

GREATER MANCHESTER COMBINED AUTHORITY

Date: 17 December 2021

Subject: Delivering Net Zero Carbon Social Rented Homes: A Whole System Challenge For Greater Manchester

Report of: Paul Dennett, Portfolio Lead for Housing, Homelessness and Infrastructure and Steve Rumbelow, Portfolio Lead Chief Executive for Housing, Homelessness and Infrastructure

Purpose of Report

To seek approval for a proposed approach to the delivery of net zero carbon social rented homes, and to provide an initial interim report on the development of a robust delivery plan.

Recommendations:





The GMCA is requested to:

1. Endorse the ambitions set out in the GM Mayor's manifesto to achieve delivery of 30,000 net zero carbon social rented homes by 2038.
2. Agree the adoption of the whole system challenge approach to delivery of these ambitions set out in the paper, and the commencement of the work outlined.
3. Note that significant support will be required from Government to achieve substantial and sustained progress toward our ambitions.

Contact Officers

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Equalities Impact, Carbon and Sustainability Assessment:

Impacts Questionnaire			
Impact Indicator	Result	Justification/Mitigation	
Equality and Inclusion	G	New social housing will be accessible by and at least in part targeted specifically at people with protected characteristics New social housing will be accessible by and targeted specifically to support socially and economically disadvantaged people New social housing developments should be planned to ensure good access to public services New social housing provides a long term, sustainable solution to housing needs and gives a stable base for communities to grow stronger	
Health	G	Safe, permanent, warm and healthy homes will be provided for households in housing need Safe, permanent, warm and healthy homes will be provided for households in housing need New social housing developments will be designed with the need for access to open space and provision for active travel in mind New social housing provides a long term, sustainable solution to housing needs and gives a stable base for communities to connect with each other	
Resilience and Adaptation	G	Delivery of net zero carbon homes at scale will contribute to the transformation of GM's housing stock in line with carbon reduction targets Homes provided will be affordable, net zero carbon and permanent, providing a safe and stable base for people otherwise likely to be made vulnerable by their existing housing circumstances Homes provided will be affordable, net zero carbon and permanent, targeted at people made vulnerable by their existing housing circumstances Homes will be developed in line with Places for Everyone and other relevant policies on blue and green infrastructure	
Housing	G	Safe, permanent, warm and healthy homes will be provided for households in housing need, including those experiencing homelessness Rents will be set at social rent levels, and accessed via local authority housing registers Delivery is likely to be substantially on brownfield sites, and there may be some reuse of existing buildings All homes under this proposal will be at net zero carbon standards, as set out in Places for Everyone	
Economy	G	Economic activity generated by design, financing, construction and supply chain associated with housing delivery Employment will be generated by design, financing, construction and supply chain associated with housing delivery, and by subsequent management and maintenance Yes, through anticipated transition to off-site manufacture construction techniques, one objective will be to transform the working environment of the construction sector Yes, through contribution to long term programme of delivery of net zero carbon new homes, likely to be substantially owned and managed by social housing providers based and run in GM Yes, innovation in design, manufacture, construction and maintenance of new homes will be essential to success of this strategy Yes, inward investment in the supply chain is expected as part of the drive to innovation Yes, new skills and education will be needed to deliver via the new methods outlined	
Mobility and Connectivity			
Carbon, Nature and Environment	A	During construction phases, negative impacts are likely By adopting Places for Everyone policies, positive impacts should be achieved	
Consumption and Production	G	Process and technical innovation required to deliver this strategy will significantly reduce waste generated by housebuilding This is one of the key anticipated changes to be driven by this strategy Both are potential benefits from the transition to modern methods of construction	
Contribution to achieving the GM Carbon Neutral 2038 target		Homes built under this strategy will be energy efficient, affordable, are likely to incorporate low and zero carbon energy generation & storage, clean technology innovation, be better adapted to climate change impacts, contribute to increased biodiversity and the improvement of	
Further Assessment(s):	Equalities Impact Assessment and Carbon Assessment		
 Positive impacts overall, whether long or short term.	 Mix of positive and negative impacts. Trade-offs to consider.	 Mostly negative, with at least one positive aspect. Trade-offs to consider.	 Negative impacts overall.

