

**Manchester City Council  
Report for Information**

**Report to:** Economy Scrutiny Committee - 7 November 2019

**Subject:** Green Economy

**Report of:** Strategic Director (Growth and Development)

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**Summary**

This report provides an update on the opportunities and challenges faced by Manchester as the city makes the transition to a zero carbon future. The report focuses on the implications for the city's economic growth, and development in the context of Developing a More Inclusive Economy - Our Manchester Industrial Strategy and the ambition to be a zero carbon city by 2038 at the latest. The report introduces some of the high level themes for the Committee to consider as part of their discussion workshop which will be attended by a range of external experts.

**Recommendations**

The Committee are asked to:

1. Note and comment on the content of the report; and
  2. Use the report as the basis for a discussion workshop with invited external guests.
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**Wards Affected:** All

**Environmental Impact Assessment** - the impact of the issues addressed in this report on achieving the zero-carbon target for the city

This report sets out the how the ambition to become zero carbon by 2038 can be capitalised on for the benefit of the city's economy. The report specifically references the opportunities for Manchester residents and how the education and skills providers in the city will need to respond.

**Alignment to the Our Manchester Strategy Outcomes (if applicable)**

<b>Manchester Strategy outcomes</b>	<b>Summary of how this report aligns to the OMS</b>
A thriving and sustainable city: supporting a diverse and distinctive economy that creates jobs and opportunities	Manchester currently has a thriving economy which could benefit from green technology and services. There are also some economic risks associated with transitioning to a zero carbon city.

A highly skilled city: world class and home grown talent sustaining the city's economic success	The future skills needs of the city will need to adjust to reflect the new zero carbon ambition. Some new specialist jobs will be created and some existing jobs will need to adapt.
A progressive and equitable city: making a positive contribution by unlocking the potential of our communities	The transition to zero carbon needs to be delivered in a way which does not adversely impact the city's economic growth.
A liveable and low carbon city: a destination of choice to live, visit, work	Transitioning to a zero carbon city will help to attract new investment and residents.
A connected city: world class infrastructure and connectivity to drive growth	Major investment in sustainable transport will be required which will support the city's ambition and also has the potential to create significant numbers of new jobs.

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### Background documents (available for public inspection):

The following documents disclose important facts on which the report is based and have been relied upon in preparing the report. Copies of the background documents are available up to 4 years after the date of the meeting. If you would like a copy please contact one of the contact officers above.

Manchester City Council - Executive, *Developing a More Inclusive Economy - Our Manchester Industrial Strategy*, September 2019,  
<https://democracy.manchester.gov.uk/ieListDocuments.aspx?CId=147&MId=619&Ve r=4>

Manchester City Council - Council, *Climate Emergency Declaration*, July 2019  
<https://democracy.manchester.gov.uk/ieListDocuments.aspx?CId=135&MId=524&Ve r=4>

HMG and GMCA, *Greater Manchester Local Industrial Strategy*, June 2019,  
<https://www.gov.uk/government/publications/greater-manchester-local-industrial-strategy>

Manchester City Council - Executive, *Manchester Zero Carbon Framework*, March 2019

<https://democracy.manchester.gov.uk/ieListDocuments.aspx?CId=147&MId=293&Ve r=4>

The Institute for Innovation and Public Purpose, *A Mission Oriented Approach to Clean Growth*, March 2019, [https://www.greatermanchester-ca.gov.uk/media/1909/gmipr\\_tr\\_amiissionorientedapproachtocleangrowth.pdf](https://www.greatermanchester-ca.gov.uk/media/1909/gmipr_tr_amiissionorientedapproachtocleangrowth.pdf)

Greater Manchester Independent Prosperity Review, *Reviewers' Report*, March 2019,

[https://issuu.com/greatermcr/docs/gmipr\\_reviewersreport\\_web\\_20190208?e=35861904/67626379](https://issuu.com/greatermcr/docs/gmipr_reviewersreport_web_20190208?e=35861904/67626379)

