

GM LOCAL ENTERPRISE PARTNERSHIP BOARD

SUBJECT: DECARBONISATION OF HEAT
DATE: 21st September 2022
FROM: Steve Connor, Green City Region LEP Lead

PURPOSE OF REPORT:

To outline activities, both currently underway and required, to meet the City Region's decarbonisation of heat ambitions.

RECOMMENDATIONS:

The GM LEP Board is requested to:

1. Note the activity underway and identified to decarbonise heat across Greater Manchester, reduce energy bills and shield people from fuel poverty
2. Note the launch of Your Homes Better and discuss the opportunities to utilise this mechanism to support 'willing to pay' citizens to reduce energy bills.
3. Consider the wider economic opportunities to invest in, generate and distribute low carbon heat locally.
4. Note that the sustainability impact of this work is overall very positive for carbon reduction and addressing inequalities as some of the measures directly support the reduction of energy bills for the fuel poor. There are also significant economic opportunities to be gained from the transition to low carbon heat. The proposal may have short term minor negative impacts on material use and amount of construction waste produced.

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BOLTON
BURY

MANCHESTER
OLDHAM

ROCHDALE
SALFORD

STOCKPORT
TAMESIDE

TRAFFORD
WIGAN

Equalities Impact, Carbon and Sustainability Assessment:

Recommendation - Key points for decision-makers

The sustainability impact of this work is overall very positive for carbon reduction and addressing inequalities as some of the measures directly support the reduction of energy bills for the fuel poor. There are also significant economic opportunities to be gained from the transition to low carbon heat. The proposal may have short term minor negative impacts on material use and amount of construction waste produced.

Impacts Questionnaire

| Impact Indicator | Result | Justification/Mitigation |
|--------------------------------|--------|---|
| Equality and Inclusion | G | Some of the activities will specifically support economically disadvantaged groups with their energy bills |
| Health | G | Warmer homes and public buildings will promote better physical health Warmer homes and public buildings will promote better mental health and wellbeing |
| Resilience and Adaptation | G | Better home insulation will reduce the risk of heat stress Better insulated homes with independent heat sources are better able to withstand temporary disruption to energy supplies Ultimately, reducing carbon emissions from heat will reduce the future severity of impacts from climate change |
| Housing | RR | More energy efficient homes may be more expensive to buy |
| Economy | G | Decarbonising our heat supply has the potential to create local jobs and grow new businesses There are opportunities for further R&D in decarbonising heat Decarbonising heat will increase capital investment in GM Decarbonising public building is also part of this proposal |
| Mobility and Connectivity | | |
| Carbon, Nature and Environment | G | Well insulated homes and buildings will reduce noise pollution The one of the main purposes of schemes to decarbonise heat is to reduce carbon emissions |
| Consumption and Production | R | The proposals will seek to increase energy efficiency As with any construction work, decarbonisation of heat will lead to short term increase in construction waste. |

Contribution to achieving the GM Carbon Neutral 2038 target

The way we currently heat our homes and buildings creates one of the largest emissions of carbon. This paper outlines mechanisms to substantially decarbonise heat across the city region and therefore has the potential to significantly reduce our carbon emission. The rate of decarbonisation could be increased through additional funding, incentives or stimuli for system/behaviour change.

Further Assessment(s):

Carbon Assessment

| | | | | | | | |
|---|---|---|---|---|---|----|---------------------------|
| G | Positive impacts overall, whether long or short term. | A | Mix of positive and negative impacts. Trade-offs to consider. | R | Mostly negative, with at least one positive aspect. Trade-offs to consider. | RR | Negative impacts overall. |
|---|---|---|---|---|---|----|---------------------------|

Carbon Assessment

| Overall Score | | |
|--|--------|---|
| | | |
| Buildings | Result | Justification/Mitigation |
| New Build residential | N/A | |
| Residential building(s) renovation/maintenance | | Most activity will focus on lifting the EPC ratings of the most energy inefficient properties D,E,F,G Not known as will vary from property to property |
| New build non-residential (including public) buildings | N/A | |
| 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 | N/A | |
| 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. |

Risk Management:

All programmes described here have their own risk register which is monitored monthly.

Legal Considerations:

There are no legal implications directly relating to this briefing. The Legal implications of the programme delivery are addressed at the project level.

Financial Consequences – Revenue:

There are no financial implications directly relating to this briefing.

Financial Consequences – Capital:

There are no financial implications directly relating to this briefing.

Number of attachments to the report:?