Carbon Assessment				
Overall Score				
Buildings	Result	Justification/Mitigation		
New Build residential				
Residential building(s) renovation/maintenanc		A Net zero carbon - other options beyond Passivhaus may prove suitable		
New Build Commercial/Industrial	N/A	Unknown Not known		
Transport				
Active travel and public transport	N/A			
Roads, Parking and Vehicle Access	N/A			
Access to amenities	N/A			
Vehicle procurement	N/A			
Land Use				
Land use	#####			
No associated carbon impacts expected.	High standard in terms of practice and awareness on carbon.	Mostly best practice with a good level of awareness on carbon.	Partially meets best practice/ awareness, significant room to improve.	Not best practice and/ or insufficient awareness of carbon impacts.

Equalities impact

The provision of 30,000 additional net zero carbon social rented homes will add significantly to the availability of secure, safe, warm and affordable homes to households in housing need across the city region, and has the potential to significantly address housing inequalities. The new homes will be allocated through local Housing Registers. We know that people can be disadvantaged in meeting their housing need on the basis of protected characteristics, can face discrimination in the housing market or difficulties in accessing suitable homes to meet their needs and aspirations. As the programme sketched out in this report are further developed, we will use evidence of past and current issues to help design the implementation and priorities for delivery of the 30,000 homes, and directly involve communities to ensure any adverse impacts are minimised and the potential to reduce discrimination is maximised.

Risk Management

Delivery of the ambitions set out in the paper will rely on the contributions of combination of GM and national stakeholders, including Government. A fuller implementation plan will be brought to the GMCA for approval, and governance structures put in place to manage progress (paras 7.2 and 7.3).

Legal Considerations

NA

Financial Consequences – Revenue

To be considered in implementation plan if this report is approved (para 7.2)

Financial Consequences – Capital

To be considered in implementation plan if this report is approved (para 7.2)

Number of attachments to the report: 0

Comments/recommendations from Overview & Scrutiny Committee

N/A

Background Papers

Greater Manchester Housing Strategy (GMCA June 2019)

Tracking/ Process

Does this report relate to a major strategic decision, as set out in the GMCA Constitution

Yes

Exemption from call in

Are there any aspects in this report which means it should be considered to be exempt from call in by the relevant Scrutiny Committee on the grounds of urgency?

No

GM Transport Committee

N/A

Overview and Scrutiny Committee

9 December 2021

DELIVERING NET ZERO CARBON SOCIAL RENTED HOMES: A WHOLE SYSTEM CHALLENGE FOR GREATER MANCHESTER

1 INTRODUCTION

1.1 The Climate Emergency has been recognised globally and there is a systemic need to act in order to mitigate the future damage that will be caused. Every new home that is built that is not Net Zero adds to the retrofit challenge that we face as we try to decarbonise our already poor carbon performing existing housing stock. These challenges exist alongside the long running challenges of social inequality that have been highlighted through the work undertaken by the GM Independent Inequalities Commission. Taking action to address these issues will also create opportunities for the residents of GM to enter into long term jobs in the rapidly growing low carbon sector.

1.2 The GM Mayor's manifesto commitments for the 2021 election include a stepping up of earlier pledges around affordable housing delivery. It does so in two ways:

- Taking an existing (GM Housing Strategy, draft GM Spatial Framework and now Places for Everyone) commitment to deliver 30,000 social and affordable rent¹ homes by 2037, and focusing specifically on 30,000 social rented homes; and
- Further requiring that these 30,000 homes should be net zero carbon, as a step toward the existing 2028 target date for all new development in GM to be net zero carbon.

In simple terms, this requires us to find ways to build more and higher quality homes, and to charge lower rents for them when they are complete, while also driving down the price of construction.

1.3 There is a further Mayoral manifesto commitment to the publication of a detailed plan for the delivery of those 30,000 homes, and this report is a first interim step in the production of that plan. This is a big financial challenge, and **we will undoubtedly need additional support from Government to be successful**. In making that case, we should note that Government has set national net zero carbon targets, and that we can offer Ministers a route to make significant progress toward those targets for mutual benefit. By working with us in GM, we can together drive delivery of a national objective while also tying in lasting and substantial levelling up outcomes for Government.

