



Housing & Land Delivery Board

Date: Wednesday 17 January 2024

Time: 9.30 am **Public meeting** Yes

Venue: Room 116, West Midlands Combined Authority, 16 Summer Lane, Birmingham. B19 3SD

Membership

Councillor Ian Courts (Chair)	Portfolio Lead for Housing & Land
Councillor Mike Bird	Walsall Metropolitan Borough Council
Councillor Peter Butlin	Warwickshire County Council
Councillor Matthew Dormer	Redditch Borough Council
Councillor Steve Evans	City of Wolverhampton Council
Councillor Jayne Francis	Birmingham City Council
Councillor Tony Johnson	Cannock Chase District Council
Councillor Wayne Little	Dudley Metropolitan Borough Council
Councillor Andy Mackiewicz	Solihull Metropolitan Borough Council
Jo Nugent	Homes England
Councillor Richard Overton	Telford and Wrekin Council
Kevin Rodgers	West Midlands Housing Association Partnership
Councillor Laura Rollins	Sandwell Metropolitan Borough Council
Councillor Chris Schofield	Shropshire Council
Councillor Richard Smith	Nuneaton and Bedworth Borough Council
Councillor Paul Turner	Tamworth Borough Council
Suzanne Ward	Environment Agency
Councillor David Welsh	Coventry City Council
Councillor David A Wright	North Warwickshire Borough Council

The quorum for this meeting shall be eight members.

If you have any queries about this meeting, please contact:

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AGENDA

No.	Item	Presenting	Pages
Items of Public Business			
1.	Apologies for Absence	Chair	None
2.	Declarations of Interests (if any) Members are reminded of the need to declare any disclosable pecuniary interests they have in an item being discussed during the course of the meeting. In addition, the receipt of any gift or hospitality should be declared where the value of it was thought to have exceeded £25 (gifts) or £40 (hospitality).	Chair	None
3.	Chair's Remarks (if any)	Chair	None
4.	Minutes - 10 October 2023	Chair	1 - 4
5.	Homes for the Future (Final Consideration)	Mia Higgins / Leo Pollak	5 - 66
6.	Plan for Growth / Employment Land Update	John English / Leo Pollak	67 - 70
7.	Place Pilots Programme: Update	Ruby Gill / Nigel Ford	71 - 76
8.	Affordable Housing Update	Rob Lamond	Verbal Report
9.	Housing & Land Fund Update	Rob Lammond	Verbal Report
Date of Next Meeting			
10.	Wednesday 13 March 2024 at 10.00am	Chair	None



West Midlands Combined Authority

Housing & Land Delivery Board

Wednesday 18 October 2023 at 10.00 am

Minutes

Present

Councillor Ian Courts (Chair)
Councillor Mike Bird
Councillor Matthew Dormer
Councillor Wayne Little
Councillor Andy Mackiewicz
Councillor Richard Smith

Portfolio Lead for Housing & Land
Walsall Metropolitan Borough Council
Redditch Borough Council
Dudley Metropolitan Borough Council
Solihull Metropolitan Borough Council
Nuneaton and Bedworth Borough
Council
Environment Agency
Coventry City Council

Suzanne Ward
Councillor David Welsh

Item Title No.

12. Apologies for Absence

Apologies for absence were received from Councillor Peter Butlin (Warwickshire), Councillor Jayne Francis (Birmingham), Jo Nugent (Homes England) and Councillor Richard Overton (Telford & Wrekin).

13. Minutes - 10 July 2023

The minutes of the meeting held on the 10 July 2023 were agreed as a correct record.

14. West Midlands Strategic Place Partnership Update

The committee considered a report of the Head of Strategy & Analysis updating it on the significant progress being made with the development of a West Midlands Strategic Place Partnership following the Trailblazing Devolution Deal announcement in March 2023. The report also outlined the work, engagement undertaken to date, the strategic direction of the partnership and the next steps to formally launching the Strategic Place Partnership with Homes England.

The Chair welcomed the joint up approach between the WMCA and Homes England, as the sharing of expertise and knowledge would be beneficial for the region. In regard to the funding opportunity from Homes England, the Chair sought details of the mechanisms in place for feedback of applications that were unsuccessful. Callum Smith, Homes England, provided detail on the schemes that had been awarded funding and some detail of the evaluation process that was undertaken which captured the strategic regeneration ambition. He also noted that all local authorities would have an opportunity to receive feedback. Councillor Mike Bird considered that schemes that did not use the allocation awarded to them should have those

funds reinvested into the unsuccessful projects.

Resolved:

- (1) The significant progress made in developing a West Midlands Strategic Place Partnership with Homes England be noted and endorsed.
- (2) The 2023/24 revenue funding opportunity available for housing and housing-led mixed-used development schemes, where local authorities could submit applications for priority projects, be noted.
- (3) The intent for consultation on the work to date and how best the Strategic Place Partnership Business Plan could support delivery across the region be noted.

15. Affordable Homes Programme and Supply Strategy Update

The committee considered a report of the Head of Strategy & Analysis updating it on the trailblazer approach to delivering the Affordable Homes Programme in the West Midlands, as set out in the Deeper Devolution Deal agreed by WMCA and the Government in March 2023. The Government had committed to piloting a new, two-phase trailblazer approach to the Affordable Homes Programme in the West Midlands, this programme would provide grant funding towards the supply of new social and affordable housing.

The Chair requested that members be provided with the definition of affordable housing and the criteria used through Homes England scheme / Affordable Homes Programme. He also sought clarity on whether developers and other within the sector had been engaged with. The Head of Strategy & Analysis confirmed that the definition would be provided to members ahead of the next meeting. He also confirmed that developers, organisations and relevant individuals within the sector had been consulted with, along with the need to engage with local authorities to gather localised information and determine their obstacles and how they could be mitigated.

Suzanne Ward highlighted the need to ensure that this strategy addressed climate change in terms of future homes build. Councillor Mike Bird also highlighted the positiveness of the Help to Own Scheme in Wolverhampton and the need to encourage developers to participate in similar schemes.

Following discussions amongst members, it was agreed that a future report would be submitted to the board looking at Shared Ownership as part of the Affordable Homes Programme as well as a review of the Help to Own Scheme.

Resolved:

- (1) The progress following the announcement of the Deeper Devolution Deal in March 2023, specifically on the joint working of the Homes England and WMCA teams relating to the Affordable Homes Programme and the emerging Affordable Homes Supply Strategy be noted.

- (2) It be noted that the ongoing engagement with local authorities and other partners was ongoing, with engagement from Delivery Steering Group meetings and other necessary links into relevant stakeholders.

16. Homes for Future: Draft Strategy

The committee considered a report from the Interim Executive Director of Housing, Property & Regeneration summarising the work that had been undertaken on Homes for the Future, and the work to date on the implementation plan and communications strategy, including the launch event. Members were invited to make any final comments on the content of the strategy document.

The Chair sought clarity as to whether members of the board would be able to comment on any further draft and when the strategy would seek endorsement. The Interim Director of Housing, Property & Regeneration informed the board the report sought members final comments before being brought back to approval at a future meeting. The Programme Support Officer also informed members that they had seen several drafts of this strategy and informed members of the potential cost implications of the proposed technical standards.

Resolved:

- (1) The progress of the work to date to develop the Homes for Future programme for the West Midlands, with wide-ranging input from the Future Homes Taskforce and local authority partners across the region and other relevant stakeholders, be noted.
- (2) Comments on the final draft of the Homes for Future Strategy be noted.
- (3) The amendments to the report on costs prepared by Cast Consultancy be noted.

17. Date of Next Meeting

Wednesday 17 January 2024 at 10.00am.

The meeting ended at 11.25 am.

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Housing & Land Delivery Board

Date	17 January 2023
Report title	Homes for the Future: Final Consideration
Portfolio Lead	Councillor Ian Courts
Accountable Employees	<p>John Godfrey, Interim Executive Director of Housing, Property & Regeneration, West Midlands Combined Authority Email: John.Godfrey@wmca.org.uk</p> <p>Leo Pollak, Head of Policy West Midlands Combined Authority Email: Leo.Pollak@wmca.org.uk</p> <p>Mia Higgins, Programme Support Officer, West Midlands Combined Authority Email: Mia.Higgins@wmca.org.uk</p>
Report has been considered by	<ul style="list-style-type: none"> • March, September, November and December 2022; and May, June, September & December 2023 - Housing & Land Delivery Steering Group • April, October and November 2022; and January, June & October 2023 - Housing & Land Delivery Board

Recommendation(s) for action or decision:

The Housing & Land Delivery Board is asked to:

- a) **Note progress with** the work to date to develop the **Homes for the Future** programme for **the West Midlands**, and wide-ranging input from the Future Homes Taskforce and local authority partners across the region, among other relevant stakeholders;
- b) **Discuss and comment** on the final draft of the Homes for the Future strategy (attached as Annex 1);
- c) **Discuss the feedback** provided from the Homes for the Future event.
- d) **Endorse** the official release of WMCA's Homes for the Future proposals

- e) Consider the release of HMG's Future Homes Standard consultation
- f) **Note the progress, discuss and comment** on the work to date on the Homes for the Future Comms Strategy and Implementation Plan
- g) **Consider WMCA's response to** HMG's 'The Future Homes and Buildings Standards: 2023 Consultation; Approved Document L - Conservation of fuel and power and minimisation of greenhouse gas emissions Volume 2: Buildings other than dwellings' which considers the standard in relation to non-domestic dwellings.

1.0 Purpose

1.1 The purpose of this report is to:

- summarise the work that has been undertaken under the leadership of the Housing and Land Board on Homes for the Future;
- set out a wider range of references and estimate for cost impacts over different timeframes;
- invite any final comments on the content of the strategy document; and
- summarise the work to date on the Homes for the Future Implementation Plan and Comms Strategy, including the launch event.

2.0 Background

2.1 **In April 2022, the Housing & Land Delivery Board agreed a programme of work to develop a 'Homes for the Future Strategy' in 2022/23.** The scope being to produce a coherent strategy to accelerate the development of the Future Homes Cluster in the Plan for Growth, secure delivery and investment in Advanced Manufacturing in Construction (AMC); zero carbon homes (ZCH); get the region ready for the roll-out of changes to Building Regulations (Part L) set out in the Government's emerging Future Homes Standard; and consequential reduced occupier costs in the new homes.

2.2 **WMCA's Homes for the Future builds on the work already pioneered to date around AMC and ZCH** under the Housing & Land Delivery Board.

This new integrated strategy is a **cross-cutting document** that is directly linked to a range of regional policies and programmes:

- unlocking the potential of the '*Manufacture of Future Housing*' economic cluster in the West Midlands Plan for Growth (launched July 2022);
- the West Midlands brownfield housing and regeneration programme (launched in the 2018 Housing Deal)
- WM2041
- Investment and Levelling Up Zones (March 2023 Devolution Deal)
- The Affordable Housing Programme (March 2023 Devolution Deal)
- The Public Land Programme (March 2023 Devolution Deal)
- the investment opportunity in future homes set out in the West Midlands Investment Prospectus (launched May 2023); and
- the high-level deliverables of the Housing & Land Portfolio agreed by WMCA Board in February 2023.

- 2.3 Housing & Land Delivery Board has previously been updated on the process to develop Homes for the Future including the appointment of Cast Consultancy; the establishment of a Future Homes Taskforce with membership drawn from across the construction and residential development industry; the launch of research projects to create an evidence base to underpin the new strategy; and the detail of a Technical Standard appropriate for the West Midlands.
- 2.4 **This work has been brought together in the form of a Homes for the Future strategy document – a final draft of which can be found under Appendix 1.** In addition, a report on the potential cost implication of complying with the standard can be found under Appendix 2 with the alterations requested previously by Delivering Steering Group.
- 2.5 Homes for the Future has been developed with the oversight of the Future Homes Taskforce. The Taskforce last met on 9th October 2023 where members expressed strong support for the programme of work and stressed the importance of showcasing industry support and early wins through landing a successful comms strategy and continuing work post-publication in the form of a wide-reaching Implementation Plan.
- 2.6 Homes for the Future will take steps to go further and faster than the national Future Homes Standard in order to prepare industry for the introduction of the national standard and anticipated future shifts within the construction industry, as well as supporting the WMCA's environmental commitments and addressing the climate crisis.

3.0 Cost implications

- 3.1 At the request of Delivery Steering Group and Housing & Land Delivery Board, Cast Consultancy were commissioned to research the potential cost implications of the proposed Technical Standard which is embedded in Homes for the Future. Their draft report is attached as Annex 2 for discussion and comment.
- 3.2 Cast has undertaken a review of the potential cost impact of the emerging Homes for the Future Technical Standard for mid-terrace and flat typologies. Their methodology includes a number of assumptions, many of which are susceptible to change over time, particularly as the industry adopts, and adapts to, new standards:
- Their baseline of each typology is based on a 'typical' approach. The modelling then considers the potential evolution of the construction costs based on proposed standards for 2023 (Statutory Plus), 2025 and 2030 including considering the likely methodology that would be adopted to meet the standard (based on current-day costs).
 - They also consider the changes that would be required to achieve the forthcoming Future Homes Standard 2025, which central Government has recently consulted on. They have sought to distinguish between the costs that would be incurred in achieving the WMCA standard and those that developers will need to prepare for regardless of the WMCA strategy, specifically national government's Future Homes Standard 2025.
 - The approach described in the technical report to meeting the WMCA standard is based on a hypothetical scenario in which industry and supply chains respond to new requirements with a potential model that follows a similar cost curve to other newly adopted building components. As such, it must be understood that industry will choose its own means of meeting the targets laid out in the WMCA Technical

Standard. It includes assumptions around changing to a timber panelised approach for the mid terrace property, potential foundation savings for lighter structures, and an allowance for changes to mechanical, electrical and plumbing (MEP) solutions.

- A series of assumptions around the likely cost impact of the technical standards are considered. There are clearly a variety of different approaches that could be adopted; therefore, a cost range has been included to accommodate the variation between different schemes in terms of site, context, scale etc.
- The cost assessment is presented on a £/sq ft basis. For the flat typology this has been derived from taking a typical 8 storey flat block as a baseline to assist in establishing the impact on the % cost impact of the proposed standard.

3.3 The findings of the research are set out in the Cast consultancy technical standard cost appraisal report and may be summarised as:

- Construction labour shortfalls are very likely to increase the baseline cost of construction whereas the WMCA approach which incentivises a shift to different construction approaches, using MMC, a different workforce model and less site labour reliance will be less affected by this trend.
- It is highly likely that the supply chain will adjust and become more efficient. By moving ahead of regulation, WMCA will stimulate the market to evolve sooner.
- It is highly likely that regulation will continue to get stronger and will mirror the approach WMCA is taking now by introducing embodied carbon reduction targets
- WMCA would also signal change sooner to the supply chain, giving regional suppliers an early mover advantage in preparing for future national change.
- The collection of data around embodied carbon that is required under all levels of the standard will prove valuable additions to an emerging data set that will better enable WMCA to understand and evaluate future potential cost differentials, as well as additional environmental benefits.
- Under WMCA's 2023 (Statutory Plus) standard, an expected additional cost of between £2,000 per development for smaller schemes up to 30 units and as high as £10,000 per development for larger schemes for collecting Whole Life Carbon data . This standard will allow developers time to transition, as well as simultaneously improving and expanding the aforementioned data set in relation to embodied carbon.

3.4 Further recent sector-wide studies include the Ready for Zero Report by Arcadis for the Future Homes Hub, Ready for Zero Report, which details cost uplifts associated with building in line with increased standards. The introduction of HMG's Future Homes Standard (referred to Ref 2025) predicts a 5% cost increase in relation to current standards which include HMG's 2021 uplifts (referred to as Ref 2021). At this stage, an additional uplift to WMCA's Homes for the Future Standard 2025 level (referred to as CS3) would result in a 15% for cost uplift. Following the introduction of HMG's Future Homes Standard (Ref 2025), the expected increase to adhere to CS3 is a 9% increase. The relevant data in the report can be found on pages 32-34.

3.5 At the request of Delivery Steering Group, an additional section, exploring the cost to detached properties, has been added to the report. This builds upon the cost analysis of flats and terraced houses.

3.6 Additionally, various real-world examples can provide clarity around costs:

- i. A scheme being funded by WMCA in conjunction with a local contractor and housing association, indicated a 4.4% increase in real post-tender costs as of July 2023 for the MMC homes on the site in comparison with those that were built with traditional construction methods.
- ii. A large build to rent development in the region has recently been procured and entered in contract. From the outset, design specifications for the scheme aligned to Cat 1 MMC and 70% PMV with WMCA-equivalent build methods. This design approach and competition among suppliers to develop the scheme resulted in it being procured at a cost that was lower than the traditional build estimate for the same scheme.
- iii. Cast benchmarking for a development in Bristol, converting a low-rise housing masterplan to achieve a net zero goal which broadly aligns with WMCA's 2025 target, resulting in a 9% increase (for SIPs, 50% PMV) to a 15% increase (for volumetric modular, 70% PMV) compared to the baseline.