0

BACKGROUND PAPERS:

GM 5 Year Environment Plan
Local Area Energy Plans

1. INTRODUCTION/BACKGROUND

Although Government has recently announced an energy price guarantee for the next two years of £2500 annual, based on typical household use, this still represents a 6.5% increase in October on what residents are currently paying under the existing price cap. Greater Manchester businesses are also experiencing unprecedented energy price increases with approximately 50% price increase last year and could see up to 500% increase by April next year. One high energy user has suggested that, without intervention, their annual energy bill could rise to £57m. Government has suggested that businesses will also receive support for their energy bills equivalent to the support offered to households, but no details are currently available.

Across 2018-2020, GM's carbon emissions are 9.9MtCO₂ above our target. Transport and domestic gas, used for heating, remain our two largest sources of carbon emissions and the two areas where we are failing to make the progress we need. Decentralising and decarbonising of heat across the city region is therefore as important from an energy security and energy price perspective as it is to our climate change ambitions.

The City Heat Decarbonisation Delivery Plan (CDDP) programme is a BEIS funded project covering 6 cities and city-regions, including Greater Manchester, which aims to support the delivery of heat decarbonisation projects at the city scale across different asset classes: Social Housing, Local Authority owned buildings, Schools under Local Authority influence and other public sector estates. A second stage of the work took these portfolios of interventions and developed outline business cases for each of the priority sectors identified in Stage 1.

The third stage of the work has now commenced and is focussed on the delivery of strategic heat networks and specifically what the proposed Heat Network Zoning Policy, which Government has committed to bring forward by the end of 2025, will mean for Greater Manchester. In particular, we are investigating how these heat network zones, and the heat network infrastructure within them, can be practically delivered looking at both the technical and commercial solutions and administrative and governance requirements.

2. CURRENT DECARBONISATION OF HEAT ACTIVITY

The GMCA's Low Carbon Team is currently delivering a suite of decarbonisation of heat programmes, supporting districts, BEIS, and commercial entities to accelerate both innovation and delivery. These include:

- Air Source Heat Pump (ASHP) Accelerator programme, working with Octopus Energy to maximise Boiler Upgrade Grant uptake across the region.
- Supporting the deployment of both shared loop and individual heat pump systems across to registered social landlord estate. This includes Local Green Homes Grant (GHG) Local Authority Delivery and Social Housing Decarbonisation funding, totalling £40m across all measures.
- Approximately 150 public buildings have now received some form of low carbon heating replacement, funded by £78m of Public Sector Decarbonisation Scheme.

- Supporting the development of heat zoning policy as part of the BEIS funded CDDP programme. GMCA is the only combined authority in this programme.
- Development of more than 10 heat network feasibility studies, with 3 new studies just commissioned (at least one per district).
- Partnership working with Carlton Power to establish up to 200MW of Green Hydrogen production plant in Carrington. When operational, this would support either direct injection of hydrogen into the gas network for decarbonisation of heat and/or industrial process or heavy haulage (mobility).

Greater Manchester is not short of potential alternative low carbon heat sources, which range from heat exchange from mines/water/sewers, geothermal to better utilisation of waste heat.