2 FRAMING THE CHALLENGE

¹ Affordable rents are set at 80% of market rents in an area; social rents are set by a formula drawing on local income levels, property size and value, and are usually significantly lower than affordable rents]

- 2.1 The commitment to delivering these targets will come at a significant cost to both the public sector and industry but cannot be avoided if we are to make the step change required to meet our climate change targets.
- 2.2 The steady annual rate of delivery required to meet the 30,000 ambition by 2038 is around 1,875 per annum. We have delivered very few, if any, net zero carbon social rented homes to date in GM, so realistically we will require a number of years to ramp up production and delivery from the very low current base, even if financial and other upfront constraints are quickly resolved. The 2028 target date embedded in Places for Everyone for all new development to be net zero carbon represents a hugely significant point in the achievement of our ambitions. At current day pricing and depending on size and location, the additional cost of delivering a net zero home is in the region of £15k added to which the cost of £30k - £40k per dwelling to change it from an Affordable Rented to a social rented property. Without any innovation in the supply chain or mechanism to capture value increases from regeneration and development this results in an additional capital cost into hundreds of millions to deliver the initial phases of homes, even accepting a phased delivery trajectory ahead of 2028.
- 2.3 These capital costs do not take into account the revenue costs associated with the upfront project development and site investigations required which could potentially add a further revenue burden in the tens of millions over the same time period.
- 2.4 In order to drive down these costs over the medium term to achieve the 2038 targets there is similarly a need for capital and revenue investment in innovation and R&D projects that need to be funded. While the cost of this is unclear at this stage it is not inconceivable that these costs could be in the tens of millions or higher where we are developing world leading facilities.
- 2.5 There will of course be significant economic and social benefits derived from the interventions envisaged that will, in the long run, far outweigh the investment requirements. Despite these benefits, **there is still a significant financial challenge that needs to be addressed through central government funding allocations**. There are however also areas where only local intervention and funding can unlock the ability to meet these targets.

3 NET ZERO CARBON SOCIAL RENTED HOMES: THE CASE FOR A WHOLE SYSTEM APPROACH

a. Context and constraints

- 3.1 Housing development is a complex process, requiring significant capital with extended delivery timelines, potentially delayed financial returns, and multiple

stakeholders around land acquisition and remediation/preparation, infrastructure providers, planning and building control, sub-contractors and workforce, supply chain partners and funding providers. Affordable housing delivery adds further variables – work needed to secure grant or other subsidy contributions, typically from Homes England, to fund a sub-market rental or sale price, and consequent regulatory requirements for social housing providers to meet. Viability can be a significant challenge in the GM market, which impacts on our ability to secure affordable housing through planning policy requirements alongside market sale or rent developments. Supported and specialist housing typically also requires working with commissioners to attract revenue funding for support services (and then ongoing dialogue to retain that funding through the life of the properties) and may also need additional upfront investment for additional facilities to meet the specific needs of residents.

- 3.2 There are also upward pressures on build costs from a number of factors. The increasing scarcity of a skilled construction workforce is an ongoing challenge. Off-site and modular build is still not reliably cheaper than traditional construction methods. Innovative technologies are part of the solution to that challenge, but are not yet commercialised and there is a need to drive down unit costs. Supply chains manufacturing off-site products and components are growing but need more demand to generate efficiencies, and are not yet at the scale where competition starts to drive cost reductions.

b. Achieving new build for social rent

- 3.3 Recent delivery of affordable housing in GM has been approaching 2,000 per year, if all types of sub-market housing for sale and rent are included. This headline rate would generate somewhere in excess of 30,000 new homes by 2037. But continuing business as usual would see very few of these as social rented homes – in 2020/21, only 277 social rented homes were included in the 1,659 affordable homes built in GM.
- 3.4 Relevant Homes England funding comes mainly through the Affordable Homes Programme (AHP) which offers registered providers of social housing (RPs) grant intended to reflect the additional long term costs of lower rents or sale prices charged to the eventual resident. The AHP for 2021-26 is expected to be split roughly 50% for affordable home ownership products and 50% for affordable rent, though some higher cost per unit grant funding will be made available for social rent development where this can be justified. However social rent funding is not currently available in five GM districts (Bolton, Oldham, Rochdale, Tameside and Wigan) because of restrictions linked to measures of housing affordability imposed by the then MHCLG. So, the availability of grant funding for social rented homes is severely limited in GM.