3.7 It is recommended for the WMCA Future Homes Standard to be introduced transitionally allowing time for supply chains to respond and any cost impacts minimised, albeit at shorter timeframes than the transition proposed for the national Future Homes Standard. This will mean that schemes being delivered through the existing pipeline and supported through funds that run to end of March 2025 will be subject to current statutory standards, with strong preference given for scheme proposals that meet most or all of the emerging WMCA standard.

Table 1: Transitioning towards the WMCA Future Homes Standard Stage of development

Stage of development	Pre-March 31st 2025	Post-March 31st 2025
On site	Current statutory standards apply	If planning permission secured before January 2024, 2023 (Statutory Plus) standards apply
Post-planning and procurement	Current statutory standards apply	Preference to meet most or all WMCA 2025 standards
Pre-application	Expectation to meet WMCA's 2023 (Statutory plus) standard, and most or all WMCA 2025 FH standards	Expectation to meet most or all WMCA standards
Expression of Interest stage	Expectation to meet most or all WMCA standards	Expectation to meet most or all WMCA FH standards

3.8 Furthermore, WMCA has considered the challenges presented by the market and from members of the group. As a result, the former Statutory Plus standard has been amended to feature as the 2023 standard instead. This will support developers with the transition and also accounts for the alterations made on a national level since the standard was first devised that would have rendered the former 2023 standard less impactful.

3.9 More broadly, further engagement with DLUHC and HMG will be required anyway to ensure intervention rates at future negotiation better reflect changing market conditions and local aspirations. This includes the national transitional period that has already commenced with the introduction of higher building regulations for operational emissions and space heating in the 2023 Building Regulations covering Parts L and F, raising decarbonisation and ventilation standards. For future embodied carbon targets, further work regionally and nationally will be needed to develop low embodied carbon material supply chains, as well as mechanisms for recycling of construction materials.

4.0 Homes for the Future Event

4.1 The Homes for the Future Event occurred on 8th December 2023 at the National Brownfield Institute in Wolverhampton and presented the Homes for the Future proposals to the world. Mayor Andy Street introduced Homes for the Future to the audience, speaking at the event, he said ‘we must have a proper plan in place for future housebuilding in the region. That’s what our Homes for the Future proposals do, and I’m delighted we’ve been able to launch it today.’ Speeches were also delivered from Mark Farmer, Chair of the Future Homes Taskforce and CEO of CAST Consultancy, who stated that the proposals represented ‘a true UK first, and the Pro Vice Chancellor of the National Brownfield Institute who noted key steps they were already taking to support modern building methods.

4.2 Attendees also had the opportunities to ask questions of our panel consisting of Mayor Andy Street; Mark Farmer Chair of the Future Homes Taskforce and CEO of CAST Consultancy; Mary Parsons, Regeneration & Partnerships Director, Lovell; and Councillor Ian Courts from Solihull Council. The event made use of the venue’s state of the art 360° Igloo room to present a video that showcased WMCA’s vision, culminating with the opportunity for networking amongst attendees.

4.3 The event has seen press coverage from the likes of the BBC, Express & Star, and the Birmingham Mail, among others. The proposals have also been shared on WMCA’s social media channels with a long-term comms strategy being developed to continue momentum. WMCA has also secured interviews with residents living in energy efficient homes in Coventry which will feature in a future release.

4.4 There is the opportunity to provide feedback on the proposals until 22nd January 2024. No feedback has been received via official routes thus far, however positive feedback was received at the event itself with many wishing to engage with the programme during its implementation.

5.0 HMG’s Future Homes Standard Consultation

5.1 On 13th December 2023, DLUHC released the ‘Future Homes and Buildings Standards: 2023 Consultation’. The consultation runs until 11:59pm on 6th March 2024 and covers changes to Part 6, Part L, and Part F of the Building Regulations for dwellings and non-domestic buildings and seeking evidence for Part O. A small element of the consultation considers existing buildings. As with the WMCA standard, the objectives of the DLUHC policy are broadly aligned with those of WMCA, to deliver (i) significant carbon savings; (ii) homes which are high quality and affordable, protecting occupants from high bills; (iii) homes which are “zero-carbon ready” - In other words, because they use electric or other renewable energy sources, no work will be necessary to allow these buildings to

achieve zero carbon emissions when the electricity grid is fully decarbonised; (iv) homes which are cost-effective, affordable, practical and safe.

5.2 HMG has presented three options within the consultation.

Option 0 – take no action

Option 1 (preferred option) includes:

- A notional building with:
- a high-efficiency air-source heat pump
- solar PV (photovoltaic) panels
- a wastewater heat recovery system
- increased airtightness
- a decentralised mechanical ventilation (dMEV) system
- high fabric standards to minimise heat loss from windows, walls, floors and roofs (the same as the standards set in the 2021 uplift to Part L)
- a significant increase in performance standards for domestic hot water storage
- a separate notional building for new heat networks.

Option 2 mirrors Option 1, except it does not include the following features in the notional building:

- solar PV panels
- a wastewater heat recovery system
- increased airtightness
- a decentralised mechanical ventilation (dMEV) system

Option 1 prioritises energy costs over capital costs, while Option 2 does the reverse.

5.3 Comparative figures are difficult to obtain between the two standards as firstly, HMG presents multiple options for the Future Homes Standard, and secondly WMCA allows flexibility in how its standard is achieved, leaving individual methods up to the individual. As such, a comparison has been outlined below where it is assumed that an individual might use Passivhaus to achieve WMCA's Homes for the Future Standard. The current minimum standard, HMG's required Fabric Standards under both Option 1 and Option 2 are outlined below, and the proposed Fabric Standards that would be required to achieve WMCA's 2025 standard if a Passive Design model were used have been outlined below.

	Minimum Standard	Proposed Future Homes Standard – Option 1	Proposed Future Homes Standard – Option 2	WMCA Homes for the Future - 2025
External Wall	U= 0.26 W/m ² K	U= 0.18 W/m ² K	U= 0.18 W/m ² K	U= 0.15 W/m ² K
Floor	U = 0.18 W/m ² K	U= 0.13 W/m ² K	U= 0.13 W/m ² K	U= 0.11 W/m ² K
Roof	U= 0.16 W/m ² K	U= 0.11 W/m ² K	U= 0.11 W/m ² K	U= 0.11 W/m ² K
Windows	U= 1.6 W/m ² K	U= 1.2 W/m ² K	U= 1.2 W/m ² K	U= 0.8 W/m ² K
Airtightness	8.0	4.0	5.0	0.6

Proposed fabric specifications have not significantly changed since Part L 2021, however there are changes to air pressure specifications.

- 5.4 While embodied carbon is considered to be out of scope for this consultation, the government plans to consult on their approach to measuring and reducing embodied carbon in new buildings 'in due course'. The consultation does not outline specific proposals around PMV.
- 5.5 In light of considerations by HMG in relation to non-domestic buildings, we would ask the board to consider WMCA's position in relation to non-domestic buildings. Considerations around non-domestic buildings are out of scope for WMCA's Homes for the Future Programme.
- 5.6 WMCA will be preparing a response to HMG's consultation with support from the Future Homes Taskforce.

6.0 Implementation Plan

- 6.1 Through the Homes for the Future Implementation Plan, WMCA will ensure that the programme does not end with publication of the strategy. It is recognised that developers will need support with understanding the standard, sourcing the appropriate manufacturers, understanding how to apply for WMCA funding more widely, and accessing support from WMCA should they require it. This will be particularly important for SMEs and smaller developers.
- 6.2 Additionally, the expanding the skills base that can deliver Homes for the Future will be a key programme of work for WMCA. In order to enable the supply chain to develop, WMCA has the potential to offer support for skills development in relation to Homes for the Future. WMCA has discussed the potential of facilitating a forum upon which relevant WMCA colleagues could engage with key stakeholders to understand where support to develop skills in relation to Homes for the Future is needed, as well as bringing together relevant stakeholders to advance knowledge and research in this field, share best practice, and make meaningful connections with others in the field.

7.0 Next steps

- 7.1 Comments on the final strategy and costs report are invited at this meeting. **This will be the final opportunity** for members to comment on the content of the strategy document prior to its official publication. The proposal documents are now in a brochure format and available on WMCA's website.
- 7.2 An extensive engagement programme has taken place over the summer months to ensure co-development of the document and engagement in the process. Feedback on Homes for the Future proposals will be accepted until 22nd January 2024.
- 7.3 An extensive comms programme has been worked up with communications planned throughout the coming months. Initial proposals and content from the event have already been shared via WMCA's social media channels.
- 7.4 The Implementation Plan will be fleshed out to support delivery of Homes for the Future after publication of the strategy. This will be achieved through working with developers of all sizes to support their understanding and implementation of the strategy, and expanding the skills base that can deliver Homes for the Future.

8.0 Financial Implications

- 8.1 It is noted that the purpose of this report is to summarise the work that has been undertaken on the Homes for the Future strategy and implementation plan; and to provide information used in considering the approach and impact of this strategy, including the cost impacts; with the aim of requesting final comments on the strategy document.
- 8.2 It is understood that the WMCA Homes for the Future Strategy aims to bring in standards proposed in the Government Future Homes Standard at an earlier stage in order to assist in the transition from the current building requirements to the Future Homes Standard 2025 position.
- 8.3 It is clear that there is not one agreed position on the likely cost impacts of undertaking the changes within the Future Homes Standard and the earlier implementation of the WMCA Homes for the Future Strategy; however, it is anticipated that there is likely to be an increase in costs for Developers in building new homes to the new standards, particularly in the short – medium term. Where there are cost increases resulting from the implementation of this standard, this is expected to adversely impact on the intervention rate for housing grants requested from WMCA due to increased viability gaps from building in these requirements. There is an expectation of approx. 5% - 15% uplift in costs for Developers in complying with the Future Homes Standard. In simple terms, assuming the construction cost of a small new home is £125,000 and it is part already part funded via a grant. An increase in cost of 5% to 15% would increase the gap funding required and add a further grant requirement of £6,250 to £18,750 for each home to be developed.
- 8.4 Note, it is understood that the overall cost impact is dependent on how early in the design stage the WMCA Homes for The Future standard is factored in by a developer and that, generally, the cost increases should be tempered the earlier these requirements are included in the design. For example, “real world” tender costs show approx. 4.5% increase for a smaller terraced housing scheme (adapting ‘traditional design’ to MMC), or in the case of Smith Gardens a large build to rent scheme in Digbeth (the only advanced larger scheme typical of those coming through our pipeline comprised of apartment blocks and meeting the WMCA FH standard) a small cost saving compared to a traditional build estimate that the developer tendered for.
- 8.5 For the current Housing Funds, i.e., the Land Fund, Brownfield Housing Fund and National Competitive Fund the average intervention rate has been close to / above target without the requirement to meet Future Homes standards, due to the impact of factors such as inflation, etc.. There is, therefore, pressure on the intervention rates for the remaining funds available in order to ensure the average intervention rate for those funds is met. Based upon historic performance the existing funds will not be able to be deployed, where the intervention rates for future schemes exceed the average rate for the funds.

- 8.6 It may, also, be the case that WMCA may be unable to sell its landholdings for “the best consideration” because of the additional costs that a developer may incur in complying with the Future Homes Standard, before the legislation is in place. As a result, this may, also, impact on the intervention rate of any grant required by the developer and / or the price that WMCA can recover for its landholdings. Furthermore, if WMCA land is sold with conditions attached, i.e., requiring compliance with the Future Homes Standard before this is mandated by law, this would ordinarily bring all land disposals under the Procurement Contract Regulations. This would add time and complexity to any disposals which would require additional resource.
- 8.7 It is noted that there is to be a transition to the standard, as noted in Table 1, above, which would require schemes at an early stage in the process of requesting housing grants to comply with the Standard while those already on site or at post-planning / procurement stage to align with WMCA’s 2023 (Statutory Plus) standard (at a cost of average £3k – £10k per development, depending on the size of development, as advised by Cast Consulting, so not considered to be an onerous cost). This less onerous approach should result in a negligible impact on the viability gaps for those schemes already progressing through the grants process. It is, also, noted that those schemes aligning with the WMCA’s 2023 (Statutory Plus) standard will allow developers time to transition, as well as providing important data to assist in understanding the likely cost and other impacts of these changes, to inform the strategy implementation.
- 8.8 It is noted that the understanding of the findings of the Cast Report and Arcadis reports, on which the Financial Implications assessment has been based, as confirmed by HPR and as noted below.

Report	Findings	Approach	Comments
Arcadis: ‘Ready for Zero’ <ul style="list-style-type: none"> Task Group Report - Evidence to inform the 2025 Future Homes Standard 28.02.2023 	Build cost impact ranges from - £3k to + £17k per house based on achieving the Future Homes Standard 2025 requirements in 2022.	<ul style="list-style-type: none"> Based on end of Terraced House; Based on 5 Contender Specifications to capture the range of approaches to zero carbon ready homes; 	<ul style="list-style-type: none"> Strong disagreement between Taskforce stakeholders on costs of delivering 5 Contender Specifications in new build homes in 2022; Report produced under Terms of Reference from DLUHC
Cast Consultancy		<ul style="list-style-type: none"> mid-terrace and flat typologies; detached dwellings 	<ul style="list-style-type: none"> methodology includes a number of assumptions, many of which are susceptible to change over time “

<p>Real world” examples:</p> <ul style="list-style-type: none"> • A scheme being funded by WMCA in conjunction with a local contractor and housing association • A large build to rent development in the region has recently been procured and entered in contract. • Development in Bristol, converting a low-rise housing masterplan to achieve a net zero goal which broadly aligns with WMCA’s 2025 target. 	<ul style="list-style-type: none"> • 4.4% increase in real post-tender costs as of July 2023 • This design approach and competition among suppliers to develop the scheme resulted in it being procured at a cost that was lower than the traditional build estimate for the same scheme • 9% increase (for SIPs, 50% PMV) to a 15% increase (for volumetric modular, 70% PMV) compared to the baseline 	<ul style="list-style-type: none"> • Comparison of the MMC homes on the site with those that were built with traditional construction methods. • From the outset, design specifications for the scheme aligned to Cat 1 MMC and 70% PMV with WMCA equivalent build methods. • Based on Cast benchmarking 	<ul style="list-style-type: none"> • “Real world” examples provided by HPR – per 3.6 in this report
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8.9 It is noted that, as per Section 5 of this report, on 13th December 2023, DLUHC released the ‘Future Homes and Buildings Standards: 2023 Consultation’, to consider changes to Building Regulations. It is not known what the impact of this will be for Developers, and any resulting grant request and associated intervention rate, and / or how this may impact on / differ from the proposed WMCA Future Homes Strategy. Given this, it will be important to ensure the outcomes of this DLUHC consultation are considered within the decision-making around the WMCA Homes for the Future Strategy, and any further cost implications that may arise, as a result, should be brought back to H&LDB for consideration.

9.0 Legal Implications

9.1 WMCA has the power to impose a grant condition that requires compliance with the Future Homes Standard under Section 113(1)(a) of the Local Democracy, Economic Development and Construction Act 2009. This statute gives WMCA a power of competence appropriate for the purposes of carrying out any of its functions.

9.2 WMCA also has the power to impose a condition on WMCA land disposals which requires a developer to comply with the Future Homes Standard. However, it should be appreciated that to do so may mean that commercially WMCA is unable to sell its landholdings for “best consideration” because of the additional costs that a developer would incur in complying with the Future Homes Standard. Whilst WMCA has power to sell land under its economic development and regeneration function and its transportation function at less than best consideration it has no power on its own motion to do so to sell land held under its housing land and infrastructure function for less than best consideration”

10.0 Equalities Implications

10.1 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. Long-term equalities benefits are likely to include warmer homes for residents, lower energy bills, and healthier properties.

11.0 Inclusive Growth Implications

11.1 Homes for the Future 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.

11.2 Inclusive Growth benefits are expected to include supporting tackling fuel poverty, supporting the circular economy agenda, improving the climate resiliency of homes, supporting the goal of zero-waste construction, and health and well-being benefits.

12.0 Geographical Area of Report’s Implications

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

13.0 Other implications

13.1 None

14.0. Schedule of Background Papers

14.1 None



West Midlands
Combined Authority

Homes for the Future

Our Proposals for
Aligning Zero Carbon
Homes and Advanced
Manufacturing

Cast 

usefulprojects

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Foreword by Andy Street



Our Proposed Homes for the Future Strategy brings together two distinct elements: our clear ambition for building zero carbon homes and the region’s proven capabilities in advanced manufacturing.