## **1.0 Introduction**

- 1.1 Defining the Green Economy can be challenging but the United Nations definition is an economy that is “low carbon, resource efficient and socially inclusive.” The Greater Manchester Local Industrial Strategy states that there are already 2,500 companies and over 45,000 people employed in Greater Manchester’s research assets and large low carbon goods and services sector. The explicit zero carbon commitments that Greater Manchester and Manchester have made provide an opportunity to significantly increase the number of business and employment opportunities within this sector.
- 1.2 Defining and measuring green skills (or low carbon skills) is equally challenging, being applicable across most sectors in some capacity, for example, transport, education, construction, digital and financial and professional services. “The green economy is defined as one in which value and growth are maximised across the whole economy, while natural assets are managed sustainably” (HM Government: Skills for a Green Economy). Whilst there is a focus on some of the environmental or carbon reduction industries, there also needs to be a wider focus to include some of the generic skills that businesses need to improve resource efficiency (e.g. project and risk management) and any technical skills or processes needed as they work towards this.

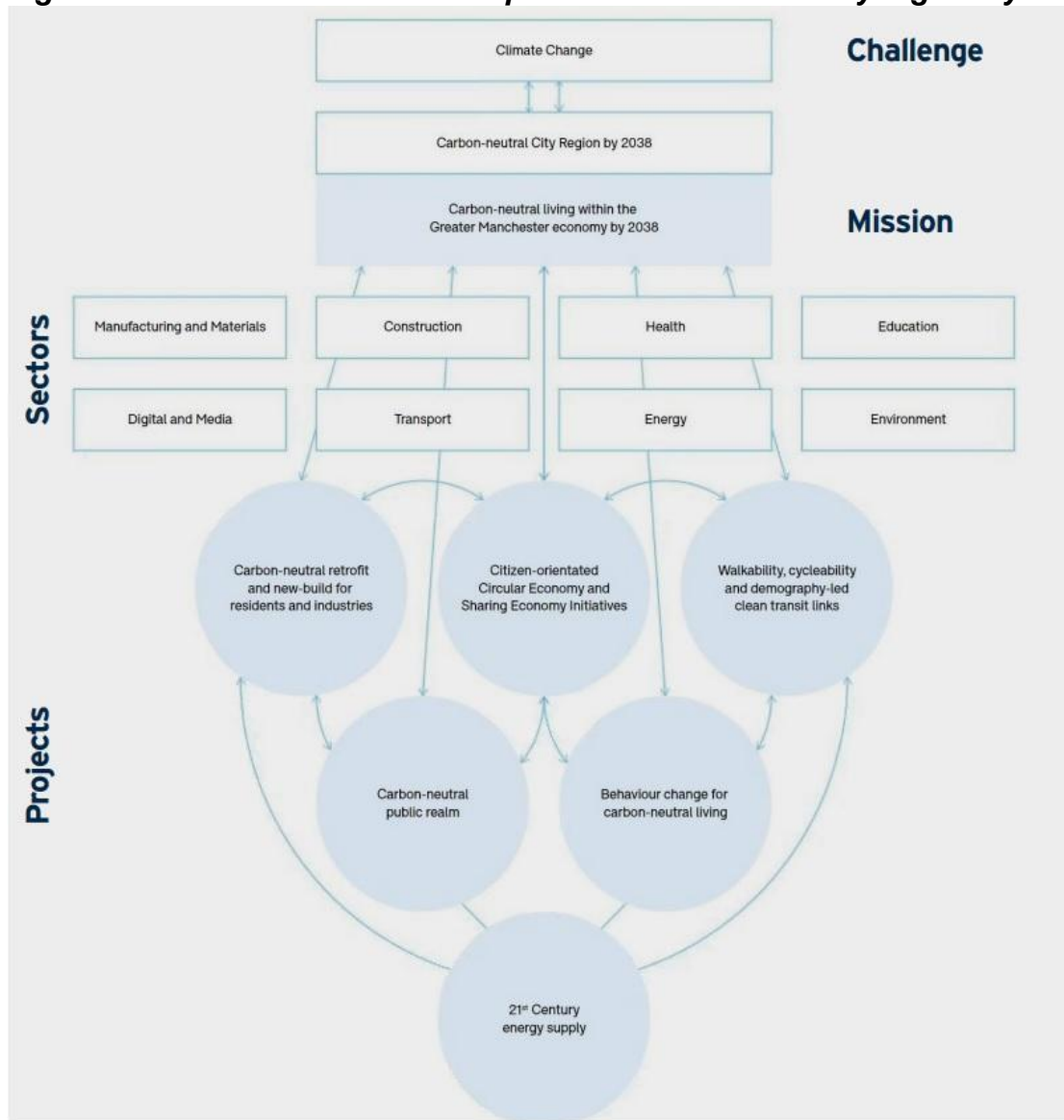
## **2.0 Greater Manchester Local Industrial Strategy**