c. Achieving net zero carbon

- 3.5 Existing Building Regulations do not achieve net zero carbon standards. As such we continue to build homes that do not meet the 2028 target. Improvements to current Building Regulation Standards are therefore required, so that where possible increased costs are included within the land appraisal and land value calculation. This is the driver for us to set net zero requirements in Places for Everyone. Early improvements will also overcome the ‘time lag’ of policy and delivery before the 2028 date.
- 3.6 Net zero carbon homes require a different approach from our construction sector, including the application of some new technologies and a commitment to consistently achieve higher standards. This is achievable at relatively small scale, and there are successful new-build schemes in GM which have demonstrated that. However, development and delivery costs for net zero carbon homes are currently substantially higher than for mainstream, traditionally constructed homes. These additional costs are associated with elements including higher performance insulation, alternative water and space heating technologies and on-site renewable energy generation and storage, typically solar PV panels and batteries.
- 3.7 At present, while they do give some financial leeway to encourage modern methods of construction, Homes England funding does not directly offer support toward meeting the additional cost of achieving net zero carbon standards in new affordable homes. The ongoing energy costs of net zero carbon homes are likely to be substantially less than traditional housing stock. Where the housing is for social rent, the owner of the property incurs the costs of installation and does not benefit from reduced energy bills that could otherwise pay back the investment over the longer term. This therefore requires capital subsidy to install the measures. Without that additional funding, the best remaining option will be to build new homes in such a way to make future retrofit to net zero carbon more easily achievable.
- 3.8 To illustrate the scale of the challenge of delivering 30,000 net zero carbon homes in GM, one route to delivering net zero carbon homes is to achieve Passivhaus certification. While we are not proposing that we adopt this, it is instructive to note the Passivhaus Trust’s report that there are currently only around 65,000 Passivhaus certified buildings worldwide.

d. The case for net zero carbon social rented homes

- 3.9 The connection between housing quality and health is well understood and evidenced, and recently reinforced by the Good Home Inquiry² and by the

² <https://www.ageing-better.org.uk/good-home-inquiry>

2020 Marmot Review³. Marmot summarises the combination of physical and mental impacts of both poor quality and unaffordable housing:

Poor quality housing, particularly damp and cold homes, directly harm physical and mental health and poor housing conditions continue to harm health in England and widen health inequalities. Unaffordable housing also damages health, 21 percent of adults in England said a housing issue had negatively impacted their mental health, even when they had no previous mental health issues, and housing affordability was most frequently stated as the reason. The stress levels resulting from falling into arrears with housing payments are comparable to unemployment. (p.29)

3.10 While new build will make a relatively small contribution to the transformation required in Greater Manchester when placed against the 1.2 million existing homes to be retrofitted, it is nonetheless clear that the broader benefits of new homes will be maximised if they are both affordable and of high quality. High quality in the fullest sense is not necessarily a direct function of net zero carbon homes, but in practice the level of additional care and attention needed through the planning, design and build process to achieve net zero can and should bring with it a similar degree of care in terms of the broader elements of housing quality and design. This should include ensuring that residents will be free of fuel poverty, an increasingly vital part of housing costs as recent developments in the gas supply market have emphasised.

3.11 These issues were also addressed in the GM Independent Inequalities Commission's report⁴, which made a specific recommendation that GM should

scale up public and social sector housebuilding to deliver affordable, decent homes, backed by a plan to acquire land, rental properties, new builds and commercial properties for social housing.

The reference to acquisition of existing properties and potentially conversion of properties from non-residential uses does pose challenges – in principle, achieving net zero carbon standards is likely to be more challenging in an existing building than in new construction.

3.12 But with our 2038 target to become a net zero carbon city region in mind, we do need to drive retrofit of our current housing stock. There is overlap between the innovation in technology, design, installation and maintenance of

³ <https://www.instituteofhealthequity.org/resources-reports/marmot-review-10-years-on/the-marmot-review-10-years-on-executive-summary.pdf>

⁴ [The Next Level: Good Lives for All in Greater Manchester \(greatermanchester-ca.gov.uk\)](https://www.greatermanchester-ca.gov.uk/the-next-level-good-lives-for-all-in-greater-manchester)

zero carbon measures needed for retrofit and new construction respectively. There is huge economic gain to be secured if GM can lead the transition from traditional construction to net zero carbon techniques. For new build, this is likely to be through Modern Methods of Construction (MMC) – including modular build. For existing properties, a variety of techniques and technologies will be involved, given the range of building types which will need to be tackled. But the supply chain and skills required for both are connected – and a substantial programme of net zero new build, underpinned by a broad commitment from GM partners and Government, would incentivise the growth of the net zero carbon buildings ecosystem in and around GM. This would support both local delivery and opportunities outside GM, with value, knowhow and jobs created remaining in GM.

e. Why is this a whole system challenge?