Using the latest digital technologies and innovations in construction, we aim to build more energy efficient, warmer, healthier, sustainable homes while creating brand new business, investment, and job opportunities.

We are determined to tackle the region’s declared climate emergency and meet our commitment to be carbon neutral by 2041. With Homes for the Future, we have the opportunity to drive an increased supply of new homes, support existing businesses and create new ones, develop skills and improve the quality of new homes. By ensuring that our green ambition is embedded into all new construction projects from the start, we will be making our new homes liveable, sustainable, and resilient to the climate crisis.

This is a journey... a journey to ensure that the transition to zero carbon, climate resilient construction is achievable and accessible across the construction industry. This is a journey with our Future Homes Taskforce, key stakeholders, developers, housing associations, and boards, as well as our communities. I invite you to work with us and I promise that we will be there to support you every step of the way.

There are huge advantages for us all.

A handwritten signature of Andy Street in orange ink, written in a cursive style.

Andy Street
Mayor of the West Midlands

Executive Summary

Nationally, the Government has set out a clear plan for challenging the construction industry to embrace the building of energy efficient, resilient, zero carbon homes through planned changes to Building Regulations in 2025 (the Government's 'Future Homes Standard'). The Government is also incentivising new building techniques through requirements set out in major funding programmes such as the Affordable Homes Programme, now run in the West Midlands by WMCA and Homes England following the 2023 Devolution Deal.

As a result, many of the largest housebuilders and investors in the UK construction industry are implementing radical change to their models of building, incorporating advanced manufacturing techniques to drive efficiency, productivity and quality. But we need to ensure that this advantage is spread across all businesses, large and small.

In the West Midlands, we aim to get ahead of the curve in zero carbon and changes in regulations. The construction industry has one of the highest economic multipliers of all industrial sectors – nearly £3 value add for every £1 spent – and the opportunity for this strategy is to leverage these changes to ensure a 'fit for purpose' housebuilding industry in the West Midlands and a resilient supply chain that can weather the challenges that the housebuilding sector is facing.





Homes for the Future fundamental principles:

- 1 Aligning with emerging industry standards:**

We have sought to align the strategy with what is already happening in the region and beyond on development projects, leading industry standards such as LETI (the Low Energy Transformation Initiative) and existing standard outcome metrics such as Pre-Manufactured Value (PMV). The PMV targets have been set in line with those of Homes England. Collectively, this will provide confidence to investors and developers (and Government) on clarity, certainty, case study evidence and delivery momentum.
- 2 Signalling a long-term ambition and direction:**

The strategy and supporting Technical Standard set a clear, long-term ambition over the period to 2030, with incremental increases in requirements, enabling the construction industry to respond and invest over time, and as its capacity develops.
- 3 Securing pace and momentum:**

Building on feedback from internal and external stakeholders, and key initiatives such as our Climate Emergency, Deeper Devolution Deal and Plan for Growth, the strategy sets a trajectory that exceeds Government regulation in both scope and speed of implementation.
- 4 Enabling realistic, flexible implementation:**

Our strategy requires no one, single, technical solution. We emphasise a phased approach and compliance focused on the outcome rather than the process, allowing the sector to innovate. We also recognise the need to encourage behavioural change where we recognise that enhanced practical performance is not possible in the early years.
- 5 Suggesting practical solutions:**

Delivery is critical, so we recognise the need to be practical. The Technical Standard sets out our expectations for performance over various timeframes. It also includes guidance on how the standard can be achieved in practice.
- 6 Identifying clear evidence of successful delivery:**

To build momentum and show that it can be done, we will build a catalogue of successful projects that showcase success, and share the technical solutions used to create an environment of continuous improvement.

Executive Summary Continued

In terms of implementation, the strategy is also supported by the full policy and investment infrastructure of WMCA's new devolution settlement.

The strategy builds on its pioneering heritage by moving ahead of national Building Regulatory changes. At the same time, a phased incremental approach provides certainty and clarity to industry partners, with a planned transition over time ensuring that there is no negative impact on viability or deliverability. Finally, a performance-based approach adopted in the strategy, rather than a method or material prescriptive approach, will ensure that we are as inclusive as possible to all supply chains.

We have carefully aligned our standard through industry engagement, led by our Future Homes Taskforce, and drawing upon our existing Zero Carbon Homes Routemap to Net Zero Homes. We recognise that, initially, the standard will require higher upfront investment, potentially some £10-£15k per dwelling. We are confident, however, that, as capability builds, national policy changes, economies of scale emerge in the use of new technologies, and the systemic shortfalls in labour and skills drive increases in traditional construction costs, the initial cost increase of the region's technical standard will reduce, potentially to zero, by 2030.

The key to success is consistency and visibility of demand. This includes both the overall long-term quantum of homes to be commissioned, and the type of homes and technical solutions that will be required. This aggregated and standardised requirement, supported by our own interventions, will enable industry to invest, drive up the quality of new homes, drive down their environmental impact, and thereby create a UK-leading manufacturing industry.

Through our engagement with developers, investors, suppliers and other stakeholders, we are confident that this is a move that industry is starting to make already. There is a clear opportunity for the West Midlands to take a leadership position, demonstrating that change is not just possible but necessary. Through this strategy, WMCA is embracing its role as a facilitator and leader to shift the needle on this agenda, maximise the opportunities it creates and best support the region, its local authorities, businesses, developers, and residents.

1.0 Introduction

Our ambition is to lead the way in the provision of high quality, sustainable and efficiently delivered new homes for residents in our region while driving forward the capability and growth of our advanced manufacturing businesses and creating new employment opportunities for our workforce.

Our Homes for the Future Strategy is the latest step in our work to encourage and incentivise the construction industry to accelerate its shift towards low and zero carbon new homes. The strategy builds on our previous work on advanced manufacturing in construction and zero carbon homes, maximising the benefit to be derived from the HMG's Future Homes Standard which will come into force in 2025.

We will go further and faster by setting out a core set of enhanced sustainability, climate resiliency and construction methodology targets. This will enable us to allocate land, funding and other support to projects that can be shown to meet our expectations. This approach will support us to achieve **WMCA's net zero target by 2041**, ahead of the UK's national target of 2050.

Homes are the highest carbon emitters in our region, accounting for **39% of emissions**, ahead of both industry and transport. Retrofitting an existing home is estimated to cost **five times more** than designing a new home which is energy efficient. By building sustainable new homes now, we will therefore reduce the need for retrofitting within the region and avoid adding to the **1.2 million homes** within the West Midlands that currently need retrofitting.

Our output-based approach will help developers to produce warmer, safer, more energy-efficient homes; tackle fuel poverty; and reduce the threat from energy price hikes. This approach will boost confidence and capability in the construction industry so that new technologies, driven by advanced manufacturing construction, become the established approach to delivering zero carbon homes, supporting a transition to greener construction, and increasing the number of green, sustainable jobs in the construction sector.

2.0 Policy background

National Policy

National Government is incentivising advanced and modern methods of construction as a means of modernising the construction sector. Building regulations will change in 2025 and further change is likely in the future.

In relation to construction skills, National Government has recognised the need to promote Advanced Methods of Construction (AMC) and Modern Methods of Construction (MMC) as a way of establishing a more productive and sustainable industry model since the Housing White Paper of 2017. This has been most clearly articulated in the 2021-2026 Affordable Homes Programme which sets mandated minimum levels of Modern Methods of Construction on supported projects including those with Homes England's Strategic Partners. Homes England reaffirmed this commitment in its latest 2023 – 2028 Strategic Plan which includes Key Performance Indicators for MMC and Sustainability Performance, including targets for both operational and embodied carbon.

In relation to sustainability, Government has recognised the inevitability of having to regulate the industry's decarbonisation journey, starting with operational carbon via the Future Homes Standard which will be introduced in 2025. While Government has not yet signalled the regulation of embodied carbon, there is increasing parliamentary receptiveness and lobbying momentum through the Part Z campaign. The perception in industry is that embodied carbon will also eventually be regulated, bringing the UK into line with several other countries including the Netherlands, France, Finland and Denmark.

At present, Government has not connected advanced or modern methods of construction with decarbonisation through policy or regulation, preferring to allow industry to develop its own solution, but there are clear signs that there will be policy shifts in future. Through making this link, WMCA sets itself apart not only from government, but also from other regional authorities.





Regional policy


Regional policy on advanced and modern manufacturing in construction and zero carbon homes has been developing for some time. WMCA's previous work has shown that it is only through construction modernisation that net zero aspirations can be achieved at scale.

Our Roadmap for Advanced Manufacture in Construction helped us to set out expectations, on WMCA-funded projects, that new developments of a certain size should incorporate elements of Modern Methods of Construction. We recognised that the wider definition of 'AMC' had significant potential to drive a range of long-term benefits to the construction industry and that, by encouraging the use of advanced manufacturing components on new home developments in the West Midlands, we could deliver considerably wider benefits to the region.

It was also recognised that use of AMC could support five of WMCA's existing policy goals for sustainable and inclusive growth:

- Accelerating housing delivery
- Delivering a zero-carbon future
- Investing in regional and inclusive growth
- Design that reflects the character, context, and aspirations of our communities
- Creating climate resilient and future proof homes that are safer and warmer for our communities.

Following the work on advanced manufacturing, the West Midlands Zero Carbon Homes Routemap set out a series of requirements for new homes to achieve defined net zero standards in operation. The goal was set to deliver zero carbon homes in the region by 2025 and achieve net zero carbon emissions in line with WM2041. The Zero Carbon Homes Routemap sets out programmes of action over the short, medium, and long-term which enable the WMCA, and its partners, to meet these ambitious targets.



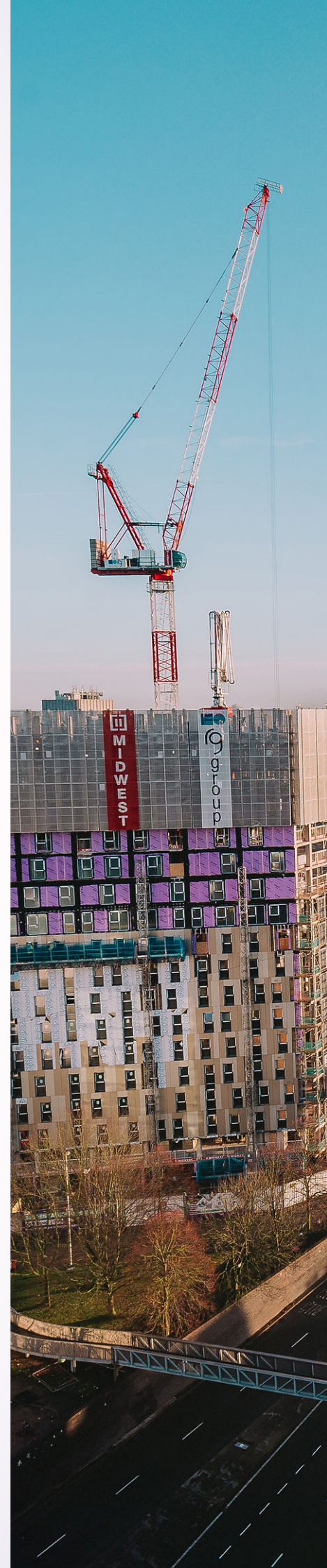
The Homes for the Future Strategy builds on this pioneering work to date. It also branches out more widely to act as an integrated strategy and a cross-cutting document that is directly linked to a range of wider regional policies and programmes including:

- unlocking the potential of the ‘Manufacture of Future Housing’ economic cluster in the West Midlands Plan for Growth (launched July 2022)
- the West Midlands brownfield housing and regeneration programme (launched in the 2018 Housing Deal)
- #WM2041
- Investment and Levelling Up Zones (March 2023 Devolution Deal)
- the Affordable Housing Programme (March 2023 Devolution Deal)
- the Public Land Programme (March 2023 Devolution Deal)
- the investment opportunity in future homes set out in the West Midlands Investment Prospectus (launched May 2023); and
- the high-level deliverables of the Housing & Land Portfolio agreed by WMCA Board (February 2023).

Through the West Midlands Plan for Growth the region has laid out a path for returning to a growth trajectory, spreading opportunity and jobs across the region and helping to level-up the UK. The Homes for the Future Strategy will help to revolutionise the modern construction industry, not least by increasing the rate of production.

Also, by expanding the skills base of the modern construction industry, WMCA can help to upskill workers, future proof jobs and increase skills in an in-demand job sector. Being a pioneer will create a skills base that will make West Midlands workers and knowledge in demand across the country.

The programme will also showcase the potential of the region, attracting further investment, confidence and funding. It will show that the region is able to lead both nationally and internationally when it comes to decarbonisation and modern methods of construction.





3.0 Market Perspectives

The construction challenge

The traditional construction sector suffers from systemic challenges which significantly and negatively affect its capacity to supply the homes of the future that the West Midlands will need.

Data from the Office of National Statistics confirms that the economically active workforce has reduced by 11% since 2019, a combination of demographics, the pandemic, migration patterns and insufficient new talent replenishment. One third of the workforce is now aged over 50 and the average age is increasing, yet in many physically intense trades most workers plan to retire at 55-60 years old and not at the state retirement age. The Construction Industry Training Board (CITB) in its most recent survey estimated that 25,000 extra construction workers are needed in the West Midlands in the next 4 years, yet societal change means a smaller talent pool is choosing construction as a career.

Amplifying the workforce challenge is anecdotal evidence that productivity has declined further since the pandemic from what was already a low base. This is now driving wage inflation and reducing relative output, creating resource scarcity which threatens viability of future projects. The combination of regulatory change relating to both carbon and safety, with a shrinking construction workforce and shortages of key traditional skills, creates an unsustainable situation.


We therefore have a national and regional productivity and resource security risk which requires immediate action to safeguard our ability to build more and better-quality homes in the future with the growing threat of a resource constrained workforce. The status quo is not an option. Homes for the Future is therefore not just an environmental necessity, but an economic one.

Signs of change

The pivot towards more advanced methods for building homes has been slow to emerge over the last few years despite Government incentivisation and mandate through programmes such as the Affordable Homes Programme.

In the past eighteen months, however, the combination of a growing realisation of the extent of workforce erosion and the likely implications of the Future Homes Standard is starting to motivate major national housebuilders to review their construction strategies. Several major housebuilders have embarked on building factories to produce a proportion of their new homes to safeguard additional capacity despite workforce challenges, driven by recognition of the twin challenges of resource scarcity and carbon reduction.

These businesses are formally linking AMC and MMC with the ability to deliver higher performing homes in bigger numbers. While the fact that major housebuilders are now comfortable with new methods shows that past concerns about robustness and access to mortgage finance have been addressed.



A West Midlands regional agenda which formally links AMC with decarbonisation of housebuilding can therefore be seen in the context of an increasing acceptance by industry that things are changing. Businesses of all sizes need to prepare for this change by doing more than small scale pilot or research and development projects.

Current Manufacturing Capacity in the West Midlands

The West Midlands AMC sector has the capacity to deliver around 4,500 new homes using AMC today which, if undertaken would represent roughly 10% of the UK-wide output. Presently, the West Midlands is delivering around 2,000 to 2,500 homes per year of that capacity. Delivery of an additional 2,000 homes per annum in the region using AMC is equivalent to 2 factories with 1,000 homes per annum capacity or one larger facility that would accommodate the entirety of the additional 2000 homes.

Evidence suggests that growth in AMC and MMC, particularly that around volumetric is highly additional and will not displace existing construction activity. Recent setbacks and high profile company failures in the volumetric sector show that this has been a challenging model to establish and mature. Residential construction is a highly cyclical sector and emergent businesses with high costs of entry into the market are particularly exposed to those cycles. As such the approach taken in our strategy is, first to drive confidence into the sector by showing leadership and increasing demand for manufactured solutions, and second to take a technology-agnostic approach through the use of PMV, enabling the market to respond in range of ways. This approach is likely to generate a considerable degree of economic value through the wider supply chain. It is anticipated that AMC and MMC activity will indirectly support 560 jobs in the supply chain, generating roughly £44m in Gross Value Added in the West Midlands.

The need for leadership

As part of this process, there is a need for strong leadership as the industry remains traditionally cost conscious and focused on the near term. The uptake of advanced building techniques in the West Midlands can be accelerated using the tools and powers secured by the region through its devolution and funding deals with Government. The intelligent use of public land supply, affordable housing funding, brownfield funding, levelling up and investment zones, strategic partnerships and the use of best value procurement tools to level the playing field, can all help offset the short-term additional costs of innovation, prior to anticipated long-term cost savings.