- 2.1 In their national Industrial Strategy, Her Majesty’s Government (HMG) sets out four ‘grand challenges’ which, if addressed, will put the UK at the forefront of industries of the future and increase productivity. One of the grand challenges is “Clean Growth - we will maximise the advantages for UK industry from the global shift to clean growth”.
- 2.2 The Greater Manchester Local Industrial Strategy (GM LIS) specifically identifies Greater Manchester as having a regional strength in being able to capitalise on clean growth to increase the city region’s productivity. The evidence base underpinning the GM LIS - the Greater Manchester Independent Prosperity Review - found that, whilst zero carbon is a global challenge, Greater Manchester’s leadership and ambitions create an opportunity to use these ambitions to drive innovation to attract investment and bring direct benefit to residents. The Review proposed a mission-based approach as the best way to identify key sectors that are best placed for cross-sector interaction, to ensure both the delivery of the 2038 zero carbon target whilst also maximising benefits to the economy, and the health and quality of life of residents in the city region. Improvement in quality of life could include better air quality, better housing, and easy access to enhanced green spaces and urban planting.
- 2.3 As a result of the Review’s recommendations, the GM LIS consequently launched the UK’s first city region growth mission which aims for carbon neutrality that improves quality of life for residents, minimises the productivity

impact on businesses, and maximises commercial opportunities. The GM LIS includes the specific following actions on clean growth:

- The GM 5 Year Environment Plan sets out the first set of actions to reduce carbon across all sectors of society (residents, communities, businesses, HEIs, utility providers and government).
- We will establish the UK's first city region Clean Growth Mission for carbon neutral living within the GM economy by 2038, driving innovation, the creation of new technologies, improved resource efficiency, and improved quality of life.
- Mission-oriented projects are expected to include: carbon neutral retrofit and new build; 21st century energy supply; sustainable and low carbon transportation; natural capital, clean growth and productivity.
- Rapid action to provide relevant training will be taken, particularly in priority skill gap areas such as whole house deep retrofit.
- The Clean Air Plan will set out an approach to tackle poor air quality.

**Figure 1: GM LIS mission road map for net zero carbon city region by 2038**



### **3.0 Developing a More Inclusive Economy - Our Manchester Industrial Strategy**

3.1 The need to move towards clean growth and a greener economy is referenced throughout Developing a More Inclusive Economy - Our Manchester Industrial Strategy. The Strategy recognises that, in order to achieve our zero carbon 2038 ambition, it has to be central to everything the city does, rather than an add on. The city's economic success cannot come at the detriment to our environmental aims, and environmental justice is key to creating an inclusive economy.