3.13 As should be clear from the above, delivery of 30,000 net zero carbon social rented homes is a huge step up from business as usual. It will not be delivered by incremental improvements or adjustments to existing programmes and policies, or simply by stretching existing targets. Briefly, **it requires reengineering our existing ways of working** in these areas:

- **Skills:** to provide the people needed to deliver homes in a different way – from the construction skills needed to install different technologies within homes and on site, to the professionals in development teams and beyond who are able to rethink the funding, commissioning, design and off-site manufacture of homes, and their installation on sites designed with MMC in mind. Future maintenance of low carbon homes and technologies will also require new skills.
- **Infrastructure:** energy, water, transport and green infrastructure for MMC homes needs to be delivered to the different timelines and specification needed, and to meet net zero and broader sustainability objectives, potentially including off-site renewable generation where on-site potential is limited
- **Supply chain:** manufacture, assembly and installation of MMC homes requires rethinking of the design and delivery of individual elements of new homes, more akin to car or aerospace assembly
- **Land supply:** as with traditional development, land supply is a vital requirement – but for MMC to be effective, a clear secure pipeline of suitable sites, viable in terms of costs of acquisition and remediation will be needed, whether from existing public sector landholdings, or through acquisition
- **Finance:** the funding of net zero carbon homes and MMC facilities to deliver them requires new financial models, made all the more challenging when combined with a requirement to secure long term viability on the

basis of social rent being paid by residents. Lenders also need to be assured of the long term benefits of MMC and net zero carbon homes, with the potential for local and central government to play a useful leadership role.

- **People and communities:** we should learn from experience with retrofitting existing homes, where the best outcomes in terms of energy and carbon savings, impact on fuel poverty and improved quality of life have come where residents have been engaged in the design and implementation of the improvements to their homes.

4 DELIVERY TRAJECTORY

- 4.1 Places for Everyone includes a commitment that all new development should be net zero carbon by 2028. The current version of Places for Everyone considers the available housing land supply and identifies the collective Local Housing Need for the nine Places for Everyone districts at almost 165,000 over the period 2021-2037. Stockport's Local Housing Need is around 18,000 homes over the same period.
- 4.2 Given the extremely limited past and current delivery of net zero carbon social rented homes, we need to make some realistic assumptions about the pace at which delivery can be ramped up. Further modelling will be carried out as implementation plans are produced.

5 APPROACH TO DEVELOPING A PLAN FOR DELIVERY

- 5.1 The detailed plan for delivery of the 30,000 net zero homes needs to recognise the current landscape in which we are operating and set some ambitions, steps and milestones that the whole system needs to strive to meet in order to achieve the total delivery target by 2038. With the anticipated adoption of Places for Everyone and the net zero new homes target included for 2028, this plan focusses on the steps needed to ramp up systems during the period from 2022 to December 2028 such that the adoption of the new standards within Places for Everyone are commercially deliverable from 2028 onwards.
- 5.2 This approach recognises that during the period to 2028, there will be an incremental improvement to the carbon emissions of new social homes delivered with Greater Manchester, with the objective of being able to commercially deliver net zero homes beyond 2028 and having the appropriate supply chain in place to deliver at the required annual delivery rate to meet Places for Everyone planned housing targets.
- 5.3 The definition of Net Zero homes is established within Places for Everyone. However, there is a need to set out a more detailed strategy to move the

wider housing market to deliver to this definition within the timeframes outlined.

- 5.4 Fundamentally, a whole system challenge requires the involvement of all parts of the system in co-producing an ambitious and achievable action plan. We set out below the action areas to be considered through the different parts of the GM system below, under headings linked to the high level stages of the development process.
- 5.5 The key initial activity under each of those is to bring relevant partners together to talk through current baseline, plans already in progress which could contribute to achieving our ambitions, and the additional actions we will need to pursue to mobilise the system. The conclusions from those discussions will be used to populate the next iteration of an implementation plan setting out tasks, timelines, partners and leadership of the different workstreams within the whole system approach. The next section of this report sets out our view of the first steps needed on this journey.
- 5.6 However, as a crucial part of that process, we will need to be clear where and why additional support from Government will be required to build the momentum that is required to make the transformational change our ambitions represent. This will include:
- Support from BEIS to deliver our ambitions in terms of innovation, research and development, necessary to develop the MMC and net-zero carbon supply chain;
 - Support from DLUHC and Homes England to fund social rent homes in all ten GM districts at scale, and to invest in the building of net zero carbon affordable homes;
 - Driving the national policy framework to support the transition to net zero carbon, including through changes to building regulations to provide a clear pathway for the industry toward net zero.

6 THE PLAN FOR DELIVERY

6.1 LAND SUPPLY AND SITE EVALUATION

Context and challenges

The land supply for the proposed 30,000 net zero carbon social rented homes (and for the further 20,000 other affordable homes by 2038) will be part of the overall land required to meet the Local Housing Need established by Government and set out in Places for Everyone (164,881 homes) and the Stockport Local Plan. In a GM context, there are familiar challenges in

bringing forward much of this supply on brownfield land, much of which is in need of remediation. With competition for land from developers bringing forward (much needed) market housing delivery and development for other uses, and landowner expectations of value to be considered, the difficulty of devising viable development schemes can be substantial.