This strategy places the West Midlands at the vanguard of a wave of change in housebuilding over the coming decade. In doing so, it will give our local supply chain a significant first mover advantage in growing capacity, capability and to scale the technical solutions that will be required nationally in the coming years.

4.0 Framing our strategy

The [West Midlands Inclusive Growth Framework](#) lays out our vision for delivering inclusive growth across the region. Ensuring that our residents live and work in healthy environments is vital to achieving this vision. Decent homes which are affordable, safe and fit for purpose have a huge impact on an individual's ability to thrive and access opportunities where they live. The Homes for the Future Strategy takes critical steps towards our ambition for inclusive growth, with the potential of delivering a number of significant benefits.

Fuel poverty

Over half of all neighbourhoods in the West Midlands are in the bottom 20% when it comes to fuel poverty, nearly three times the national average. An estimated 235,512 homes are classed as being fuel poor homes. At 17.5% of all homes, this is the highest rate of fuel poverty in any English region, with some local areas experiencing much higher rates of over 40%. The Homes for the Future Strategy will help to alleviate this problem by reducing costs for occupiers, building a better physical fabric for new homes with higher insulation standards and reduced energy costs.

Health and well-being

Well-designed and well-built homes also have an impact on our health and well-being. Since the publication of the Marmot Review in 2010, life expectancy in England has stalled and health inequalities have continued to widen. Across the region, both life and healthy life expectancy remain lower than the national average. This has been both exposed and exacerbated by the coronavirus pandemic and the cost-of-living crisis, with our ethnic minority communities among those most affected.

Cold homes can affect or exacerbate a range of health problems including respiratory and circulatory problems and increase the risk of poor mental health. It is estimated that 10% of excess winter deaths are directly attributable to fuel poverty, and a fifth of excess winter deaths are attributable to the coldest quarter of homes. Cold homes can also affect wider issues, such as educational performance among children and young people, as well as work absences.

Homes for the Future means that the region will be able to deliver more sustainable, warmer, more energy efficient, climate resilient homes that will be healthier, happier properties for residents to occupy from the outset, reducing the need for later improvements.



Zero waste construction/Circular economy

Research conducted during the preparation of WMCA's Circular Economy Routemap found that the construction industry is responsible for over 50% of the waste produced in the West Midlands. The move to a circular economy can extend the life cycle of the resources used to make products, reducing or eliminating waste. It can also drive clean economic growth and the creation of tens of thousands of new jobs in low carbon and green technologies.

The transition to a circular economy - one which encourages the repair, reuse and regeneration of resources and materials as well the use of renewable energy - is seen as critical if the West Midlands is to achieve its target of becoming a net zero carbon region within the next 20 years. Homes for the Future will support the move towards more sustainable construction materials, generating skills and talent within the region, and will encourage a shift to more locally and sustainably sourced construction materials with a consequent reduction in the waste of construction materials.

Retrofit

WMCA has ambitious plans to retrofit 50,000 homes across the West Midlands, targeting older homes that have low energy efficiency and cause households to pay far too much on their energy bills.

As well as supporting WMCA's ambition to become net zero by 2041, modern construction techniques will also contribute to improvements in local employment and training. The Homes for the Future Strategy also helps to ensure that we are not constructing more homes that will need to be retrofitted in the future.

Climate adaptation and resilience

Rising temperatures bring changing weather patterns and climate-related hazards, including (but not limited to) longer and more frequent heatwaves, increased flood risk, disrupted supply chains, power cuts and water scarcity. The West Midlands built environment is designed for past and current – rather than future – climate scenarios. There is a need to adapt how we design properties and the materials we use to build them to ensure that they are resilient against climate-related impacts.

The Homes for the Future Strategy will improve the resilience of new developments to heat-related risks through consideration of:

- **passive design options**, protecting properties and occupants from the risk of heat stress and overheating
- **ventilation and airflow** to prevent overheating and improvement of air quality
- **comprehensive overheating analysis** to ensure all habitable parts of the property are comfortable and liveable for occupants
- **fabric performance** under future climate scenarios
- **the BRE Home Quality Mark** to demonstrate that property design has accounted for climate risks to health and wellbeing and running costs of the build

5.0 Inclusive growth and climate resilience

Our strategy is designed to sustain the West Midlands leadership position in manufacturing and some forms of construction technologies. Our strategic response has been to set an ambitious long term performance standard for new homes, aligned to a series of realistic but challenging interim milestones. These standards are all aligned to industry benchmarks and, critically, are outcome targets which specify the performance that we require, not the technologies or solutions that might be used to achieve them. This will allow us to incentivise innovation and participation across the whole supply chain including SMEs.

Brownfield Land - The West Midlands already has a national leadership position in brownfield remediation through its National Brownfield Institute and multi-million-pound brownfield regeneration programme, and our strategy is intended to augment this position in the areas of advanced manufacturing in construction and net zero housebuilding.

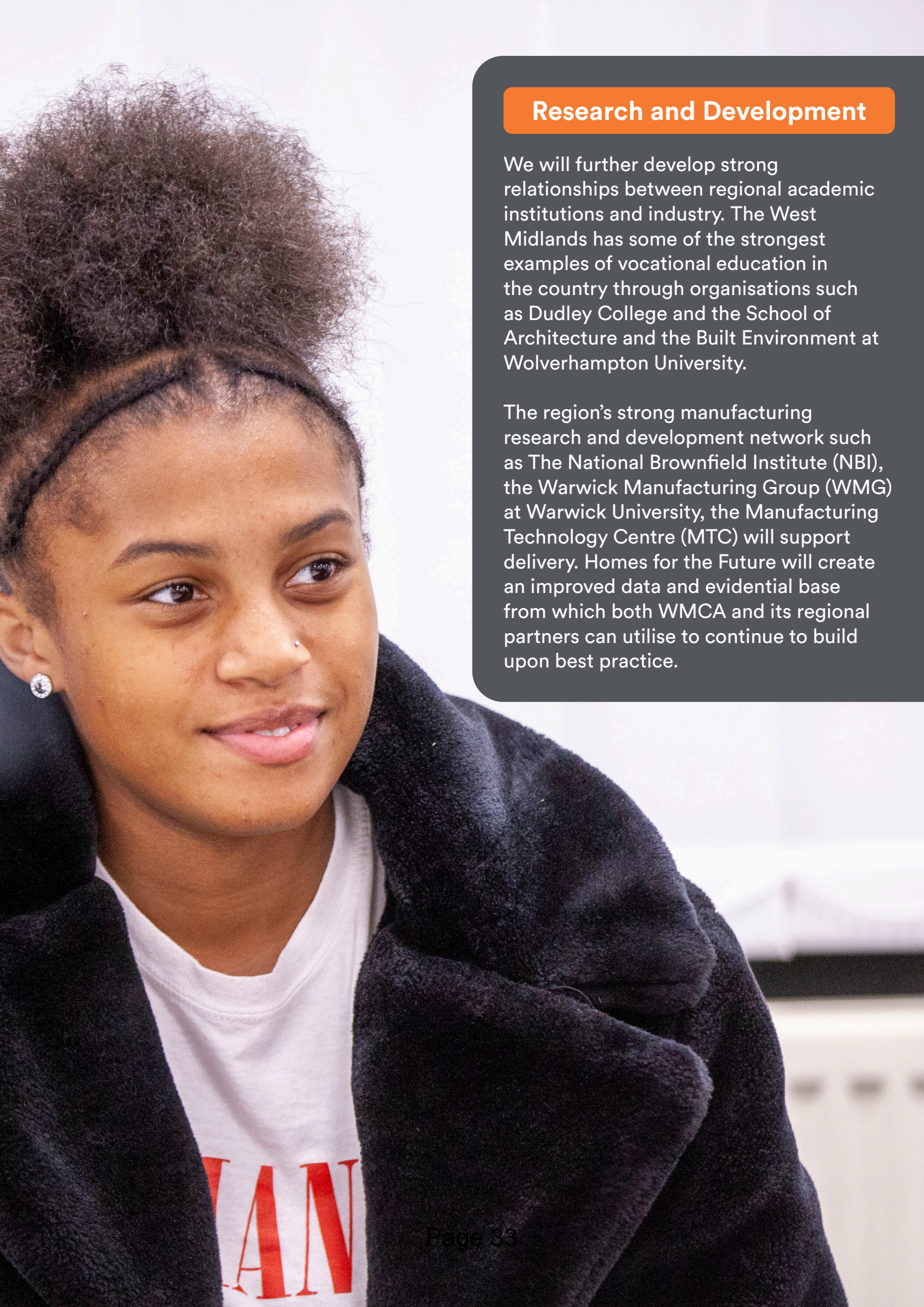
Plan for Growth - The region's medium term growth strategy, the Plan for Growth, identifies the manufacture of future housing as one of eight key growth cluster opportunities for the region, with the potential to add 3,700 new, high value jobs to the West Midlands' economy.

This flexibility means that the strategy can support more inclusive and diverse supply chain growth – for developers, investors, and suppliers – and will be open to any supplier or innovator who can robustly achieve the technical standard, from major businesses to start ups and SMEs.

The strategy has also been designed to ensure that we do not force the industry to move solely towards 'modular' or volumetric housing. The recent, well publicised challenges of some suppliers and housebuilders show clearly that the likely maturity profile of the UK's AMC/MMC market will require a diverse range of solutions spanning all seven of the Government's defined categories of MMC covering panelisation, sub-assembly use, innovative materials, and on-site technologies.

The outcome specification set out in our strategy will enable more hybrid approaches to AMC/MMC to be brought forward to achieve the standard.





Research and Development

We will further develop strong relationships between regional academic institutions and industry. The West Midlands has some of the strongest examples of vocational education in the country through organisations such as Dudley College and the School of Architecture and the Built Environment at Wolverhampton University.

The region's strong manufacturing research and development network such as The National Brownfield Institute (NBI), the Warwick Manufacturing Group (WMG) at Warwick University, the Manufacturing Technology Centre (MTC) will support delivery. Homes for the Future will create an improved data and evidential base from which both WMCA and its regional partners can utilise to continue to build upon best practice.

6.0 Proposed Technical Standard

Our proposed Homes for the Future Technical Standard would provide clarity around the targets that must be achieved and the potential methods of achieving them. It provides a long-term ambition aligned to short term progressive changes and allows industry to evolve solutions in response. It reflects ambitions in both national and regional policy and, as such, aims to incentivise:

- a speedier and more comprehensive adoption of more productive and assured outcome building techniques
- a higher standard of energy performance compared with the Building Regulation changes, and
- reduced embodied carbon in construction that is not part of Building Regulations at present.

Measuring performance standards

The Technical Standard translates these objectives into measurable performance standards with increasing target levels of performance from the current baseline to 2030. Those measures and targets are considered under headings:

Construction: More productive building techniques

- This is measured using the Pre-Manufactured Value (PMV) metric which calculates the material proportion of a building project's cost as opposed to other cost factors including plant, labour, and management. This is a proxy metric for the extent of AMC/MMC as the greater the extent of AMC/MMC, the greater the material element relative to other project costs. PMV is already used as a tool by Homes England to incentivise AMC/MMC use.
- PMV does not favour any building technology over another, and increased PMV can be achieved in a number of ways, providing developers with the space to innovate and develop efficient models of delivery without specifying which construction methodologies should be pursued.

Sustainability: More new energy efficient homes

Through a mix of careful design, enhanced fabric efficiency and the inclusion of non-fossil fuel energy sources such as heat pumps and solar panels, the aim is to incentivise the delivery of new, more energy efficient homes. Two industry standard metrics are used to measure these requirements:

- the energy intensity of a new home: the amount of energy required to use it, proportional to its size
- the space heat demand: a measure that describes the amount of heat required to heat a building and maintain the inside at a particular temperature.

The achievement of these standards places requirements on developers to use higher performing building materials, different heating technologies, and to design for high energy performance from the outset.

Sustainability: Reducing life cycle carbon in construction

- Carbon emissions are created by the materials used in constructing new homes, and by the construction process itself. This is known as embodied carbon and it can be reduced in several ways including the use of lower carbon materials, reduced material and process waste and smarter site operations such as fewer transport journeys.
- There is no requirement in building regulations or other legislation to reduce these embodied carbon emissions. To take a leadership position, however, and to align with best practice in other countries as well as the likely future trend in the industry, we will require projects funded by WMCA progressively to reduce embodied carbon. This will be measured using the whole life carbon assessment as defined by RICS and aligned to the LETI timeline. The new Net Zero Carbon Buildings Standard is currently being developed and we will ensure the carbon metrics in our strategy are aligned in terms of definitions and measurement protocols.

Overall, the achievement of these standards places requirements on developers and contractors to use higher performing building materials, different heating technologies, and to design for high energy performance from the outset.



The Standard, Targets and Trajectory

Our technical standard and targets are being driven by future changes in national standards such as the introduction of improvements to the minimum standard of fabric efficiency required by building regulations, with a first step implemented in 2023 and a further improvement to follow in what is known as the Future Homes Standard in 2025. The precise extent of this standard is currently being fixed by Government following engagement with the sector, led by an industry group known as the Future Homes Hub. Our Construction and Sustainability Targets, as defined within the Technical Standard, this provides:

- a granular description of how the standards can be achieved
- a clearly defined trajectory increasing over time
- a definition of the evidence required for funding purposes.

Table 1 provides a snapshot of these requirements.

2030 Target - Achieve net zero carbon in construction and in operation

Energy Use Intensity:

- EUI: <35kWh/m² operational energy use (including regulated and unregulated energy).
- Space heating demand of <15KWh/m²/yr

Upfront Embodied Carbon:

- Embodied carbon calculation to verify target equivalent to <300kgCO₂/m²

Modern Methods of Construction:

- All developments achieve PMV of 55%

2025 Target - Achieve net zero carbon in operation

Energy Use Intensity:

- EUI: <35kWh/m² operational energy use (including regulated and unregulated energy).
- Space heating demand:15-20 KWh/m²/yr

Upfront Embodied Carbon:

- Embodied carbon calculation to verify target equivalent to <400kgCO₂/m²

Modern Methods of Construction:

- All developments achieve PMV of 50%

Statutory Plus Target - Enhanced measurement and monitoring

Energy Use Intensity:

- Dwelling Emission Rate against the Target Emission Rate of Building Regulations Part L 2021

Upfront Embodied Carbon:

- As a minimum all delivery partners must measure embodied carbon impacts of the proposed construction.

Modern Methods of Construction:

- Review opportunity for PMV uplift across all MMC categories

7.0 How we propose to apply the Technical Standard

The Technical Standard would be embedded in our requirements for devolved housing and land funding as part of the Single Assurance Framework process. The Technical Standard defines the minimum required outcomes and lays out the codified expectations that any applicant for residential funding should achieve, as well as how these can be achieved. Embedding this robust standard as part of our future pipeline is essential to support the delivery of new homes enabled by the Deeper Devolution Deal (March 2023). Combined with guidance documentation for investors and developers, we will ensure the provision of clarity in relation to the standard, how it can be achieved and the benefits of doing so.

Measuring Compliance

The standard is based on a 'yes/no' approach to measuring compliance, meaning that its requirements can be quantitatively described, measured and assessed. This will enable transparent and consistent decision-making based on compliance with the standard, and robust reporting and monitoring of impact and performance. While some within the construction industry will welcome this shift, and some already have plans to operate above the government's standard, others can be reluctant to adopt new approaches, particularly in relation to a subject on which there is limited understanding at present. To achieve this, the Technical Standard makes provision for an 'exceptions approach' which recognises that, in some circumstances, the new standard cannot yet be achieved. In those cases, developers will retain their ability to apply for funding, subject to adopting relatively minor process changes and, crucially, measuring and monitoring the carbon performance of their projects. This is intended to drive understanding and behaviour change even where practical change is not yet possible.

Pre-manufactured value (PMV)

While the region will promote the fullest definition of pre-manufacturing in calculating PMV scores, Homes for the Future has been created to incentivise the use of a wide range of manufactured solutions. The PMV metric allows developers to choose the most appropriate method for achieving the minimum level of off-site manufacture, which in turn will allow the market to decide the optimal technical solutions to achieve the performance standards required. This approach will support the establishment of a fully diverse supply chain which spans lower tech solutions such as timber framing through to more advanced panelisation techniques, sub-assemblies such as internal pods and service cupboards, innovative materials and new on-site technologies and process improvements.

High quality homes, high quality design

Above all, irrespective of method and material, the West Midlands wants to promote high quality. Innovation is no excuse for poor quality, so it will be imperative that robust technical accreditation is used, testing and certification methods are utilised, combined with a competent and appropriately skilled workforce both on and offsite.

