

Housing & Land Delivery Board

Date	27th April 2020
Report title	Zero Carbon Homes: Definition and future work programme
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Report has been considered by	Delivery Steering Group, 8 th April 2020

Recommendation(s) for action or decision:

The Housing & Land Delivery Board is asked to:

- 1) **Support** the proposal to adopt the UKGBC definition of “zero carbon buildings” for homes in the West Midlands (as set out in section 3 of this paper) which addresses operational, embodied and whole life net zero carbon.
- 2) **Note** the proposal, in responding to the Housing and Land Board zero carbon buildings commission, to take a phased approach to delivering the zero carbon homes ambition in the 2041 Climate Change Action Plan, which will include establishing the current level of low/zero carbon building, producing an agreed routemap to 2025 and a zero carbon homes charter to encourage take up.
- 3) **Agree** the proposed governance structure for the zero carbon homes programme which seeks to draw in expertise from across the private and public sectors, including:
 - Appointment of West Midlands Zero Carbon Homes Champion
 - An expert soundingboard
 - An officer working group

1.0 Purpose

- 1.1 The purpose of this paper is to seek views from the Housing & Land Delivery Board on the proposed approach to producing a 2025 Zero Carbon Homes standard and routemap, agreed by Housing and Land Delivery Board as deliverables for 2020/21.

2.0 Background

- 2.1 In January 2020, the Combined Authority launched its 2041 Climate Change Action Plan (WM2041) including a commitment to achieving a Zero Carbon Homes (ZCH) standard by 2025. Simultaneously the Housing & Land Delivery Board agreed that a major deliverable for the Housing & Land Portfolio in 2020/21 was to establish a ZCH standard alongside a routemap with supporting guidance to meet the 2025 target. The Board commissioned WMCA to take forward this work during the year in partnership with local councils and the private sector.
- 2.2 The WM2041 consultation finished in March 2020 and WMCA's Environment team is working to understand how best to prioritise resources in light of the response. Whilst these findings are likely to inform the decisions taken by Housing & Land Delivery Board in the future, the nature of the climate emergency is such that the earlier we seek to mitigate climatic impacts, the more we will be able to limit them.
- 2.3 There are some first steps that the Housing & Land Delivery Board could take now in building on its zero carbon homes commission to demonstrate a commitment to the climate emergency as well as to make good early progress on delivering a ZCH standard this year. These include:
- Agreeing a definition of 'zero carbon homes' in the West Midlands, providing clarity of the 2025 goal
 - Agreeing an approach to developing the standard which can add value at the regional level
 - Agreeing a broad programme governance structure, that considers the best approach to engaging internal, public and private sector partners, and can guide the emerging routemap.

3.0 Defining 'zero carbon'

- 3.1 Understanding what 'zero carbon' means, and how this translates into impacts on the ground, can vary depending on the definition and approach taken by policymakers and industry.
- 3.2 The Advanced Methods in Construction programme has demonstrated the benefits of using existing definitions, that are robust and nationally recognised, when explaining

aspirations or negotiating requirements. For this reason, it is proposed WMCA look to do the same for ZCH.

3.3 A number of 'zero carbon construction' definitions already exist, with the most widely accepted and well established nationally having been published by the UK Green Buildings Council (UKGBC). Within its ['Net Zero Carbon Buildings: A Framework Definition'](#), UKGBC defines net zero carbon for both construction and operation, as well as for whole building life as follows:

- Net zero carbon – construction: *"When the amount of carbon emissions associated with a building's product and construction stages up to practical completion is zero or negative, through the use of offsets or the net export of on-site renewable energy."*
- Net zero carbon – operational energy: *"When the amount of carbon emissions associated with the building's operational energy on an annual basis is zero or negative. A net zero carbon building is highly energy efficient and powered from on-site and/or off-site renewable energy sources, with any remaining carbon balance offset."*
- Net zero carbon – whole life: *"When the amount of carbon emissions associated with a building's embodied and operational impacts over the life of building, including its disposal, are zero or negative."*

3.4 Meeting net zero is currently aspirational requiring we address all aspects of a building's carbon footprint. The benefit of the framework definition is that it identifies the steps required to shift towards whole life net zero carbon as well as defining the overall ambition.