Opportunities

Public sector landholdings, the potential to unlock significant housing delivery in and around our town centres, and our close partnerships with Homes England and GM Housing Providers partnership, and the long term funding available through the Affordable Homes Programme (particularly the Strategic Partnerships element) all represent opportunities to contribute to the development of a strong pipeline of development sites.

By taking a strategic approach to development of sites across Greater Manchester, including potential opportunities to acquire land in addition to developing land in existing ownership, there will be the opportunity to drive growth and value across the city region and to capture this value to cover some of the increased costs associated with delivering these housing targets.

Where Do We Need To Be?

GM needs to be in a position to set out where net zero social rented homes can be delivered in the next 5 – 8 years in advance of the adoption of new planning policy included within Places for Everyone. We also need to increase the pace of the delivery of the social rented housing and agree how we maintain the appropriate pace of delivery in order to meet the 30,000 target by 2038.

It is not, however, simply identifying where the development should occur that will enable GM to deliver the necessary housing. The identified land needs to be brought forward and be capable of being delivered which requires a significant amount of up front resource in terms of development and planning capacity. There will be a need to develop a range of Growth Plans, regeneration frameworks and master plans across multiple sites in Greater Manchester if we are to stimulate the necessary level of development that will see the delivery of the 30,000 net zero homes.

How Will We Achieve This?

- **Land Commission**

Reinvigorating the Land Commission will bring all public sector partners into the discussion about how we best utilise all the land that is available to meet these challenges.

- **One Public Estate**

Working with our public sector partners through the One Public Estate programme, we will bring forward available land for housing delivery with a preference for net zero homes as part of the necessary land supply over the next 5 – 8 years. This will require the review and rationalisation of the One Public Estate Strategic Asset Registers and workshops with the various Strategic Estate Groups to determine the most appropriate way to identify disposal / development opportunities.

- **LA Delivery and Planning Capacity**

Where Local Authorities own land or need to acquire land to bring forward strategically important developments, there is currently a lack of capacity within the Local Authorities to achieve the scale of delivery anticipated following years of Local Authority budget cuts. This will ultimately slow down the pace of delivery.

There are increasing demands on the Local Authority planning teams with the adoption of Places for Everyone and the scale of development coming forward. There is a need to assess whether the capacity is sufficient and GM wide solutions to relieving some of these system pressures considered.

Both these capacity constraints are exacerbated by a lack of young people receiving the appropriate training to progress into long term careers in these areas within Local Authorities. The current impact of this is an inability to recruit the appropriately trained staff to Local Authority posts where budgets exist to appoint. Given this shortage of professionals is a national issue, with development booming across the country, there is a need for a GM focused approach to resolving this issue.

There is a need to develop a longer term Growth Development Capacity Strategy to raise the necessary funding and identify the additional capacity across the system to address these challenges over the short, medium and long term. As part of this strategy there needs to be an assessment of areas where we can work smarter within Greater Manchester collectively to make best use of the resources that we have at our disposal.

- **Land Supply**

While the GM land supply will be set out within Places for Everyone and Stockport Local Plan, there is still the need to define where net zero social homes will be brought forward and a need, therefore, to define the land supply that will be brought forward over the next five years and beyond to deliver these specific homes. This will be achieved through the creation of a pipeline of sites with target delivery figures attached. The creation of such a pipeline will require a programme of workshops with the Local Authorities and a

programme of desktop analysis and site investigation work to determine the constraints on specific sites and opportunities where land value can be captured and utilised to support the increased cost of net zero and social housing delivery. This work will need to culminate in a pipeline of deliverable sites and a clear Delivery Strategy.

6.2 DESIGN AND PROCUREMENT

Context and challenges

While there are many examples in GM and beyond of new net zero carbon homes, mostly developed using modern methods of construction (MMC), the UK still lags in terms of volume delivery of high quality, zero carbon homes. We need to build on the limited current capacity to modernise the construction sector and adopt MMC, both to deliver high quality homes at volume, but also to respond to the challenges in terms of skills shortages in the sector's workforce.

To move the design and supply of net zero carbon homes from limited trailblazers to mainstream volume delivery, we have to tackle the shortages in our experienced workforce at all levels in the design and manufacture of zero carbon homes, and in delivering via modern methods.