8.0 Projects paving the way

Throughout the West Midlands, there are various projects, at various stages of completion, that meet at least some of the expectations of Homes for the Future, providing proof of concept and viability.



Smith's Garden - Goodstone Living & Elements Europe

Status: RIBA Stage 4 Design

The Camp Hill Gardens site is approximately 1km southeast of Birmingham City Centre within Digbeth, previously occupied by a manufacturing business. The 550-unit scheme includes five blocks ranging from 26 to 3 storeys, all built-to-rent tenure. The development also provides shared amenity space and approx.— 1,480m² of commercial units. Once completed, Camphill will be one the largest BTR scheme in Europe to be delivered with MMC Category 1.

Godstone Living set ambitious ESG Targets for the development, including exceeding the requirements of Part L 2021, BREEAM: Very Good, FitWel: 3 Star and Wiredscore: Platinum. The project targets a 50% reduction in operational carbon against current regulations by adopting measures such as the use of electric panel heaters for space heating and air source heat pumps for hot water. The project also incorporates digital technologies to track energy performance with personalised feedback to residents, all while maintaining stringent data privacy standards. Through a data-driven strategy focusing on “behavioural change,” the objective is to encourage residents to adjust their interactions with the building, gradually reducing energy consumption.

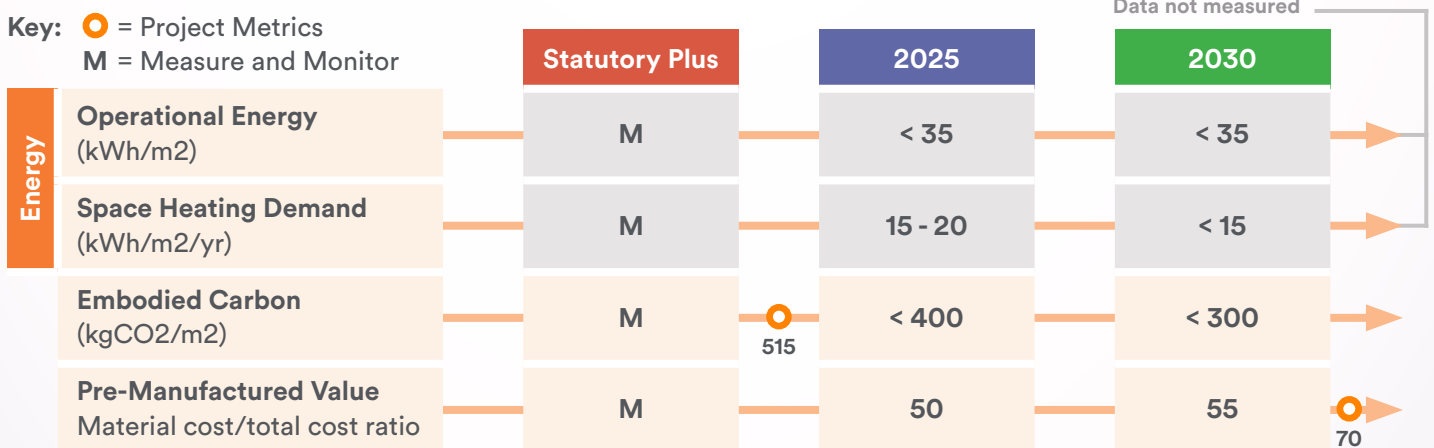
An optimum MMC-based delivery has been adopted to help support ESG targets. This approach aims to substantially decrease carbon emissions from on-site activities, transportation, and the extraction and disposal of materials. Elements Europe are appointed to design and manufacture the MMC Category 1 Volumetric Modules in parallel with delivering onsite works. The frame will be constructed via an in situ concrete transfer deck and slipform cores, with the modules installed around the cores forming the blocks.

Key Stats:

- Upfront Embodied Carbon: 515 kgCO₂/m²
- 70% PMV
MMC Category 1



How does this project perform against the WMCA Homes for Future Technical Standards?



Citizen Housing Pilot Scheme - Littlethorpe

Status: Completed and Occupied

Citizen Housing has recognised the impact of communities in delivering small infill sites that are not possible to deliver through traditional means via the exploration of modular construction.

Citizen Housing appointed Totally Modular to provide a full turnkey solution whereby two energy-efficient houses for affordable rent were constructed using MMC Category 1 on a redundant infill site suffering from blight. The houses were installed on-site in less than 48 hours and received an A+ EPC rating compared to the national average of a D rating. The houses were completed off-site in controlled factory conditions, and they exceeded building regulations, therefore providing higher manufacturing solutions with lower risk and greater speed, cost-effectiveness, and consistency. Both houses scored a 98/100 CO₂ rating, predicting that each house will generate just two tonnes of CO₂ yearly, compared to a UK average of six tonnes.

The off-site production reduced waste by up to 80% and helped reduce CO₂ by 50% compared to traditional site construction. The solar panels with battery back-up guarantee residents a 20% saving on fuel bills. Annual analysis showed total running costs at £1.48 a day for the three-bedroom, five-person house. Air source heat pumps and mechanical ventilation with a heat recovery system are installed to manage air quality.

Key Stats:

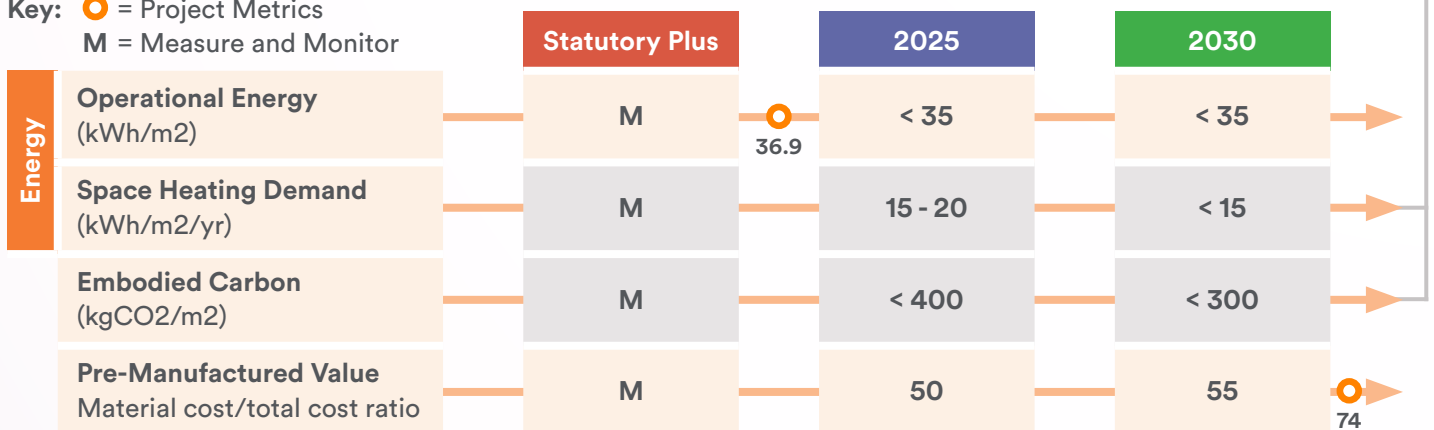
- Energy
Operational Energy:
(2-bed) - 37.49 kWh/m²/yr.
(3-bed) - 36.92 kWh/m²/yr.
- Generating 2 tonnes of CO₂ yearly in operation compared to the UK average of 6 tonnes.
- 74% PMV
95% of the houses built offsite



How does this project perform against the WMCA Homes for Future Technical Standards?

Key: ● = Project Metrics

M = Measure and Monitor



Donnington Wood Way, Telford - Lovell

Status: In Construction

Donnington Wood Way is an inter-generational new community being developed through a collaboration between Telford and Wrekin Council via their wholly-owned company Nuplace, Lovell, and Wrekin Housing Association. It is set to deliver 329 new dwellings and will regenerate 15.24 ha of brownfield land. Construction commenced in Summer 2021 for completion in early 2025. The new development incorporates Affordable, Open Market Sale, Care and Dementia Care and Private Rented Homes.

As part of the Energy and Sustainability Strategy development, it was agreed that a section of the site should be used to showcase the Government's Future Homes Standard; at this point, 16 of the 329 houses have been selected for the pilot. The pilot will feature a highly efficient specification to be trailed, which aims to be a circa 80% betterment to current building regulation requirements.

The brief of achieving a best value approach to sustainability for all parties has led to the development of a strategy ensuring that all facets of sustainability were considered to provide residents with comfortable, good quality homes with low energy use and flexibility for future adaptation.

In selecting sustainability lead solutions, Lovell, in collaboration with supply chain partners, assessed various MMC solutions and opted for MMC Category 2 Closed Panel Timber Frame and Structural Insulated Panels (SIPS) as the preferred solutions to meet the fabric requirements. There is an emphasis on using a local supply chain, with over 75% of the materials being sourced locally, further reducing the upfront embodied carbon. The combined approach delivers a significant reduction in CO2 emissions across the site, due to the strong fabric performance, Air Source Heat Pumps, MVHRs and Solar PV with smart technology through battery storage.

Key Stats:

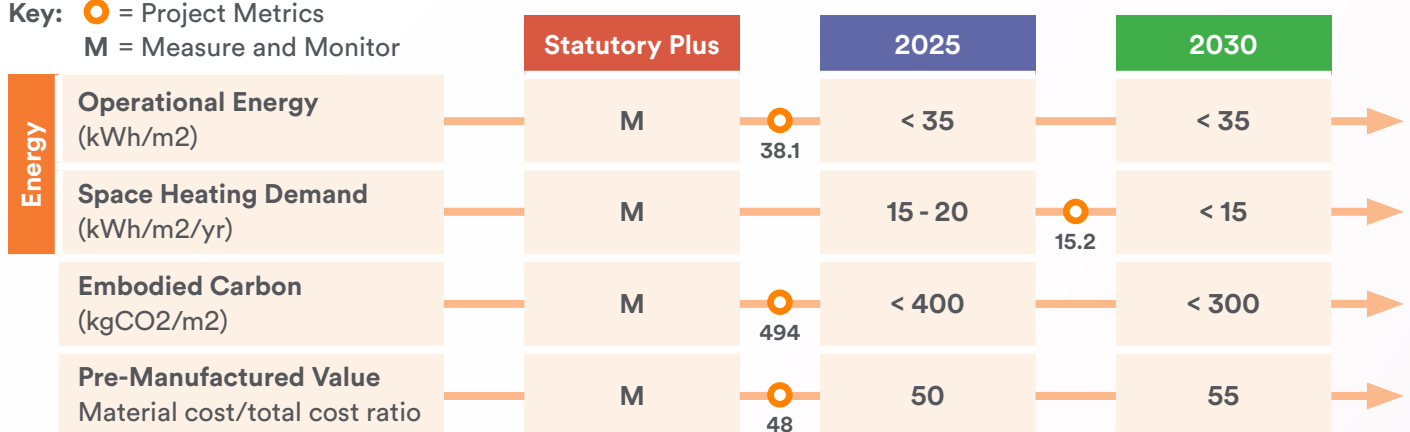
- Upfront Embodied Carbon: 515 kgCO2/m2
- 70% PMV
MMC Category 1



How does this project perform against the WMCA Homes for Future Technical Standards?

Key: ○ = Project Metrics

M = Measure and Monitor



Brick House - Urban Splash

Status: Completed and Occupied

Brick House is a development comprising 37 mews houses designed by Howells for Urban Splash in partnership with Places for People and Canals and River Trust. Infused with an architectural essence reminiscent of the Georgian era, these new homes are strategically centred around a communal garden and a historic canal, emphasising car-free green streets and public green spaces. Unlike typical terraced houses, these homes aimed to prioritise air tightness and insulation, combining aesthetic appeal with enduring, high-quality construction.

What sets this project apart is the integration of digital technologies aimed at providing occupants with a seamless and enhanced living experience. Notably, the inclusion of electric room heaters controlled through online smart apps, a room thermostat, and Mechanical Ventilation with Heat Recovery (MVHR) operating at an impressive 88% efficiency marks a shift towards modern, energy-efficient solutions. In addition, the choice of electric cooking eliminates the reliance on gas or fossil fuels, aligning with sustainable practices.

This project underscores a holistic approach to seamlessly merging contemporary technologies with traditional construction, showing an incremental approach to delivering enhanced sustainability targets.

Key Stats:

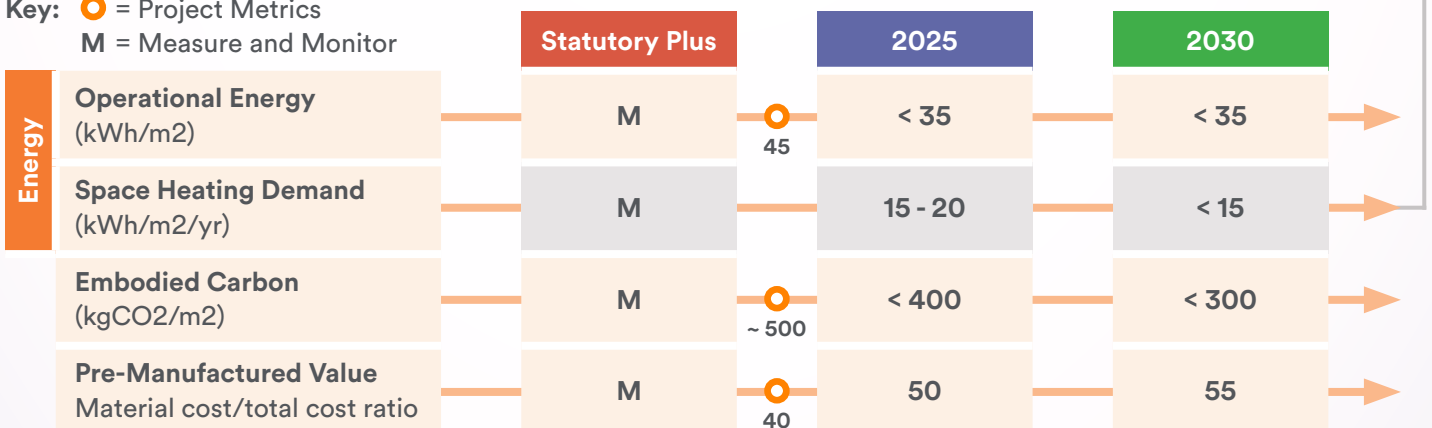
- Energy (estimated)
Operational Energy: 45 kWh/m²
- Upfront Embodied Carbon (unverified by third party): 500 kgCO₂/m²
- 40% PMV
Standard brick cladding facade onto blockworks



How does this project perform against the WMCA Homes for Future Technical Standards?

Key: ● = Project Metrics

M = Measure and Monitor







**West Midlands
Combined Authority**

We welcome any and all feedback

Please reach out to us via invest@wmcra.org.uk by the 22nd January 2024



West Midlands
Combined Authority

Homes for the Future

Proposed
Technical Standard

Page 45
Rev 0

Cast 

usefulprojects

8th December 2023

Introduction

The Homes for the Future Technical Standard feeds into our WMCA Homes for the Future Strategy. It clearly lays out the required targets for stakeholders delivering residential development on land that WMCA owns, acquires or invests in with a tiered approach that progressively increases targets over time to allow the market and applicants to adjust to the standard.

The net-zero carbon targets have been developed in relation to the principles established in WMCA's Zero Carbon Homes Charter and Routemap. In order to meet and better our goals of delivering 18,000 high quality sustainable homes per year by 2031, we have aligned both zero-carbon principles along with AMC/MMC strategies. This will enable the scalability of zero-carbon homes, as well as addressing current challenges with the traditional skills sector. Through optimising the number of pre-manufactured components utilised within projects through the use of Modern Methods of Construction (MMC) there is also the potential to reduce whole life carbon of homes. The underlying aim of adopting MMC on a construction project is to drive the most efficient design and construction process. These systems work to generate a systemised approach to development, resulting in simpler designs and less overall waste, factory settings allow greater opportunities for waste to be recycled and repurposed.

The means of achieving targets however have been left up to the individual applicant, this flexibility should encourage innovation and support adaptation to the standard. Potential approaches that applicants could apply have been included within this document to provide some ideas as to how the targets could be met. These have been included within the wider context of land use and infrastructure planning that applicants could consider in order to facilitate sustainable living and further sustainable benefits.