3.2 Clean growth and green skills are specifically referenced in the Our Manchester Industrial Strategy in the following areas:

- Equipping people with the skills to prosper - the need to ensure Manchester residents have the skills to access the jobs that will be created in the green economy.
- Transport infrastructure - the move towards non-carbon intensive transport, such as electric solutions, cycling and walking.
- Digital infrastructure - smart cities can be used to create environmental solutions that support our zero carbon ambition.
- Inclusive and zero carbon new developments - ensuring that all major new developments are low to zero carbon; this aim will also be supported by the Local Plan refresh.
- Investment to improve the environment - ensuring the continued support for environmental programmes, including green and blue infrastructure
- Foundational economy - supporting those who currently work in utilities (energy generation) and transport, who are likely to see their roles change with the transition to a green economy.
- Reimagined, repurposed and retrofitted commercial premises - more environmentally sustainable than new build, whilst presenting an opportunity to retrofit.

3.3 Following the Our Manchester Industrial Strategy being approved by the Executive in September, we are now looking towards the implementation of the Strategy. This work is in its very early days but will include the following strategic initiatives that relate to the green economy:

- Developing a programme focused on supporting green tech and services jobs;
- Creating a framework for new development to ensure all major projects become inclusive exemplars, including environmental sustainability;
- Developing and supporting innovative investment in environmental programmes; and
- Developing a programme of work on future investment models to establish how to ensure the greatest impact from them.

## **4.0 Education and Skills: Challenges and opportunities**

- 4.1 The long term skills demand projections are uncertain at a Manchester level and how the data is interpreted changes. Further research is needed in this area, either through a sector based or system wide approach. However, we know that education and skills will underpin our ability to reach our ambition of a zero-carbon economy by 2038. As well as the environmental crisis there is also a compelling social and economic drive; by ensuring our residents are equipped with the necessary skills to fill these roles, the journey to 2038 can also be a route to addressing inequality.
- 4.2 A policy framework for education and skills is under development. This will support the transition to a zero carbon economy and set out the different elements of meeting the increased demand for green skills, including:
- a) Planning now for the skills demand of young people who are yet to enter the labour market;
  - b) Supporting existing workers experiencing or at risk of job losses (due to the decline of carbon heavy industries) to move into new employment in a zero-carbon economy in the future. This applies both to those currently employed in carbon-based industries who have highly transferable skills which will be needed in a zero-carbon economy, (such as construction workers), and those with no or low skills in need of support.
  - c) Supporting workers already in the labour market with skills valuable in a zero carbon economy but who will need to upskill in order to adapt to sectoral changes, arising as a result of policy or technological developments.
- 4.3 **Clean Growth and Productivity:** The shift to carbon neutrality will mean that some firms, particularly those that have carbon intensive operations, will need support to speed up their progress towards carbon neutrality without constraining growth. Certain skill sets will be required if we are to accelerate the implementation of energy and material efficiency measures in the design and production of green products and services.
- 4.4 Businesses have a key role and need to respond to this agenda. The City Council can use the existing networks to make the benefits of investment in green skills clear and the opportunities this provides in terms of innovation, sustainability, efficiencies and productivity. For example, the next Construction and Skills network in Manchester, in Jan 2020 will be focussed on Green Skills.
- 4.5 The skills system already faces challenges to meet the demand for future skills e.g. those required by digitisation/ automation. The Institute for Public Policy and Research (IPPR's) recent energy skills survey corroborates this and reveals that the most commonly cited roles being anticipated in future include new engineering skills, systems engineering, IT skills but also soft skills such as communication and team working. The Adult Education Budget has seen

significant reductions over the past decade and historically there has been a lack of investment in higher level and technical skills, most recently noted in the Augar review