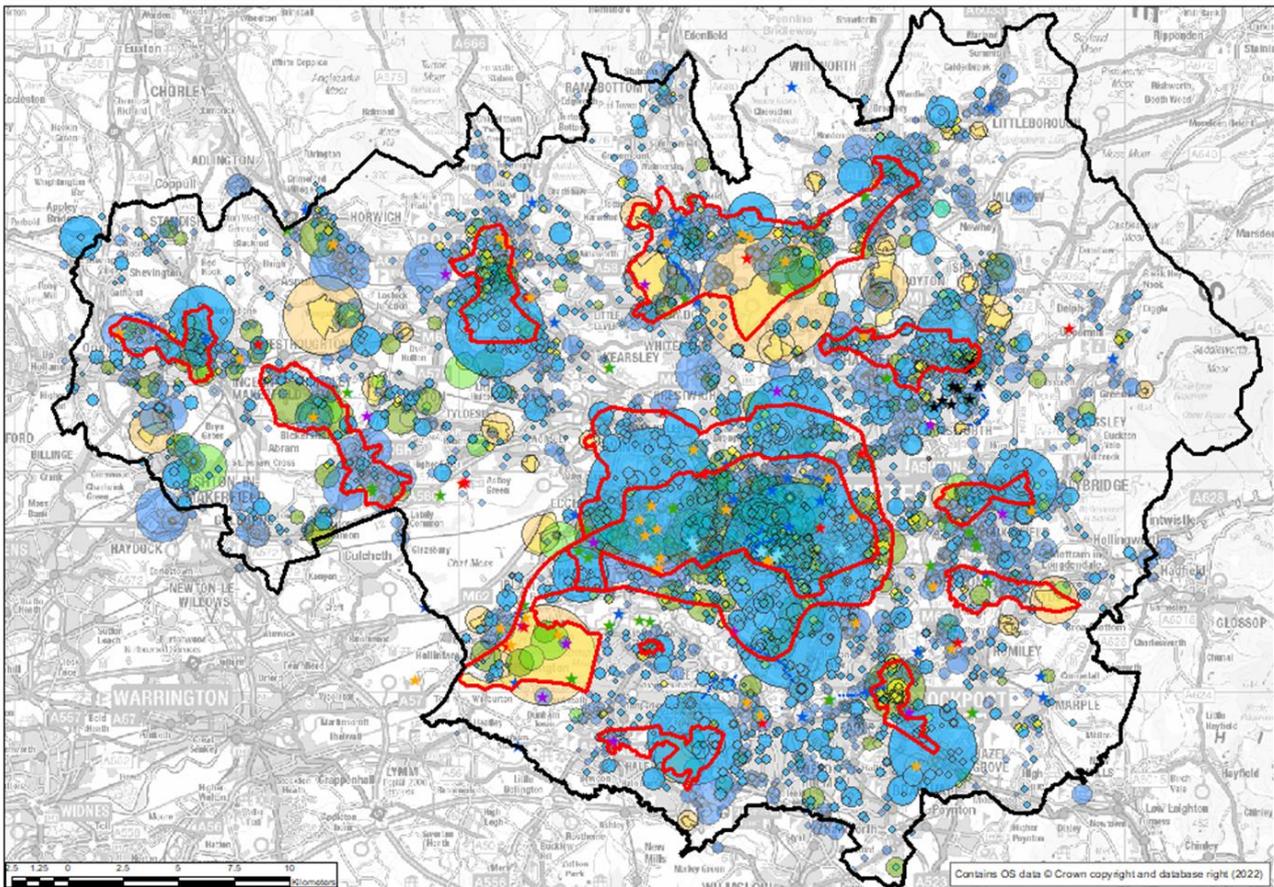


Fig. Indicative Heat Network Zones and low carbon heat sources

3. ENERGY EFFICIENCY IN HOMES & BUSINESS

In Greater Manchester, we aim for our journey to carbon neutral to be a just transition. This means doing all we can to support people in making the costs of living more affordable, as well as greener. A significant part of this is in introducing energy-saving measures to people's homes, whilst reducing their bills to something they can afford. The £40million we've already invested this year through our Green Homes Grant and Social Housing Decarbonisation Fund is allowing us to help thousands of homes and bring some

of the most vulnerable people in our region out of fuel poverty, by offering better insulated homes with modern, environmentally-friendly heating systems that are lower carbon.

Our new Your Home, Better retrofit scheme is now further boosting our efforts by offering support to even more people in Greater Manchester who may not have been eligible for other help, helping all home owners to reach our zero carbon goals without their costs of being warm rising any further.

'Your Home Better', is an independent service delivered by retrofit experts, providing advice, planning and support. Experts can deliver a 'whole house' assessment of homes and provide homeowners with a bespoke plan – giving them information about how their home's energy performance can be upgraded, what needs to be done and in what order. Your Home, Better does not offer grants or funding, but can identify sources that could help towards the costs of home energy projects. It will initially focus on the 31 per cent of Greater Manchester homeowners who have expressed a desire to pay for some form of retrofit in the next five years, with the right assurances and support.

Our ability to support Greater Manchester Businesses with the rising cost of energy is currently more limited. The Growth Company provides environmental services designed to both accelerate the net zero ambition as well as advice to reduce operational costs. The new, LEP led, Bee Net Zero programme aims to expand the reach of these and other support services to a wider business audience. Options for further supporting business to increase their onsite energy generation are being considered.