Homes for the Future – Principles, targets & alignment

Principles

Homes for the Future is vital to meet WMCA's net zero carbon emissions by 2041 and deliver zero-carbon homes in the region by 2025. It has been developed on the following basis:

- Creating a policy landscape which builds certainty and consistency around the approach to delivering zero-carbon homes in the region
- Building on exemplar industry guidance and emerging standards including the RIBA and LETI challenge targets and the UK Net Zero Carbon Buildings Standard, to provide a clear trajectory for the West Midlands
- Adopting collaborative governance models and delivery processes to maximise resources and enhance knowledge-sharing
- Aligning investments to support the delivery of zero-carbon homes and demonstrating the cost effectiveness of doing so
- Building our capacity, regional skills and expertise in zero-carbon homes
- Facilitating the deployment of zero-carbon technologies to build an innovation-led green economy
- Recognising that land use and infrastructure planning have a material impact on the carbon footprint of a place, consideration of the wider principles of site selection
- Carbon is one component of sustainable placemaking alongside ecosystem resilience, sustainable mobility, circularity, wellbeing and inclusion

Target Setting and Alignment

In order to meet our commitments and long-term objective to deliver zero carbon homes, the following targets have been set for all new homes delivered in the region.

WMCA Net Zero Targets:

2030 Target:

- Energy, EUI: <35kWh/m² operational energy use (including regulated and unregulated energy). Space heating demand of <15KWh/m²/yr
- Embodied Carbon: Upfront embodied carbon of <300kgCO₂/m² (A1-A5).

2025 Target:

- Energy, EUI: <35kWh/m² operational energy use (including regulated and unregulated energy). Space heating demand: <15 KWh/m²/yr
- Embodied Carbon: Upfront embodied of <400kgCO₂/m² (A1-A5).

Statutory Plus Target:

- Dwelling Emission Rate against the Target Emission Rate of Building Regulations Part L 2021, or associated updates.
- Embodied Carbon: As a minimum all delivery partners must measure embodied carbon impacts of the proposed construction.

Technical Standard: Overview

The standard sets out three primary requirements to be achieved for each dwelling.

1. Energy Use Intensity (B6)

Energy Use Intensity (EUI) should be measured using appropriate modelling software such as Passivhaus Planning Package (PHPP) for both regulated and unregulated energy, in accordance with CIBSE TM 54. Space heating demand should be reported separately. The standard sets out progressive targets to facilitate the achievement of net zero homes in operation by 2025.

Where targets cannot be achieved at a dwelling level, due to site constraints on orientation, they should be achieved on average within the development boundary. We are also requiring EUI to be assessed alongside overheating risks.

2. Upfront Embodied Carbon (A1-A5)

Upfront embodied carbon should be measured in accordance with RICS Whole Life Carbon Assessment Guidance.

3. Modern Methods of Construction

Measured using the Pre-Manufactured Value metric adopted by the Construction Leadership Council. The aim is to drive pre-manufactured solutions that enable better building performance generally but also contribute to improved sustainability performance specifically, especially relating to measures 1 and 2 above.

2030 Target - Achieve net zero carbon in construction and in operation

Energy Use Intensity:

- EUI: <35kWh/m² operational energy use (including regulated and unregulated energy).
- Space heating demand of <15KWh/m²/yr

Upfront Embodied Carbon:

- Embodied carbon calculation to verify target equivalent to <300kgCO₂/m²

Modern Methods of Construction:

- All developments achieve PMV of 55%

2025 Target - Achieve net zero carbon in operation

Energy Use Intensity:

- EUI: <35kWh/m² operational energy use (including regulated and unregulated energy).
- Space heating demand: 15-20 KWh/m²/yr

Upfront Embodied Carbon:

- Embodied carbon calculation to verify target equivalent to <400kgCO₂/m²

Modern Methods of Construction:

- All developments achieve PMV of 50%

Statutory Plus Target - Enhanced measurement and monitoring

Energy Use Intensity:

- Dwelling Emission Rate against the Target Emission Rate of Building Regulations Part L 2021

Upfront Embodied Carbon:

- As a minimum all delivery partners must measure embodied carbon impacts of the proposed construction.

Modern Methods of Construction:

- Review opportunity for PMV uplift across all MMC categories

Targets

2030 Target - Achieve net zero carbon in construction and in operation		Commentary and Context
2030	<p>Energy Use Intensity:</p> <ul style="list-style-type: none"> EUI: <35kWh/m² operational energy use (including regulated and unregulated energy). Space heating demand of <15KWh/m²/yr <p>Upfront Embodied Carbon:</p> <ul style="list-style-type: none"> Embodied carbon calculation to verify target equivalent to <300kgCO₂/m² <p>Modern Methods of Construction:</p> <ul style="list-style-type: none"> All developments achieve PMV of 55% 	<p>This standard sets the expectation of achieving net zero carbon in construction and operation in 2030 (in accordance with UKGBC definition). Again, pilot projects may achieve this standard sooner, although it will require significant learning and sharing of intelligence about the design and construction solutions that enable this standard to be achieved. It will also require the construction sector and materials supply chain to respond to client demand to achieve this level of performance.</p>
Page 49 2025	<p>Energy Use Intensity:</p> <ul style="list-style-type: none"> EUI: <35kWh/m² operational energy use (including regulated and unregulated energy). Space heating demand:15-20 KWh/m²/yr <p>Upfront Embodied Carbon:</p> <ul style="list-style-type: none"> Embodied carbon calculation to verify target equivalent to <400kgCO₂/m² <p>Modern Methods of Construction:</p> <ul style="list-style-type: none"> All developments achieve PMV of 50% 	<p>This standard sets the expectation of achieving net zero carbon in operation in 2025 (in accordance with UKGBC definition). Pilot projects will likely achieve this standard sooner, and it will replace the current minimum standard in 2025.</p>
Statutory Plus	<p>Energy Use Intensity:</p> <ul style="list-style-type: none"> Dwelling Emission Rate against the Target Emission Rate of Building Regulations Part L 2021 <p>Upfront Embodied Carbon:</p> <ul style="list-style-type: none"> As a minimum all delivery partners must measure embodied carbon impacts of the proposed construction. <p>Modern Methods of Construction:</p> <ul style="list-style-type: none"> Review opportunity for PMV uplift across all MMC categories 	<p>A “statutory (plus enhanced measurement and monitoring)” standard has been developed to enable the incremental implementation of the 2025 Target standard. It is certain to be the case that developments will come forward that are at an advanced design stage and are therefore limited in the extent to which an enhanced specification can be deployed. The statutory plus standard will respond in those cases by requiring additional considerations of developers, such as a requirement to measure both whole life carbon and PMV assessments before and after completion. This is intended to drive up understanding of the core issues, solutions for enhanced performance, and ensure that as a minimum all developments start to consider the steps that will be mandatory in future.</p>

Evidence for all standards - Energy

Statutory Plus Target

Dwelling Emission Rate against the Target Emission Rate of Building Regulations Part L 2021.

Planning

- Building Regulations compliance modelling to be carried out to verify as-designed energy and carbon performance against target reductions.
- Overheating analysis to be undertaken for all habitable spaces across the scheme to ensure high levels of occupant comfort are achieved (e.g., following CIBSE TM59 Design methodology for the overheating risk in homes).

Design verification

- Planning stage studies to be verified against design updates to ensure proposals remain on track to meet their planning targets

Post-occupancy

- The effectiveness of measures will be reviewed as part of the post completion works to ensure as-designed

2025 Target

<35kWh/m2 operational energy use (including regulated and unregulated energy). Space heating demand:15-20 KWh/m2/yr.

Planning

- EUI to be assessed in accordance with CIBSE TM 54 using modelling software such as the Passivhaus Planning Package (PHPP). The assessment will include both regulated and unregulated energy so that comparison can be undertaken at post occupancy to close the 'performance gap'. Space Heating Demand should be set out as part of this assessment. The assessment shall be undertaken for a representative sample taking account of different typologies and orientation. Details of the fabric and MEP specification should be provided including thermal bridging analysis. Processes for ensuring requirements can be delivered should also be included, such as Passivhaus accreditation, air permeability testing and performance contract requirements
- A comprehensive overheating analysis of all habitable spaces across the scheme shall also be undertaken to ensure overheating risks are mitigated. This should be done in accordance with CIBSE TM59 and be modelled using future climate files

Design verification

- Planning stage studies to be verified against design updates to ensure proposals remain on track to meet the planning and target scenario

Construction

- Air tightness testing to be carried at construction stages to verify building airtightness against the strict targets required to achieve the low energy ambitions

Post-occupancy

- POE verification on the buildings operational performance will be carried out to ensure a positive feedback loop to support future project delivery. POE evidence will include in-use energy consumption data and user satisfaction feedback
- Energy use guidance to be provided to all residents to support reduced operational energy of all electrical equipment, including supplementary lighting

Evidence for all standards - Energy

2030 Target

<35kWh/m2 operational energy use (including regulated and unregulated energy). Space heating demand of <15KWh/m2/yr.

Planning

- EUI to be assessed in accordance with CIBSE TM 54 using modelling software such as the Passivhaus Planning Package (PHPP). The assessment will include both regulated and unregulated energy so that comparison can be undertaken at post occupancy to close the 'performance gap'. Space Heating Demand should be set out as part of this assessment. The assessment shall be undertaken for a representative sample taking account of different typologies and orientation. Details of the fabric and MEP specification should be provided including thermal bridging analysis. Processes for ensuring requirements can be delivered should also be included, such as Passivhaus accreditation, air permeability testing and performance contract requirements.
- A comprehensive overheating analysis of all habitable spaces across the scheme shall also be undertaken to ensure overheating risks are mitigated. This should be done in accordance with CIBSE TM59 and be modelled using future climate files.
- BRE Home Quality Mark (HQM) assessment. HQM measures the quality and sustainable value considering running costs, health and wellbeing, and environmental footprint. HQM assessment is carried out a numerous stages of the design process by an independent assessor to demonstrate high-quality homes within the marketplace.
- Commitments to technologies and evidence of design strategies should be provided.

Design verification

Planning stage design statement should be submitted to verify that design development is in accordance with planning stage carbon statements and confirm proposals remain on track to meet their planning targets.

Construction

- Air tightness testing to be carried at construction stages to verify building airtightness against the strict targets required to achieve the low energy ambitions.

Post-occupancy

- POE verification on the buildings operational performance will be carried out to ensure a positive feedback loop to support future project delivery. POE evidence will include in-use energy consumption data and user satisfaction feedback.
- All developments to have in place a recognised monitoring regime to assess energy use, indoor air quality and risk of overheating.
- Energy use guidance to be provided to all residents to support reduced operational energy of all electrical equipment, including supplementary lighting.

Evidence for all standards - Embodied Carbon

Statutory Plus Target

As a minimum all delivery partners must measure embodied carbon impacts of the proposed construction.

Planning

- Building Regulations compliance modelling to be carried out to verify as-designed energy and carbon performance against target reductions.
- Whole life carbon analysis to be carried out to estimate the predicted whole life carbon impacts of development in accordance with RICS Whole life carbon assessment for the built environment methodology.

Design verification

- Planning stage studies to be verified against design updates to ensure proposals remain on track to meet their planning targets.

2025 Target

Up-front embodied carbon calculation to verify target equivalent to <400kgCO₂/m² (A1-A5).

Planning

Whole life carbon analysis to be carried out to estimate the predicted whole life carbon impacts of development in accordance with RICS Whole life carbon assessment for the built environment methodology. Evidence of optioneering to be carried out prior to planning to ensure an optimised construction solution is taken forward. Analysis should be undertaken using BREEAM compliant LCA tools with Environmental Product Declarations for key components. This requires designs to be sufficiently developed (RIBA Stage 3) to support an elemental bill of quantities assessment or a condition to undertake this through reserved matters.

Design verification

- Planning stage studies to be verified against design updates to ensure proposals remain on track to meet their planning targets
- Whole life carbon analysis to be carried at the end of each RIBA Stage, to ensure proposals remain on track to meet the target scenario

Evidence for all standards - Embodied Carbon

2030 Target

Up-front embodied carbon calculation to verify target equivalent to <300kgCO₂/m² (A1-A5).

Planning

- Whole life carbon analysis to be carried out to estimate the predicted whole life carbon impacts of development in accordance with RICS Whole life carbon assessment for the built environment methodology. Evidence of optioneering to be carried out prior to planning to ensure an optimised construction solution is taken forward. Analysis should be undertaken using BREEAM compliant LCA tools with Environmental Product Declarations for key components. This requires designs to be sufficiently developed (RIBA Stage 3) to support an elemental bill of quantities assessment or a condition to undertake this through reserved matters.

Design verification

- Planning stage design statement should be submitted to verify that design development is in accordance with planning stage carbon statements and confirm proposals remain on track to meet their planning targets
- Whole life carbon analysis to be carried out at the end of each RIBA Stage, to ensure proposals remain on track to meet the target scenario

Construction

Construction stage verification of operational and embodied carbon performance and tracking any changes made, especially material or technology choices, and including site emissions of fuels/ power/ waste

Evidence for all standards - Construction

Statutory Plus Target

Review opportunity for PMV uplift across all MMC categories

DfMA and PMV

- PMV estimate at design stage and updated PMV estimate following MMC options review using the Cast MyPMV tool
- Output of MMC options review
- Verification of PMV and MMC solutions deployed

2025 Target

All developments achieve PMV of 50%

DfMA and PMV

- DfMA and PMV reviews undertaken at key design stages
- Verification of 50% PMV both during design and at completion using the Cast MyPMV tool

2030 Target

All developments achieve PMV of 55%.

DfMA and PMV

- DfMA and PMV reviews undertaken at key design stages.
- Verification of 55% PMV both during design and at completion using the Cast MyPMV tool

Statutory Plus – Potential approaches

Energy Page 55	Statutory Plus Target	Potential approach	Example Specifications
	Dwelling Emission Rate against the Target Emission Rate of Building Regulations Part L 2021	<p>Passive Design</p> <p>The following passive design strategies meet the Statutory Plus performance requirements:</p> <p>At masterplan-level, priority will be given to higher density accommodation for its improved form factor and associated reductions in heat loss and overall improved massing efficiency.</p>	<p>Fabric specification</p> <p>Design of dwellings will go beyond current building regulation fabric performance standards. Therefore, we would expect dwellings to target the following fabric performance as a minimum:</p> <ul style="list-style-type: none"> • Floor (W/m2.K): 0.13 • External wall (W/m2.K): 0.18 • Roof (W/m2.K): 0.13 • Windows (W/m2.K): 1.40 • Air permeability (m3/(h.m2): 5.00
		<p>Active Systems</p> <p>To achieve operational performance in line with the statutory plus target we anticipate the design to consider the following key features as a minimum:</p>	<p>No Gas</p> <p>Commitment to no new gas installations across the entire masterplan.</p> <p>Zero Carbon Feasibility Study</p> <p>A low zero carbon feasibility study will be used to identify the key measures for implementation at both a site-wide masterplan level and building level.</p>
		<p>Renewables and Net Zero Targets</p>	<p>Renewables</p> <p>Maximise on-site renewable energy generation irrespective of whether carbon reduction targets are already met.</p> <p>PV Panels</p> <p>Roof-top solar PV should be optimised across the site. Evidence will be sought to validate the environmental claims of energy suppliers.</p>

Statutory Plus – Potential approaches

	Statutory Plus Target	Strategies	Example Specifications
Embodied Carbon	As a minimum all delivery partners must measure embodied carbon impacts of the proposed construction	To demonstrate performance in line with requirements set out under the Statutory Plus target, we anticipate the following as a minimum:	Lifecycle Assessment <ul style="list-style-type: none"> Design and completion stage lifecycle assessment of embodied carbon in accordance with BS EN 15978 and in the built environment. Reporting standards should be aligned with relevant industry guidance at the time of assessment (RICS Professional Statement for Whole Life Carbon Assessment)
			Key reporting standards from 2023: <ul style="list-style-type: none"> Assessment to include all works elements (including services, FFE, internal finishes, external works) and min., 95% of building elements as measured by cost, with the exception of on-site renewables and associated infrastructure (e.g.. battery storage), which should be reported separately. Generic values may be used for non-fixed elements (FFE) where no data available. 'Up-front' carbon reporting (life-cycle modules A1-A5) should exclude sequestration (e.g., in timber materials)
Construction	Review opportunity for PMV uplift across all MMC categories	<p>The design process should accommodate an informed reviews of construction methodology and material selection, with a focus on optimising PMV.</p> <p>PMV should be estimated at the design stage, updated to reflect which MMC options have been selected, and subsequently re-measured post-completion.</p>	MMC Cat5: Non-structural Assemblies <ul style="list-style-type: none"> This category can also be combined with elements of categories 2, 3, 6 and 7 to drive further PMV improvement. i.e., Cat 2c frame and Cat 5a bathroom pod creates an 18% uplift to 58% PMV from traditionally built typically at 40% PMV.
			MMC Cat6: Traditional Building Product Led Site Labour Reduction/ Productivity Improvements <ul style="list-style-type: none"> This category can also be combined with elements of all other categories to drive further PMV improvement.
			MMC Cat7: Site Process Led Labour Reduction/ Productivity Improvements <ul style="list-style-type: none"> This category can also be combined with elements of all other categories to drive further PMV improvement.