3.5 Further detail on how varying definitions could impact delivery of ZCH in the West Midlands is included in Appendix 1.

4.0 Approach to delivering a 2025 standard

4.1 Prior to considering actions WMCA could take to enable delivery of more ZCH, it would be helpful to understand the current level of, and opportunity for, low/zero carbon building and retrofit across the West Midlands region, including on WMCA's own estate. It is proposed that WMCA seeks to commission a data workbook that could include items such as:

- information on building performance and the performance gap
- mapping and costing of new build and retrofit projects, and
- costing of baseline, improved and zero carbon housing products

From this information, WMCA could begin to understand how to prioritise its investment, land or other intervention to deliver the most meaningful impacts as early as possible.

4.2 This approach to scaling up zero carbon delivery and expanding the scope of 'zero carbon' through the definition framework would be detailed in the routemap. It is proposed that the contents of the routemap could seek to:



- Establish the scale of existing/in progress 'sustainable development', based on the data workbook.
- Provide an options analysis of what WMCA could/should target to improve environmental performance in new/existing development.
- Detail local and national exemplar projects that demonstrate the level of ambition in the West Midlands.
- Include a 'zero carbon buildings charter', to be co-developed with key stakeholders including Local Authorities, LEPS and industry amongst others.
- Note additional investment, public sector support, finance etc required to meet the 2025 standard.
- Provide timeframes for actions to 2025, including monitoring arrangements, and for any necessary or recommended actions beyond.

4.3 It is understood that local authorities are already working to identify the impact of the forthcoming Future Homes Standard, limit fuel poverty and make progress towards their own net zero targets. The routemap should acknowledge the various timeframes and specific environmental challenges across the region to ensure it is able to add value at a local level, complimenting and supporting the activities of local councils.

4.4 It is suggested that the routemap and its Zero Carbon Homes Charter could be launched in Autumn 2020. The charter could then be included within the Single Commissioning Framework as a consideration for WMCAs investment decisions.

5.0 Proposed 'Zero Carbon Homes' Governance

5.1 In other programmes, such as those for the regional design charter and AMC, officer working groups have proved a useful way of sharing knowledge and enabling input from across the region. Such a group could work particularly well for zero carbon homes, which the majority of us are trying to address within challenging timeframes.

5.2 Additionally, WMCA has found close engagement with leading professionals useful in developing strategies and raising the profile of the West Midlands. It is proposed that, as with town centres and AMC, WMCA appoints a nationally recognised champion for zero carbon homes in the West Midlands. This person should be a figurehead from the sustainable built environment, who brings with them significant expertise and professional networks.

5.3 Furthermore, whilst low and zero carbon approaches to homebuilding have been around for some time, delivering these at scale is a relatively new concept. Challenges around technical specifications, financing, skills provision and more still exist. It is proposed, therefore, that WMCA seeks to draw on expertise across the low and zero carbon construction sector through a Zero Carbon Homes Sounding Board, chaired by the regional champion, that could inform and challenge WMCA's emerging routemap.

6.0 Next steps

- 6.1 Subject to agreement by the Hosing & Land Delivery Board, the next step would be to issue the Zero Carbon Homes commission, which would include technical support for both the data workbook and routemap.
- 6.2 In the meantime, WMCA would seek to identify individuals for its national champion and sounding board, as well as seek regeneration officials from its local councils for representatives to sit on the Officer Working Group.
- 6.3 Once the data workbook is prepared, WMCA would seek to convene these groups to consider next steps in producing the routemap.