Opportunities

The emerging Off-Site Housing Alliance (OSHA)⁵, GM universities' expertise in manufacturing, construction and advanced materials, GM's devolved skills budget, and considerable local experience in modern high-rise construction all point to the real chance to develop GM as a centre of supply chain excellence and innovation in off-site construction, components and processes. Bringing this together with a plan to deliver 30,000 new net zero homes provides an opportunity to achieve scale of operations which should unlock the potential of off-site modern methods of construction, with the potential to help establish GM as a centre of excellence in what should be a growing future market. We will need to work with willing partners to deliver net zero carbon social homes, including the GM Housing Providers and also developers who share our ambitions.

Where Do We Need To Be?

⁵ <https://www.offsiteha.org/>

In the short to medium term, we need to have enabled the production of modular homes within Greater Manchester and formed appropriate partnerships between GMCA / LAs, OSHA, our world leading universities and the supply chain such that there is a co-location of research, innovation and component manufacturing parks linked to modular production. This needs to be aligned with the pipeline and Delivery Strategy such that they are driving the demand for increased production, enhanced innovation expenditure and increased efficiencies in component manufacturing.

How Will We Achieve This?

- **Modular production and on-site delivery**

With modular manufacture being one of the most likely routes to delivering more social and net zero homes, there is a need to support GM Housing Provider partners to enable modular production within Greater Manchester. We will therefore support the development of the OSHA Business Case to identify how best to deliver that potential within GM.

The construction of modular homes is not a new concept but the pace and scale of delivery has meant that there isn't the wealth of construction experience in the market to bring forward an increasing number of modular houses. There is a need to work with GM Housing Providers to determine the need to set up a specific procurement framework that will ensure there is an appropriate construction supply chain to deliver the planned modular units.

- **Component supply chain**

The manufacturing supply chain is capable of driving down costs associated with component manufacture where there is the appropriate framework to do so, ordinarily pertaining to sufficient demand and clarity of the specification that will be procured. There is currently not the scale or pace of delivery to warrant large private sector investment in the local supply chain that will drive cost efficiencies sufficiently. The curation of the appropriate partnerships and collaborative working arrangements will take time to evolve and will need suitable sites for growth of these activities across Greater Manchester. GM will develop a Low Carbon Supply Chain Strategy that identifies the most appropriate route to achieve our objectives, making the appropriate linkages across to the parallel work around Retrofit.

- **Modular net zero innovation**

There is a need to drive down the cost of delivering net zero homes and particularly the components that are utilised to minimise carbon emissions. GM will develop a net zero homes innovation Action Plan that sets out a medium term strategy for working with our university partners and the supply chain to undertake R&D to improve efficiency and drive down the cost of

supply of components. This will include consideration of developing focussed manufacturing parks that will enable the supply chain to set up new manufacturing facilities within GM to service the demand in the future.

6.3 CONSTRUCTION SKILLS AND CAPACITY

Context and challenges

As with the design and manufacture of MMC homes, and in common with the rest of the UK market, GM has limited capacity and experience in the delivery and installation on site of high quality, zero carbon homes, and the supporting work needed to enable MMC development in terms of site preparation, infrastructure connections and installation of renewable and other innovative technologies. This is a key challenge in moving to delivery at scale (and subsequent maintenance of homes post-construction). Professional and trade skills in areas such as the alternative approaches needed to infrastructure and groundworks to deliver MMC and net zero carbon homes need to be scaled up. However, as seen in the retrofit market, employers will not invest in reskilling unless there is a clear and visible demand for those new delivery methods. This challenge is mirrored for training providers. We can help resolve that by adding certainty about future demand for these new skills.

Opportunities

The devolved GM skills budget, strengths in modern high-rise construction, and our plans to deliver at scale, offer a chance to develop GM as a centre of innovation and knowledge in the manufacture and delivery of net zero carbon homes using off-site construction, components and processes.

Where Do We Need To Be?

GM needs to have a range of appropriate training providers able to provide the necessary training to the appropriate number of GM residents. The construction sector needs to recognise the need to employ locally skilled people from Greater Manchester to service the construction opportunities that exist as a result of this market stimulation.

GM needs an approach that resolves issues with limited construction capacity and experience of Modern Methods of Construction, as well as developing a suitably skilled pool of GM residents able to install and maintain Low Carbon technologies.

How Will We Achieve This?