2025 Target – Potential approaches

	Targets	Strategies	Example Specifications
Energy	<p>EUI: <35kWh/m² operational energy use (including regulated and unregulated energy).</p> <p>Space heating demand: 15-20 kWh/m²/yr</p>	<p>Passive Design</p> <p>We anticipate the following passive design strategies and component choices to meet the 2025 targets:</p>	<p>Fabric specification</p> <p>1. Exemplary façade performance to be achieved through high performance materials specification and build ups:</p> <ul style="list-style-type: none"> • Floor (W/m².K): 0.11 • External wall (W/m².K): 0.15 • Roof (W/m².K): 0.11 • Windows (W/m².K): 0.80 <p>Dwelling design will carefully consider junction details to reduce heat loss and significantly reduce thermal bridges.</p>
			<p>Airtightness</p> <p>1. Airtightness levels to achieve 0.6 air changes per hour @50Pa. This will be achieved through rigorous standards in practice from good design to construction.</p>
Page 57			<p>Façade design (Glazing, solar gains and shading)</p> <ol style="list-style-type: none"> 1. Specification of triple glazing to limited heat loss and reduce cold draughts. 2. Layout and orientation of homes to be considered in context of the wider masterplan site to ensure potential solar gain benefits are achieved. 3. Glazing will be optimised to balance daylight and overheating requirements. This will account for up to 25% glazing ratio in southern elevations to avoid excessive heating demand in winter months whilst reducing the risk of summertime overheating. 4. Potential for a natural ventilation strategy should be explored with priority given to cross ventilation.

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2025 Target – Potential approaches

	Targets	Strategies	Example Specifications
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Page 58 Energy</p> <p>EUI: <35kWh/m² operational energy use (including regulated and unregulated energy). Space heating demand:15-20 kWh/m²/yr</p>		<p>Active Systems To achieve operational energy performance in line with the 2025 targets we would anticipate the building to incorporate the following active systems:</p>	<p>Heat Pumps</p> <ol style="list-style-type: none"> All electric building services strategy adopting high efficiency heat pump technology. Direct electric space heating can be adopted where high fabric performance achieved.
			<p>MVHR</p> <ol style="list-style-type: none"> Mechanical ventilation with heat recovery (MVHR) including air filtration, improving indoor air quality and reducing dust and allergens: <ul style="list-style-type: none"> MVHR heat recovery efficiency: >75%. MVHR electrical efficiency: <0.45Wh/m²
			<p>Supplementary heating</p> <ol style="list-style-type: none"> Where heating demand is low due to the passive approach, priority will be given to low energy systems that take advantage of post-air heating units within the MVHR ventilation system and/or underfloor heating. Opportunities can also be explored into the use of direct electric heating where high fabric efficiencies are achieved.
			<p>Wastewater Heat Recovery</p> <ol style="list-style-type: none"> Shower wastewater heat recovery (SWWHR) to reclaim typically 40-60% waste heat from shower water.
			<p>Lighting Control</p> <ol style="list-style-type: none"> Automated lighting controls with daylight and occupancy sensing.
			<p>Appliances</p> <ol style="list-style-type: none"> Primary energy appliances: Only highly efficient appliances (A rated washing machines, dishwashers etc.) and equipment (fans, pumps, lighting etc.) must be specified.
		<p>Renewables and Net Zero Targets</p>	<p>Renewables</p> <ol style="list-style-type: none"> Optimise the use of on-site renewable generation (15m² PV/dwelling, 2.5m²/apartment). Build additional resilience into the system through the introduction of battery storage technology at both masterplan and plot level. Consumers can store solar electricity they have generated during off-peak, cheaper hours, rather than buying more expensive grid electricity.
			<p>Energy Procurement</p> <ol style="list-style-type: none"> Ensure mechanisms are in place to enable purchase of 100% renewable energy from credible renewable energy sources. Renewable Energy Certificate's (REC) will be sought to validate the environmental claims of energy suppliers.
			<p>Net Zero Verification</p> <ol style="list-style-type: none"> Verification process to be carried out following the UKGBC guidance for net zero carbon verification. A minimum level of reporting of the buildings' operational performance.

2025 Target – Potential approaches

Page 59 Embodied Carbon	Targets	Strategies	Example Specifications
	Up-front embodied carbon calculation to verify target equivalent to <400kgCO2/m2 (A1-A5).	To demonstrate embodied carbon performance in line with the 2025 targets we anticipate designs will need to prioritise the following key construction items as a minimum:	<p>For low-rise housing (<11m):</p> <ol style="list-style-type: none"> Substructure -Incorporation of low carbon spread foundations (where technically feasible). Superstructure- Lightweight construction (e.g.. timber or light gauge steel construction systems), or exemplar low-concrete specifications for in-situ or precast concrete systems. <p>For medium scale housing, requiring further innovation and commitment:</p> <ol style="list-style-type: none"> Massing- Careful planning to minimise building envelope. Podium construction (e.g.. with ground level parking) should be avoided where possible, and basement construction is unlikely to be feasible without significant commitment to low-carbon construction methods. Substructure - Lean foundation systems, considering raft foundations in lieu of deep piles, where technically feasible, or low-carbon concrete piles where not avoidable. Superstructure - Exemplar low carbon concretes (>65% GGBS or equivalent) or high recycled content (Electric Arc Furnace) structural steelwork, where used <p>For all building scales and typologies:</p> <p>Envelope</p> <ul style="list-style-type: none"> Lightweight facade systems (avoiding solid brick or pre-cast systems) Composite, timber or recycled plastic window framing (in preference to aluminum or PVC windows). Avoid plastic insulation products to roofs/facades, with mineral wool or natural insulation materials preferred. <p>Internal Finishes</p> <ul style="list-style-type: none"> Avoid internal finishes where possible, promoting 'fair-faced' elements where possible, and prioritise natural or recycled finishes (e.g.. avoid plastic floors/ carpets and minimise plasterboard quantities where possible) <p>Services</p> <ul style="list-style-type: none"> Best practice specifications for heat pump installations with low-GWP refrigerants (e.g.. R32 in place of R410A refrigerants in ASHPs) <p>External Works</p> <ul style="list-style-type: none"> Careful specification of external works materials, promoting permeable surfaces and recycled surfacing in preference to asphalt or poured concrete surfacing.

2025 Target – Potential approaches

Construction	Targets	Strategies	Example Specifications
	All developments achieve PMV of 50 and above%	<p>A minimum of 50% PMV is required and the guidance document (to be developed) will specify the typical combinations of solutions that will achieve this.</p> <p>Developers should seek higher performing MMC solutions especially in relation to fabric efficiency to enable net zero homes in operation but should also prioritise suppliers that can substantiate enhanced embodied carbon performance.</p> <p>PMV targets should be established at the outset, alongside a commitment to DfMA principles and likely digitally enabled design and data capture approaches. PMV should be estimated at the design stage and validated post-completion. Data on PMV performance should be shared alongside carbon performance to enable continuous learning and improvement at a system-wide level.</p>	<p>MMC Cat1: 3D Primary Structural Systems This category can also be combined with elements of categories 3 and 7 to drive further PMV improvement</p> <p>MMC Cat2: 2D Primary Structural Systems This category can also be combined with elements of categories 3, 5, 6 and 7 to drive further PMV improvement.</p> <p>MMC Cat3: Pre-manufacturing Components This category can also be combined with elements of all other categories to drive further PMV improvement.</p> <p>MMC Cat5: Non-structural Assemblies This category can also be combined with elements of categories 2, 3, 6 and 7 to drive further PMV improvement. i.e., Cat 2c frame and Cat 5a bathroom pod creates an 18% uplift to 58% PMV from traditionally built typically at 40% PMV.</p> <p>MMC Cat6: Traditional Building Product Led Site Labour Reduction/ Productivity Improvements This category can also be combined with elements of all other categories to drive further PMV improvement</p> <p>MMC Cat7: Site Process Led Labour Reduction/ Productivity Improvements This category can also be combined with elements of all other categories to drive further PMV improvement</p>

2030 Target – Potential approaches

	Targets	Strategies	Example Specifications
Energy	EUI: <35kWh/m ² operational energy use (including regulated and unregulated energy).	Passive Design To achieve the passive performance in line with the 2030 targets we anticipate the following design strategies and component choices.	Fabric specification Exemplary façade performance to be achieved through high performance materials specification and build ups. <ul style="list-style-type: none"> • Floor (W/m².K): 0.10 • External wall (W/m².K): 0.10 • Roof (W/m².K): 0.10 • Windows (W/m².K): 0.80 • Air permeability (ach): 0.6 • Airtightness levels to achieve 0.6 air changes per hour @50Pa.
	Space heating demand of <15KWh/m ² /yr		Façade design (Glazing, solar gains and shading) <ol style="list-style-type: none"> 1. Layout and orientation of homes to be considered in context of the wider masterplan site to ensure potential solar gain benefits are achieved. 2. Glazing will be optimised to balance daylight and overheating requirements. This will account for up to 25% glazing ratio in southern elevations to avoid excessive heating demand in winter months whilst reducing the risk of summertime overheating. 3. Specification of triple glazing to limited heat loss and reduce cold draughts. 4. Dwelling design will carefully consider junction details to reduce heat loss and significantly reduce thermal bridges. 5. Potential for a natural ventilation strategy should be explored with priority given to cross ventilation.

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2030 Target – Potential approaches

	Targets	Strategies	Example Specifications
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Energy Page 62</p>	<p>EUI: <35kWh/m² operational energy use (including regulated and unregulated energy).</p> <p>Space heating demand of <15KWh/m²/yr</p>	<p>Active Systems To achieve the operational performance in line with the 2030 targets we would anticipate the building to incorporate the following active systems:</p>	<p>All Electric</p> <ol style="list-style-type: none"> All electric building services strategy adopting high efficiency heat pump technology. Direct electric space heating can be adopted where high fabric performance achieved. All electric heating systems to capitalise on the decarbonisation of the UK's electricity grid.
			<p>Active Demand</p> <ol style="list-style-type: none"> Active demand response measures to be considered to reduce peak energy demands and smooth energy consumption, including thermal and battery storage.
			<p>MVHR</p> <ol style="list-style-type: none"> Mechanical ventilation with heat recovery (MVHR) including air filtration, improving indoor air quality and reducing dust and allergens: <ul style="list-style-type: none"> MVHR heat recovery efficiency: >75%. MVHR electrical efficiency: <0.45Wh/m²
			<p>Supplementary heating</p> <ol style="list-style-type: none"> Supplementary heating: Where heating demand is low due to the passive approach, priority will be given to low energy systems that take advantage of post-air heating units within the MVHR ventilation system and/or underfloor heating. Opportunities should also be to explored into the use of direct electric heating.
			<p>Wastewater Heat Recovery</p> <ol style="list-style-type: none"> Shower wastewater heat recovery (SWWHR): to reclaim typically 40-60% waste heat from shower water.
			<p>Lighting Control</p> <ol style="list-style-type: none"> Automated lighting controls with daylight and occupancy sensing.
			<p>Appliances</p> <ol style="list-style-type: none"> Primary energy appliances: Only highly efficient appliances (A rated washing machines, dishwashers etc.) and equipment (fans, pumps, lighting etc.) must be specified.

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2030 Target – Potential approaches

	Targets	Strategies	Example Specifications
Energy	<p>EUI: <35kWh/m² operational energy use (including regulated and unregulated energy).</p> <p>Space heating demand of <15KWh/m²/yr</p>	<p>Renewables and Net Zero Targets</p>	<p>Renewables</p> <ol style="list-style-type: none"> 100% annual energy requirement to be achieved through on-site generation. Integrate dynamic, smart grid technology to facilitate demand response, ensuring the most efficient supply of electricity for masterplan residents. Battery storage technology will enhance resilience and optimise use with variable tariffs bringing benefits to consumers into the system (storing solar electricity generated during off-peak, cheaper hours, rather than buying more expensive grid electricity).
			<p>Energy Procurement</p> <ol style="list-style-type: none"> Ensure mechanisms are in place to enable purchase of 100% renewable energy from credible renewable energy sources. Renewable Energy Certificate's (REC) will be sought to validate the environmental claims of energy suppliers.
			<p>Net Zero Verification</p> <ol style="list-style-type: none"> Verification process to be carried out following the UKGBC guidance for net zero carbon verification. A minimum level of reporting of the buildings operational and construction performance and third-party audit of data will be required.

2030 Target – Potential approaches

	Targets	Strategies	Example Specifications
Page 64 Embodied Carbon	<p>Embodied Carbon Up-front embodied carbon calculation to verify target equivalent to <300kgCO₂/m² (A1-A5).</p>	<p>To achieve the embodied carbon performance in line with the 2030 targets we anticipate the following design strategies and component choices may be required.</p> <p>Lean design will be prioritised to avoid unnecessary finishes. Designs should be performance-based, and encourage maximum use of materials (e.g., structural design should seek design utilisation factors are no less than 100% with no over-specification permitted).</p> <p>Design for Manufacture and Assembly should be considered to simplify the construction process, reducing material waste where possible.</p> <p>Design considerations to ensure a comprehensive approach to tackling the embodied carbon impacts of each building element:</p>	<p>For low-rise housing (<11m): Substructure:</p> <ul style="list-style-type: none"> No basement construction Spread foundations with low-carbon concretes (>60% GGBS or equivalent) <p>Superstructure:</p> <ul style="list-style-type: none"> Timber frame construction throughout, or significant use of recycled/ secondary components in steel or concrete. <p>For medium scale housing, schemes are likely to require further innovation and commitment, including incorporation and validation of emerging technologies: Substructure:</p> <ul style="list-style-type: none"> No basement Lean foundation systems, considering raft foundations in lieu of deep piles, where technically feasible, or ultra low-carbon concrete piles where not avoidable. <p>Superstructure:</p> <ul style="list-style-type: none"> Lean building design and massing, optimised to reduce structural grids (<5-6m), minimise facade areas/ form factor, avoid excavations. Increase structural floor zones to minimise material (e.g., ribbed slabs in favour of flat slabs). Ultra-low carbon concretes (e.g., using alternative cements/ AACMs etc.) and/or re-used steelwork components. Consideration of structural timber, including engagement with regulatory challenges in Building Regulations Part B. <p>For all building scales and typologies: Envelope:</p> <ul style="list-style-type: none"> Low-carbon rainscreen cladding systems in timber or reclaimed materials (e.g., recycled PVC window frames or rainscreen cladding) Promote natural and recycled insulation materials, including engagement with regulatory challenges in Building Regulations Part B. <p>Internal Finishes</p> <ul style="list-style-type: none"> Alternative drylining materials with high recycled content (in preference to plasterboards) <p>Services:</p> <ul style="list-style-type: none"> Best practice specifications for heat pump installations with low-GWP refrigerants (e.g.. R32 in place of R410A refrigerants in ASHPs) Careful routing to minimise material use, including distributed servicing systems. <p>External Works</p> <ul style="list-style-type: none"> Eliminate bulk earthworks activities with no net export.

2030 Target – Potential approaches

	Targets	Strategies	Example Specifications
Construction Page 65	All developments achieve PMV of 55%.	<p>A minimum of 55% PMV is required and the guidance document (to be developed) will specify the typical combinations of solutions that will achieve this.</p> <p>Selection decisions for MMC suppliers will be based in part on intelligence gathered through the operation of this standard in the years leading up to the 2030 standard being implemented. This will focus on the as-built and verified performance data gathered through earlier delivery projects.</p> <p>PMV targets will be established at the outset, alongside a commitment to DfMA principles and digitally enabled design and data capture approaches.</p> <p>PMV will be estimated at the design stage and validated post-completion.</p>	MMC Cat1: 3D Primary Structural Systems This category can also be combined with elements of categories 3 and 7 to drive further PMV improvement
			MMC Cat2: 2D Primary Structural Systems This category can also be combined with elements of categories 3, 5, 6 and 7 to drive further PMV improvement.
			MMC Cat3: Pre-manufacturing Components This category can also be combined with elements of all other categories to drive further PMV improvement.
			MMC Cat5: Non-structural Assemblies This category can also be combined with elements of categories 2, 3, 6 and 7 to drive further PMV improvement. i.e., Cat 2c frame and Cat 5a bathroom pod creates an 18% uplift to 58% PMV from traditionally built typically at 40% PMV.
			MMC Cat6: Traditional Building Product Led Site Labour Reduction/ Productivity Improvements This category can also be combined with elements of all other categories to drive further PMV improvement
			MMC Cat7: Site Process Led Labour Reduction/ Productivity Improvements This category can also be combined with elements of all other categories to drive further PMV improvement

Wider Standards for Sustainable Placemaking

Principles

In addition to the targets laid out within the Technical Standard, applicants are invited to consider the application of Wider Standards for Sustainable Placemaking.