7.0 Financial Implications

- 7.1 This paper makes a request to fund a Zero Carbon Homes commission and appoint individuals to its national champion and sounding board. The WMCA investment in the proposed Zero Carbon Homes would be governed and administered through the Single Commissioning Framework, WMCA Assurance Framework and in line with the accounting and taxation policies of the WMCA and HMRC.
- 7.2 The Single Commissioning Framework provides a single set of criteria and governance systems that will be applied to all applications for available devolved WMCA Housing, Land and Property Development funds, together with a consistent process and timelines for decision.

8.0 Legal Implications

- 8.1 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. Part 4 of The West Midlands Combined Authority Order 2016 (2016 No 653) confers that the functions relating to any economic development and regeneration in the constituent councils are exercisable by WMCA. Part 3 of The West Midlands Combined Authority (Functions and Amendment) Order 2017 confers functions corresponding to the functions of the Homes and Communities Agency has in relation to the combined area. Paragraph 10 (2) (a) of the 2017 Order confers the function of improving the supply and quality of housing to the Combined Authority, 10 (2) (b) to secure the regeneration or development of land or infrastructure in the combined area, 10 (2)(c) to support in other ways the creation, regeneration or development of communities in the combined area or their continued well-being and 10 (2)(d) confers the function of contributing to the achievement of sustainable development and good design.
- 8.2 It is noted that the purpose of this paper is to seek views from the Housing & Land Delivery Board on the proposed approach to producing a 2025 Zero Carbon Homes standard and routemap. Although there are no direct legal implications of producing the standard and routemap legal advice should be sought as and when required. Once the

charter is included within the Single Commissioning Framework as a consideration for WMCA's investment decisions then the requirements can be reflected in the relevant funding agreements on a case by case basis through agreed wording.

9.0 Equalities Implications

9.1 There is no equality impact in relation to these reports.

10.0 Inclusive Growth Implications

10.1 The Zero Carbon Homes programme will seek to improve the performance of residential properties across the region, as part of wider transition to a more resilient, people-centred low carbon economy. Improving building performance means addressing some of the key impacts of deprivation, such as fuel poverty, reduced levels of comfort and higher risk of disease related to poor air quality. It will also involve limiting exposure to future climate risks. This means that a key output and measure of the programme would be the degree to which it reduces climate inequities related to housing.

10.2 Additionally, the programme would seek to provide new opportunities for local residents and businesses to prosper, through the creation of a low and zero carbon pipeline that brings with it new employment, upskilling and growth opportunities across the region.

11.0 Geographical Area of Report's Implications

11.1 The results of the Zero Carbon Homes programme would inform WMCA investment decisions across the whole geography of the WMCA area, including the 3 LEPs and non-constituent Member authorities.

12.0 Other Implications

12.1 There are no other implications.

13.0 Schedule of Background Papers

13.1 There are no background papers.



Appendix 1 Defining Zero Carbon

- 1.1 Existing UK climate policy largely focuses on operational energy, such as heating, cooling and electricity use, with limited consideration given to the embodied energy of new builds.
- 1.2 Whilst building operations do account for a significant proportion of overall UK emissions (30%), this percentage does not include embodied emissions in construction, which contribute up to half of the carbon impacts of a new building. In the West Midlands, failure to address embodied emissions would translate to 107,500 new homes being delivered at the current baseline in the next decade, regardless of any wider commitments to in-use performance. The extent of the region's commitment to zero carbon will therefore depend on the definition used.
- 1.3 It is important to note that whilst definitions of whole life net zero carbon exist, there is still work to do around developing this approach in detail. Meeting net zero carbon in the built environment will require a transitioning phase, including identifying new approaches to construction, education around building use, deployment of new skills programmes and changes to energy management and monitoring.
- 1.4 Identifying the separate aspects of zero carbon within the definition is necessary to ensure that not only are all aspects of the home's carbon footprint addressed, but also that the WMCA has some flexibility during this transition to apply parts of the definition on a site by site basis, whilst still encouraging an overall shift towards whole life net zero carbon.