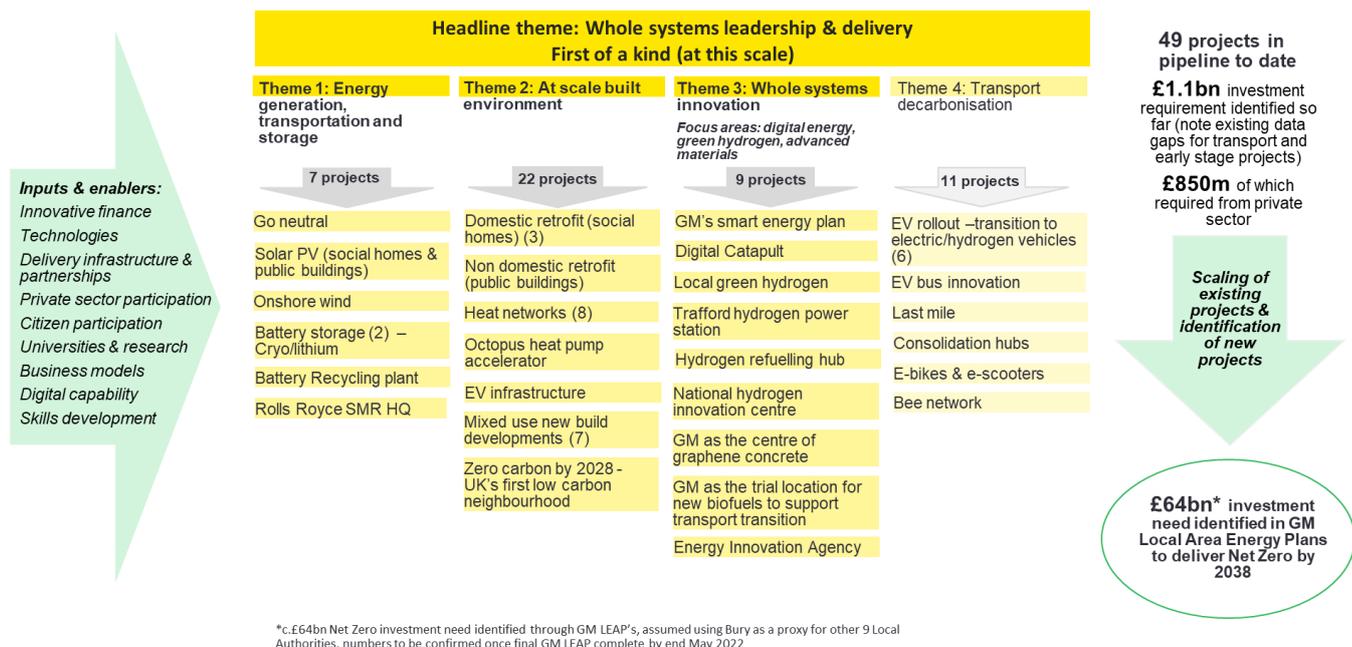
4. FUTURE INVESTMENT OPPORTUNITIES

To increase investment confidence on the pathway to deliver our carbon neutral target, GMCA has used UKRI funding to develop the CDDP work into eleven Local Area Energy Plans, one for District and a summary for the city region. The Plans outline the collective investment requirement of ~£1.9bn over the next 5years (above and beyond BAU). This investment requirement is centred around the following 5 thematic areas:

1. Generation and storage
2. Heat Networks
3. Public Sector Decarbonisation
4. Social Housing Decarbonisation
5. EV infrastructure

Of the above, decarbonisation of heat alone represents a required investment of ~£5.3bn by 2038 and ~£300m over the next 4 years to deliver 8,000 homes newly connected to heat networks and 116,000 heat pumps in homes.

Utilising this work, GMCA has worked with EY to develop a project pipeline, illustrated below:



To take this work further, GMCA is now seeking to develop a Strategic Outline Business Case to identify mechanisms which will support the accelerated delivery of decarbonisation measures across the City Region. We anticipate this work will be completed by early 2023.

5. NEXT STEPS

As we now enter the next phases of activity, we must accelerate the deployment of decarbonized heat at scale in line with the city region's Local Area Energy Plan. This will include, but is not limited to:

- Supporting the development of the skills required to sustain our required growth in this area.
- Growing the local supply chain to enable the region to realise the full economic benefit of decarbonising heat across our industries and buildings.
- Continue to make our buildings (commercial, public, and domestic) decarbonisation of heat ready e.g., more retrofit and `fabric first` to reduce demand.
- Enabling the development of heat networks through partnership and new commercial off take models
- GMCA, with districts, will continue to explore heat zoning policy with BEIS
- GMCA, with Registered Provider partners, will continue to develop and deploy GSHP and ASHPs over the next 2 years (~10% of national deployment is proposed to be in GM based on an average of 24,000 ASHP installs nationally)
- GMCA and districts will continue to maximise grant funding to support the deployment of decarbonised heat across our public buildings
- Support the development of Local Green Hydrogen production

6. RECOMMENDATIONS

The GM LEP Board is requested to:

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