These are represented via four main principles:

- Mobility & Accessibility
- Resilient Eco-Systems
- Well-being & Inclusion
- Circular Economy

It is suggested that applicants consider these principles specifically in relation to the following:

- Site selection
- Masterplan
- Home Design
- Operation of the Home

Applicable WMCA Policy

It is suggested that consideration of the following existing WMCA policies, charters, and strategies will support applicants to address these principles:

[WM Design Charter \(wmca.org.uk\)](https://www.wmca.org.uk)

[WMCA Circular Economy \(Executive Summary\)](#)

[Section 1 - Health and health inequalities in the West](#)

[Midlands region \(wmca.org.uk\)](#)

[Equity and Inclusion Scheme 2022-24 \(wmca.org.uk\)](#)

[Briefing note - Net Zero Strategy \(wmca.org.uk\)](#)

[Natural Environment Plan \(wmca.org.uk\)](#)

[Five Year Plan \(wmca.org.uk\)](#)

[WMCA Regional energy strategy](#)

[Health and Equity Impact Assessments | WMCA](#)

Further support and guidance on implementing the standard can be obtained by reaching out to invest@wmca.org.uk





Housing & Land Board

Date	17 January 2024
Report Title	Plan for Growth / Employment Land: Update
Portfolio lead	Councillor Ian Courts
Accountable Employees	<p>John Godfrey, Interim Executive Director for Housing, Property & Regeneration, West Midlands Combined Authority Email: John.Godfrey@wmca.org.uk</p> <p>Leo Pollak, Head of Policy, West Midlands Combined Authority Email: Leo.Pollak@wmca.org.uk</p> <p>John English, Policy Advisor, West Midlands Combined Authority Email: John.English@wmca.org.uk</p>
Previous reports	<ul style="list-style-type: none"> • December 2023- Housing & Land Delivery Steering Group • April 2023 - Housing & Land Delivery Steering Group and Housing & Land Delivery Board •

Recommendation(s) for action or decision:

Housing & Land Delivery board is asked to:

- a) **Note** the work relating to the Employment Land agenda, specifically the activity of the working group and alignment of the WM Plan for Growth;
- b) **Discuss** how the WMCA can add value to the agenda around employment land, align with the priorities in the Plan for Growth and consider future agenda items for the working group.

1.0 Purpose

- 1.1 The purpose of this report is to inform the board about progress relating to the alignment of work on the Employment Land agenda and the Plan for Growth, specifically the activity of the newly establish employment land working group.

2.0 Background

- 2.1 In November 2022, the Head of Economic Development and Delivery, presented a paper to the Housing & Land Delivery Board outlining the West Midlands Plan for Growth and the potential to align workstreams with the work of the Housing & Land Delivery Board, particularly in relation to the Future Homes Strategy and work on employment land supply being undertaken by local authorities in support of local plans.
- 2.2 The Plan for Growth focuses on clusters which have the potential to bring high-value growth to the region, create jobs and develop the region's skill base in key growth sectors. More generally, the Plan for Growth also recognises the need to bring forward brownfield land for regeneration, to meet the housing needs of the region and to provide land for industrial development across a range of key sectors. As such, the work aligns with, and supports, the West Midlands Strategic Employment Sites Study commissioned jointly by local authorities across the region, including WMCA.
- 2.3 Since the last update to Delivery Steering Group in April, a working group has been set up to consider the employment land agenda, and how it relates to emerging local and regional strategies such as the Plan for Growth and how WMCA, working with partners, can act as an enabler to unblock any potential barriers. The group will also consider broader issues such as skills shortages and potential implications for transport planning. When published, the findings and implications of the Strategic Employment Sites Study will also be considered.

3.0 Current activity

- 3.1 Since the last report to Delivery Steering Group in April 2023, the proposed working group on Employment Land has met three times. Membership consist of local authority officers who expressed interest in this area and representation from both TFWM and the Plan for Growth team.
- 3.2 The main focus of discussion for the group has been around the data and how to gain a regional picture of employment land demand and supply. Desk research conducted found that although there is a lot of data contained within individual Local Plans and other documents, the data is in different formats and is on different timescales. Some data is collected on a regional level by TFWM, but this is not a complete dataset and is focussed on constituent authorities. This hinders attempts at gaining a regional picture of the employment land situation.
- 3.3 In order to get a clearer picture of the situation across the region, a table has been sent out to members to full in which should give a clearer picture of the quantum and size of sites available across the region. This will also help inform work around the Plan for Growth agenda and specific needs of indivial clusters.
- 3.4 In addition to this work, officers from the HPR team have been fully engaged with the broader work around the WM Plan for Growth. An internal delivery unit has been established to ensure that the Plan is fully integrated with all the work WMCA undertakes and the availability of employment land is a key enabler to growth and will be an important consideration if the ambitions set out are to be fully realised.
- 3.5 The employment land group met again on the 10th of November and received updates from the skills team and TFWM on activities related to the employment land agenda. The meeting also discussed issues around data and the Strategic Employment Sites

Study. It was agreed that the group needed to outline its objectives/ outputs going forward to influence future policy making and articulate the importance of employment land. A draft of these will be brought to the next meeting for consideration.

- 3.6 Alongside the employment land work we are preparing a paper for the February DSG discussing the implications for the region of the new Compulsory Purchase reforms included in the recent Levelling Up and Regeneration Act. These reforms are intended to make the CPO process quicker simpler and more affordable, as well as to progress stalled schemes and establish more coherent development plots. While much of this work may concern better unlocking the northern route to HS2 or new affordable housing, its primary driver is to ensure new employment land can be secured for key high impact investors bringing substantial numbers of jobs and supply chain multipliers to the region.

4.0 Next Steps

- 4.1 Further meetings of the employment land working group will take place in the coming months, focusing on aligning local and regional activities around employment land, establishing where WMCA can add value to current activity. A full set of objectives/ outcomes will be produced.
- 4.2 Work with the Plan for Growth team to identify any clusters which may have potential barriers to growth relating to land use/ availability and work with partners to come up with solutions if required.
- 4.3 Through the work of the working group, identify the regional picture relating to employment land supply/demand across the region and use this intelligence to realise its growth potential.
- 4.4 Continue to ensure that the agenda around employment land is considered in broader policy development such as the emerging plans around Investment Zones/ Levelling up Zones.

5.0 Financial Implications [to be confirmed]

- 5.1 It is noted that this report provides an update on the Employment Land agenda, specifically the activity of the working group and alignment of the WM Plan for Growth.
- 5.2 Whilst the Employment Land work and the Plan for Growth has the potential to deliver interventions that may require financial commitments in the future, there are no direct financial implications as a result of the recommendations within this report. The work to date has been enabled from existing WMCA resources. As this proposal is developed further, further updates will be brought back to this Board which will include details of any emerging financial implications.

6.0 Legal Implications

- 6.1 Section 113A(1)(a) of the Local Democracy, Economic Development and Construction Act 2009 gives WMCA a power of competence appropriate for the purposes of carrying-out any of its functions. It is noted that the purpose of this report is to inform Delivery Steering Group about progress relating to the alignment of work on the Employment Land agenda and the Plan for Growth, specifically the activity of the newly establish

employment land working group. Although there are no immediate legal implications arising from this report, any future projects or interventions involving WMCA would need to be supported by appropriate legal advice.

7.0 Equalities Implications

7.1 There are no immediate equalities implications arising from this report but individual strategies and delivery schemes will need to take into account local area, and local stakeholder, needs to ensure the schemes developed through the joint working 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.

8.0 Inclusive Growth Implications

8.1 There are no immediate inclusive growth implications arising from this report but individual strategies and delivery schemes are expected to respond to local area, and local stakeholder, needs to ensure that projects arising benefit local residents, including harder to reach groups.

9.1 Geographical Area of Report's Implications

9.1 The report covers the WMCA area.

10.0 Other implications

10.1 None.



Housing & Land Delivery Board

Date	17 January 2024
Report title	Place Pilots Programme: Progress Update
Portfolio Lead	Councillor Ian Courts
Accountable Employees	<p>John Godfrey, Interim Executive Director of Housing, Property & Regeneration Email: John.Godfrey@wmca.org.uk</p> <p>Nigel Ford, Head of Property & Strategic Assets, West Midlands Combined Authority Email: Nigel.Ford@wmca.org.uk</p> <p>Ruby Gill, Programme Support Officer, West Midlands Combined Authority Email: Ruby.Gill@wmca.org.uk</p>
Previous reports:	N/A

Recommendation(s) for action or decision:

Housing & Land Delivery Board is asked to:

- a) **Note** the latest work undertaken in collaboration with the Cabinet Office and the Local Government Association to continue to deliver HM Government's Place Pilots Programme in the West Midlands.
- b) **Note and endorse** the current direction of travel with regard to delivery of the Place Pilots programme.
- c) **Note** the potential of the programme to support regional ambitions for public land in line with WMCA's Public Land Charter; and
- d) **Endorse** continued engagement with the Cabinet Office and the Local Government Association to deliver the Place Pilots programme.

1.0 Purpose

- 1.1 The purpose of this paper is to provide a progress update to the Housing & Land Delivery Board of the Place Pilots programme, led by the Cabinet Office. WMCA have

continued to work closely with the Cabinet Office and Local Government Association (LGA) to scope, establish and deliver the West Midlands programme.

2.0 Background

2.1 The '*Place Pilots: Public Property in Place*' Programme is a Cabinet Office initiative, delivered through the One Public Estate programme, which aims to bring together public sector landowners and puts place and the needs and ambitions of an area, at the centre of the transformation.

2.2 In practice, the Place Pilot initiative will encourage public sector partners to explore opportunities to optimise investment and support excellent public services through co-location, property disposals and relocations, land assembly and other multi-portfolio collaboration across regions. The overall ambition of the programme is to see a 'smaller, better, greener' public estate, delivered through fostering collaboration across the public sector, particularly between local and central Government bodies to help drive/ support local plans and ambitions.

In September 2022, WMCA were approached by the LGA and the Cabinet Office through the One Public Estate programme as an initial area to trial the 'Place Pilots' concept. The West Midlands programme aims to achieve programme ambitions through:

- Development of a pipeline of specific opportunities that can foster collaboration and joined up working in the public sector to realise efficiencies, support placemaking and deliver better public services
- Identification and testing of themes and trends that can be tested and replicated across the region to create a smaller, better, greener public estate
- Connecting landowners from across the public estate in an environment which fosters collaboration, engagement, and networking.

2.3 A pivotal component in delivering the programme is a series of collaborative workshops. To date, five workshops have been conducted, showcasing the program's potential as a potent tool for driving transformative change throughout the region. These workshops promote a more strategic approach to asset management through estate mapping and the development and testing of scalable methods applicable to departmental and public sector estate strategies.

2.4 The West Midlands region was the first of the Place Pilots to commence in the country and is the only Combined Authority, arguably the most complex to date. We have been approached by other Place Pilots for advice and the development of best practices.

3.0 Progress Update

Resourcing

3.1 Following a request from LGA/OGP, the team has been diligently working on commissioning an external resource to join the programme team. Progress has been substantial recently as we are about to appoint, having thoroughly evaluated the received bids. This ensures they can be on board with us in the new year, ready to hit the ground running.

Governance

- 3.2 During discussions with Cabinet Office & LGA to develop appropriate and robust governance for the Place Pilots programme, it was proposed to establish a regional 'Place Forum'. The West Midlands Place Forum will bring together the regional public sector in one place with one approach to public land and its role in delivering better places, jobs, homes, services, and communities for the people of the West Midlands.
- 3.3 The inaugural place forum meeting has been rescheduled due to the ongoing efforts in resourcing the Place Pilots Programme management team and the concurrent procurement of a Place Programme Manager, who will play a key role in leading and advancing the Programme.
- 3.4 The WMCA remain firmly committed to spearheading a collaborative approach to asset management and planning across the West Midlands. Our goal is to achieve a more efficient and effective public estate and services, with a specific emphasis on enhancing the sense of Place. The revised date for this meeting will be January 30th, 2024. The agenda will encompass the exchange of best practices and will be an interactive session.

Data Capture

- 3.5 Since the last update, momentum for the programme has sustained, and the workshops continue to effectively engage partners, identify opportunities for collaboration, and facilitate joint efforts within the public sector.
- 3.6 Findings from Workshop 2 (Town Centres) have been analysed, and a project theme has been chosen: "Public Sector Co-Location" to support the West Midlands Police's Estates Strategy ambition. This pilot involves exploring the possibility of WM Police co-locating with other public sector bodies in key areas to ensure a local presence as outlined in the police's estates strategy. Work is underway to commission and progress this initiative.
- 3.7 For clarity, police assets identified for merger or closure are not an activity that WMCA has been involved in as part of the Place Pilots Programme as this was an action taken by WM Police Senior Command Team (SCT) & PCC as part of a review and update of their 2018 WM Police Estates Strategy.
- 3.8 Regarding Workshop 3 (Depot & Fleet), the selected opportunity for further development is 'Mapping of the Public Estate.' This choice emerged from data analysis, which revealed a common need among public sector organisations to gain a better understanding of the broader regional public sector portfolio. This understanding includes improved access to essential information about property asset locations, ownership types, and building classifications.
- 3.9 Currently, the programme team is collaborating closely with ePIMS representatives and Cushman and Wakefield (C&W) who have been commissioned to help execute this pilot while leveraging existing databases and avoiding duplication of efforts. This theme is an essential platform for other projects and themes within Place Pilots programme, as well as being of value to the Public Land Task Force. It will draw together from all current

sources of data into one database and is also consistent with the outward facing element of the draft WMCA Single Estates and Property Strategy.

- 3.10 The direction of Workshop Four (Retrofit & Facilities Management) & workshop five (Data and Connectivity) are to be confirmed in the new year as we onboard the newly appointed programme manager and refine the outcomes of the workshops together, working closely with the LGA/OGP to advance a specific theme.
- 3.11 Overall there is a tangible shift in the culture of collaborative working across local and central government with a high level of engagement and realisation of the benefits of joint working, focussed foremost on beneficial outcomes on a “place” basis.

4.0 Next Steps

4.1 The anticipated next steps are as followed:

- Onboarding our newly resourced programme manager.
- Delivering Workshop Two Pilot: Finalising procurement documents.
- Delivering Workshop Three Pilot: Finalising the procurement of C&W to deliver the pilot.
- Reaching an agreement with the Cabinet Office and LGA on additional pilot themes that align with the programme's objectives and placing commissions to deliver these.
- Place Forum: preparing for the launch of the West Midlands Place Forum.

5.0 Financial Implications

- 5.1 It is noted that the purpose of this paper is to update Housing & Land Delivery Board on progress relating to the Place Pilots programme; and to advise on next steps for this programme.
- 5.2 The costs for the activities which fall under the Place Pilots programme will be covered by funding provided for this purpose. Further details on the progress of the Place Pilots Programme, including emerging financial implications, will be reported to future Housing & Land Delivery Steering Group and to the Housing & Land Delivery Board before onwards approval by the relevant Board.

6.0 Legal Implications

- 6.1 Part of the WMCA's economic, development and regeneration function is the promotion and facilitation of the improvement rationalisation and enhancement of the public sector estate with the WMCA's area. WMCA therefore has the power to undertake and take forward this Place Pilot Programme. This is entirely consistent with the Public Land Charter.
- 6.2 The source of the power referred to in paragraph 6.1 is Article 10 and Schedule 3 of the West Midlands Combined Authority Order 2016 and Section 113A of the Local Democracy Economic Development and Construction Act 2009.

6.3 The procurement of Cushman & Wakefield that is referred to in Workshop 3 is in accordance with the Authority's Contract Procedure Rules.

7.0 Equalities Implications

7.1 The team are mindful of equality implications within this programme, specifically relating to the Public Sector Equality Duty (PSED) and will ensure these matters are considered and explored as benefits for maximising the Place Pilot objectives. It is important to remember the positive impact "place" can have for local residents including equality issues not least through better accessibility in its widest context.

8.0 Inclusive Growth Implications

8.1 Inclusive Growth is considered throughout the delivery of this programme, including its outputs, which develop and test opportunities and recommendations that support inclusive growth objectives such as enabling public services to be moved to more accessible locations through collaborating with other public sector bodies or improving green credentials of buildings in town and city centres, in turn improving the air quality of more disadvantaged areas.

9.0 Geographical Area of Report's Implications

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

10.0 Other implications

10.1 None.

11.0 Schedule of Background Papers

11.1 No previous papers.

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