### **Facilitating the opportunities**

- 4.6 Manchester City Council has good partnerships and relationships with schools, colleges, training providers and universities to drive and influence this agenda. The University of Manchester and Manchester Metropolitan University have a strong track-record of harnessing their expertise in this field to work alongside business and industrial partners, local and national government, community groups, charities, schools, colleges and the wider public e.g. projects such as Future Economies and Industry 4.0. The first “Green Skills, Clean Energy” summit was held in September by MMU.
- 4.7 Manchester Adult Education and Skills Plan and the Adult Education Budget has a number of themes. which are relevant to the green economy, including the importance of residents developing basic and more advanced digital skills which will be key for many roles in this sector. The devolution of AEB provides an opportunity to commission new qualifications and skills provision that address some of the entry level routes into employment required by a zero carbon economy. This is important if the City’s residents with lower qualifications and skills are to benefit from Green Growth. However, in the short term AEB will primarily remain focused on basic skills (English, Maths, Digital & ESOL) for those with low/no skills.
- 4.8 The Careers Education, Information Advice and Guidance network (CEIAG) is convened by the Work & Skills Team to bring the career leads from schools and colleges together to support each other and share good practice. There will be a “Green Skills” themed CEIAG Network in December. This will build on the strong focus of the network on the promotion of Science, Technology, Engineering and Maths (STEM) subjects, as a route for students to benefit from opportunities in the City’s growth sectors. In addition to STEM, the network focuses on Skills for Life which promotes a city wide approach for young people to develop the softer skills needed for employment and life. These skills will help equip the City’s young people with the light green skills needed for the low-carbon economy.
- 4.9 Apprenticeships are a clear opportunity to respond to the need for Green Skills. Apprenticeship standards offer an opportunity for employers to shape qualifications and some employers, for example Siemens who produce technology that underpin clean energy in Manchester have a substantial apprenticeship programme. In the City, as well as nationally the number of apprenticeship starts has reduced since the introduction of the Apprenticeship Levy but it does remain a source of funding for levy paying employers to upskill existing staff and recruit new talent with the skills needed for a low-carbon economy.
- 4.10 T Levels, the Government response to the development of technical & vocational skills are designed to be the third complementary route to



apprenticeships and A-levels at post-16. They are matched to 15 sectors but not currently matched to all professions on the Shortage Occupancy List (SOL). Many of the skills gaps which currently exist in the low-carbon energy sector are listed on the SOL. The Manchester College is piloting a number of T-levels from 2022, including construction so this may present a specific local opportunity for Manchester.

- 4.11 The Work & Skills Board provides oversight of the delivery of the City's Work & Skills Strategy. The Strategy is due to be refreshed next year and will include a focus on the skills needed to maximise the employment opportunities in a zero-carbon city.

## **5.0 Energy: Challenges and Opportunities**

- 5.1 The NW Energy and Hydrogen Cluster at MMU is a major asset and provides an opportunity to collaborate to create a business model for the energy sector. GMCA has developed a Smart Energy Plan, which builds on the vision articulated in the Local Area Energy Strategy for a carbon neutral city region, with an energy system which is smart, fit for the future, low carbon and economically, environmentally and socially sustainable.
- 5.2 The energy transition required will involve a long term structural change in energy provision which will require the development of necessary skills across multiple technologies to achieve long term decarbonisation ambitions. There are currently limited courses available that reflect the breadth of cross cutting technologies and disciplines. Agility is the key in that the skills required must adapt to both the decarbonisation and innovation agendas. Development of existing courses or introduction of new courses is needed across the education & skills sector. Universities can take leadership and develop this for the sector, building on their existing assets and strengths e.g. advanced manufacturing & hydrogen.
- 5.3 This process has already started as MMU held their first Clean Energy Skills Summit on 6 September 2019, bringing together academics, policy makers and industry professionals to understand the skills gap and challenges facing the industry, to support Greater Manchester to become zero carbon by 2038. The Summit focused on five themes within the clean energy agenda:
- Energy - the future energy markets is rapidly changing with both the decarbonisation and innovation agendas; therefore transferable and agile skills are key. Engineering is a current skills gap, with a particular need for electrical engineers. Young people need to be engaged about the energy sector at an earlier age and university courses should include clean energy modules.
  - Transport - there is a current skills gap around electric vehicles, the latest battery technology and defining a roadmap for the ultra-low emission vehicle pathway. Consideration needs to be given as to how those currently working the sector adapt and upskill to these new skills needs. Skills development should be built into any transport programme;

manufacturers and SMEs should also be engaged alongside education providers.

