatives to traditional house building and aim **to improve quality, programme efficiency and reduce material waste** in construction. It also includes on site labour productivity measures including digital tools and innovative materials and processes.
 - **AMC is a sub-set of the technologies described as MMC above.** AMC techniques are typified by the **fundamental use of digital technology** throughout the process, from design through to component manufacture and assembly, and the **use of automation and high-performance materials** where appropriate to drive quality, performance and mass customisation through standardised processes. AMC techniques will also learn from, adopt and evolve manufacturing processes already established in other sectors
- 1.2 At the same time, WMCA adopted a target for use of AMC on large sites seeking WMCA investment through the Single Commissioning Framework process. This required that large sites (>200 units) utilise categories 1 and 2 of the MMC definition framework for a minimum 20% of units. This target was set on the basis that these categories had a higher proportion of pre-manufacture and were, therefore, most likely to deliver the quality, performance and productivity uplifts associated with an advanced manufacturing approach.
- 1.3 **Advanced Manufacture/Manufacturing** are terms used across sectors with an intentionally broad scope. In essence, they can be used to describe any digitally-led technological or process innovation which improves efficiency, quality, flexibility or responsiveness of existing products or delivers these benefits through new solutions.
- 1.4 The Future Homes Strategy seeks to leverage the opportunity that exists in the region's construction sector in its present form by maximising uptake of manufacturing techniques to drive better whole life carbon performance in new homes, and to support growth and development of that same sector in a way that encourages greater uptake of advanced manufacturing techniques in the design and construction of homes. Advanced Manufacture describes technologies, methods and process, rather than an end product.
- 1.5 To summarise these terms, and how they are utilised by WMCA and others:
- **Advanced Manufacture** describes technologies, methods and **processes** which enhance efficiency and productivity through innovation.

- **Advanced Manufacture in Construction** describes the use of advanced manufacturing technologies, methods and **processes** in the construction process – from design to production/build.
- **WMCA's AMC target** describes **products** of a construction process which utilises a high proportion of pre-manufacture which deliver benefits in terms of quality control, on-site productivity, construction speed and waste reduction.