GM will develop a Low Carbon and Construction Skills Strategy that sets out an approach to delivering a GM Skills programme for modular construction and includes reskilling and upskilling of existing workforce, and new

curriculums for trade and specialist roles. This action is to align with those actions arising from “RetrofitGM – Accelerating Retrofit for GM” such that there is a joined up coherent skills approach across these two GM initiatives.

The skills approach will need to see that appropriate training and skills provision is provided across the various skills levels needed to design, manufacture and construct net zero homes. There is work to be done both on the curriculum of existing construction provision (in Colleges and Universities), and to stimulate the provider market to deliver more relevant training and qualifications. In the medium term, more work will need to be done on attracting new entrants to the sector – perhaps by promoting the green credentials of both new build and retrofit jobs. Increasing funding options for these entry level roles will be critical. In the long term, the construction workforce will need to be larger and more flexible in order to meet the retrofit delivery demand.

6.4 FUNDING OUR AMBITIONS

Context and challenges

There is huge demand for truly affordable homes across GM, which is not being met by recent levels of delivery and exacerbated by losses via Right to Buy and historically low turnover rates in our existing social housing stock, meaning fewer relet opportunities to offer to households on Housing Registers. In five GM districts, additional Homes England grant is not currently available to fund social rented new homes, and in the others the Affordable Homes Programme is intended to deliver mainly a combination of affordable rent and affordable home ownership products. This additional grant is crucial, given that rental income from social rent is insufficient to fund development of net zero carbon homes. We therefore need mechanisms/funds to bridge the funding gap if we are to meet our stated ambition.

Opportunities

Partnerships with GM Housing Providers, Homes England and GM Health & Social Care Partnership provide conditions to maximise innovation and efficiency in development processes, and to evidence both invest to save and market-making cases for funding to deliver both net zero carbon and social rent. The Government’s ‘levelling up’ agenda and commitment to achieving net zero carbon targets nationally would seem to provide a basis for dialogue with Departments and Ministers to seek to unlock further support, if we can present a properly evidenced business case.

Where Do We Need To Be?

We need to have access to greater levels of Government departmental budgets in order to deliver at the pace and scale that is envisaged. We need

to clearly articulate a coherent case for working with Greater Manchester to support government decisions to make this necessary funding available. The funding needs to be broad ranging to support the whole system change approach that is needed to deliver GM's and Government's ambitions.

We also need to have appropriately allocated funding that is available to GM to support the delivery of these objectives.

How Will We Achieve This?

- **Brownfield Housing Fund grant**

Where further funding is allocated under Brownfield Housing Fund, there may be the opportunity to re-focus grant awards to absorb some of the cost of delivering net zero homes on brownfield allocations. We will ensure that a greater weighting is provided towards net zero homes within brownfield housing funding allocations recently announced in the CSR 2021 and set out a programme and approach for delivery of brownfield targets utilising this funding, demonstrating GM's ability to spend funding in an appropriate way where this funding is allocated. This will demonstrate both our capability to deliver and enhance the case for providing more Government funding to GM.

- **Identifying further funding to meet our ambitions**

We need to identify scale, timing and nature of funding required, resources available from partners, and potential sources and models of investment from public and private sector to set out a coherent 30,000 Net Zero Social Homes Funding Strategy that can be used to support the case making to Government for the necessary funding that will be identified within the Strategy.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 There is a need to meet the targets set out in this paper as one of the key mechanisms by which GM will address the Climate Change targets that have already been committed to, and address inequalities impacting communities across GM. Of the actions set out there are some which cannot be progressed without central government support. There are, however, actions that can only be progressed within the GM system and need to be progressed locally if progress is to be made to meet these targets.

7.2 A full plan will be brought back to the Combined Authority by end May, setting out more specific actions and milestones, with an implementation plan to follow later in the year. The plan will clearly distinguish between those actions which can be delivered by GMCA and partners with available powers, capacity and funding, and those where we will need to seek additional Government intervention, support or funding to deliver. This will be detailed in the full plan, and we will engage with Government in the interim period to

understand their focus and areas where they will be able to help such that this can be reflected in the implementation plan.

- 7.3** Given the scale and complexity of the challenge there is a need to establish a governance structure that holds decision makers to account for the progress against the actions defined. There are elements of this work to be led under a variety of GM portfolios, including Green City Region, Education, Skills, Work & Apprenticeships and Economy, as well as Housing, Homelessness and Infrastructure. It is therefore proposed that six monthly reports be brought to GMCA, with respective lead Chief Executives having responsibility for progressing the various workstreams required, coordinated by GMCA's Place Directorate.
- 7.4** Recommendations are at the front of this report.