- Key emerging technologies (focusing on hydrogen fuel cells) - development of existing courses or new courses is needed across the value chain to respond to emerging technologies, especially on energy storage.
- Buildings and infrastructure - skills will be needed for the development and implementation of a retrofit programme, and the development and implementation of a new build programme; learning projects between industry and education could be created now. Professional bodies that accredit courses need to be engaged to allow course content to change to reflect these needs.
- Smart energy systems - there is a lack of policy makers with the required skills to understand smart energy systems; they need to be led by academic and commercial experts in the field. Public engagement and education is key to the success of this agenda; as such, softer skills (such as communication) are in demand alongside more technical skills (such as engineering).

5.4 There was consensus that collaboration is key to achieving the 2038 target. Continuing engagement with industry, education providers and policy makers as the skills demand becomes more apparent and defined is essential. Emma Degg CEO of NW Business Leadership Team who will be in attendance at Economy Scrutiny to which this paper speaks to also spoke at this event.

## **6.0 Planning: Challenges and Opportunities**

6.1 The Government's advisory body, the Committee on Climate Change has recognised the crucial role that planners and planning have in achieving zero carbon targets. The planned review of the Manchester Local Plan provides the opportunity to put in place an up to date strategic policy framework to guide new development in the city and to signal the scale of ambition that exists to deliver zero carbon development in the future. The planning system can also help to influence and incentivise the scale and pace of renewable energy generation by ensuring that policies are adopted production.

6.2 There will be increasing opportunities for planning and other built environment professionals to play an important role in helping the city to make the transition to a zero carbon future and universities and colleges will have a key role in ensuring that people with the requisite knowledge and skills are available.

## **7.0 Transport: Challenges and Opportunities**

7.1 Emissions from the transport sector are currently largely unchanged from 1990 levels, which, combined with the fact that emissions from energy supply have been cut by 65 per cent since 1990, has resulted in transport recently becoming the largest emitting sector in the UK. There could be up to 10 million electric vehicles on UK roads by 2030 and a decade later the Government, on current plans aims to phase out the sale of internal combustion engines entirely, representing an important opportunity to

leverage the increasingly decarbonised electricity supply to cut transport emissions.

- 7.2 In “The Road to Zero”, a document that accompanied the publication of the National Industrial Strategy in 2018, Government committed to the following trajectory to decarbonise road transport:

*“Our mission is to put the UK at the forefront of the design and manufacturing of zero emission vehicles, and for all new cars and vans to be effectively zero emission by 2040. As set out in the NO2 plan, we will end the sale of new conventional petrol and diesel cars and vans by 2040. By then, we expect the majority of new cars and vans sold to be 100% zero emission and all new cars and vans to have significant zero emission capability.”*

*By 2050 we want almost every car and van to be zero emission. We want to see at least 50%, and as many as 70%, of new car sales and up to 40% of new van sales being ultra low emission by 2030. We expect this transition to be industry and consumer led, supported in the coming years by the measures set out in this strategy. We will review progress towards our ambitions by 2025. Against a rapidly evolving international context, we will seek to maintain the UK’s leadership position and meet our ambitions, and will consider what interventions are required if not enough progress is being made.”*

- 7.3 Clearly, given the city’s and the Council’s commitment to earlier action there is a need for the new Action Plan, due to be considered in March, to set out how the transport sector can play its full part and deliver more rapid change. There will be significant skills implications for the shift in transport use and in the development of advanced materials and light-weighting which will create the potential to drive new technologies that will reduce emissions from public and private transport. These include design, manufacture, construction and maintenance of the electrification infrastructure; advanced skills in power supply technology; new rail signalling and train traffic control systems; and management skills to integrate new skills and technology. There will also be an increased demand for the skills required to support a shift to an increased number of journeys being made on foot and by bike, particularly within cities. More generally, skills are needed to support construction, e.g. minimising disruption caused by floods or extreme weather; new technologies; and maintaining and retrofitting existing networks.

## **8.0 Social Value: Challenges and Opportunities**

- 8.1 Public investment over the next 20 years provides industry with an opportunity to not only improve the transport, energy and utility infrastructure but also an expectation to achieve significant reductions in environmental impacts from new projects. Both private and public sector clients are starting to demand more sustainable practices and as a result there is a requirement of supply chains to provide efficient, green and ethical solutions as normal business.
- 8.2 For over a decade, the City Council’s procurement policies has enabled the City to use its buying power to deliver economic and social benefits for

Manchester residents including jobs, apprenticeships, training & education opportunities and wider community benefit working with the VCSE sector. The impact of this work on the City's residents, SMEs and the economy has been evaluated independently by CLES and is regularly reported to this Committee.

- 8.3 Although environmental benefits are part of the GM Social Value Policy, historically there has been less emphasis on the environmental benefits delivered through social value in Manchester. Other anchor institutions such as MCFC have a stronger story to tell in this regard and there are lessons the City Council can learn. The Executive Member for Finance is keen to explore the adoption of the UN Sustainability Goals, as an approach to improving the impact of our supply chain on the environment and increasing the contribution of our suppliers towards our zero-carbon ambitions.

## **9.0 Development: Challenges and Opportunities**

- 9.1 Major new developments in the City such as the Northern Gateway, St John's, Mayfield, further phases of Manchester Life developments along with the University of Manchester's development of their Innovation District in North Campus provide opportunities to develop exemplar low-carbon commercial and residential properties. This will increase the attractiveness of the City, as a place to live and do business in but will have implications for how we facilitate or provide the necessary green and blue infrastructure. They will also provide large employment opportunities in construction, design, engineering, technical roles, all of which will have a green skills component.
- 9.2 In relation to Carbon neutral retrofit and new-build: we have set ambitious targets that all new homes and commercial buildings should be net zero carbon by 2028. There are major skills development and employment opportunities in developing large-scale modular construction facilities capable of building new homes at the speed and standard required to deliver carbon neutral living and meet our targets for new housing.
- 9.3 Social housing providers such as Northwards and One Manchester are already implementing some low carbon initiatives both with their housing and work with residents. A good example is the work which Northwards does which focuses on fuel poverty and low carbon; helping residents reduce their fuel costs while switching to low energy alternatives, using SMART meters and making positive behaviour changes. The City Council is supporting this work through the delivery of the low carbon buildings framework and this will be embedded in the development of new affordable housing across the City.
- 9.4 However, 80% of homes that exist today will exist in 2050 and there are business and employment opportunities to retrofit Manchester's large supply of existing stock. This will necessitate upskilling construction and energy trades. The biggest challenge will be funding and incentivising the retrofit of poor quality low value housing, as neither funding nor incentives currently exist. As with the Northwards example, improving the energy efficiency of these homes would have a double benefit of helping to reduce the fuel poverty

of some of the poorest residents in the City now, as well as contributing to our low-carbon ambitions in the medium term.

## **10.0 Conclusions and recommendations**

- 10.1 Becoming a carbon neutral city by 2038 is an ambitious mission for Manchester. It will have an impact on all aspects of the Manchester Economy. This report sets out some of the sectors and areas which are within the remit of Economy Scrutiny Committee but there are many more areas to explore. We have invited a Panel representative of the sectors covered in this report to come to the Scrutiny Committee and provide their organisation's approach and their perspective on how the City Council can facilitate the delivery of the 2038 carbon neutral ambition. The intention is that the Economy Scrutiny meeting explores the issues raised in more depth. It is expected that future reports on the topics included in this report and new policy and developments in the City will include carbon neutral considerations.