

GREATER MANCHESTER GREEN CITY REGION PARTNERSHIP

Date: **24 July 2020**

Subject: **DECARBONISATION OF THE PUBLIC ESTATE – SOFT MARKET TESTING FOR ENERGY EFFICIENCY, LOW AND ZERO CARBON INTERVENTIONS**

Report of: **Mark Atherton, Director of Environment**

PURPOSE OF REPORT

To provide a short summary of the project work that is currently underway to support the decarbonisation of the public estate across Greater Manchester city-region.

RECOMMENDATIONS:

The Partnership is requested to:

- To note and comment upon the contents of the report.

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1 BACKGROUND

- 1.1 GMCA has been building a comprehensive picture of energy and carbon footprinting across the Public Estate, consisting of the 10 Local Authorities and Central Services (GM Fire and Rescue, GM Police, TFGM and GM Waste). This work has shown that across GM, energy use is ~788,000 MWh and accounts for 169,000 Tonnes CO₂e (2018/19 data)
- 1.2 This work had also demonstrated the scale and depth of interventions and transitions that are required to be made if GM is to hit its target of carbon neutrality by 2038.
- 1.3 Local Authorities have been engaged to provide current data on energy consumption on their controlled building assets. A series of workshops has been undertaken, which has allowed the ranking and prioritisation of high energy consumption estate, has permitted the mapping of high energy consuming buildings and provided a focus on what actions can be taken as quick wins across the estate.
- 1.4 A list of intervention options has been worked through to elucidate what key projects are within current estates investment plans and what other opportunities there may be. This has included the identification of further sites for solar generation to support the requirement for an increase in zero carbon generation.
- 1.5 This work has shown however, that further work is required to provide details of the scale and size of intervention, to support and assist GMCA's thinking around the objective of decarbonisation of the public estate leading to carbon neutrality by 2038.

2 ALIGNMENT WITH GREATER MANCHESTER 5 YEAR PLAN

- 2.1 Relevant aspects of the GM 5 Year Environment Plan associated with this paper are:
 - Challenge 1 – Our contribution to mitigating climate change with work to understand emission reduction pathways
 - Recommendation in the 5 yr plan to “take prompt action to put Great Manchester on a path to carbon neutrality by 2038, initiating an immediate programme of mitigation”.
 - Aims for mitigation of climate change – for the city-region to be carbon neutral by 2038 and to meet carbon budgets that comply with international commitments.

3 PROGRAMME AND SUPPLIERS

- 3.1 The programme has been running enabling actions since November 2019, and the soft market testing project, launched on 1st June 2020, is expected to complete in October 2020
- 3.2 Four Suppliers have been engaged for their expertise and experience in this space to carry out the Soft Market Test exercise. They are:
 - Ameresco
 - Engie
 - Electricity North West Limited
 - UK Power Networks Limited

4 SCOPE

- 4.1 The suppliers have been asked to provide technical proposals for the sites (i.e. exactly what measures are recommended, an idea of costs, energy and carbon savings and delivery)
- 4.2 There are two key aspects of project types which have been asked -
- An affordable 5-7yr Return on investment – Remaining low hanging fruit and interventions in line with quick win affordable actions
 - Zero Carbon Approach – Interventions necessary to result in buildings that join a zero carbon pathway.
- 4.3 Suppliers have also been asked to provide
- Information on local supply chain capability to deliver projects, use recent experience in delivering similar projects for others and their actual results
 - Proposals and recommendations for financing / commercial models to assist GM / Districts in funding the projects
 - Comments on how much of the pipeline could be self-financing (or delivered through above proposed models) and how much would have viability constraints (or how we would assess this).

5 TARGETS AND INTERVENTIONS

- 5.1 Within the context of the exercise, key targets have been set to 30% reduction from current energy usage by 2024, a 50% reduction by 2030 and stretch target of 80% reduction in buildings carbon emissions by 2030.
- 5.2 The stretch target has been put in place as this more closely aligns with the required GM decarbonisation pathway, referencing the SCATTER work previously carried out by Anthesis and the Tyndall Centre. A 50% energy reduction alone is not in line with the pace of decarbonisation required.
- 5.3 A clear set of guideline interventions have been outlined to the suppliers and in line with current thinking. These are shown in the table below.

Intervention	Alignment with Wider District and GM Activity
Optimisation/replacement of building services	Annual Maintenance Plan and Asset Management Strategies
Decarbonisation of heating energy conservation measures/fabric improvements	BEIS - DEEP Cities Project aimed at decarbonisation of heat – switch from gas and development of heat sharing
On-site diversity and flexibility – optimisation and controls	Local Energy Markets (LEM)

On-site Energy Generation (e.g. maximising opportunities for PV, Solar thermal)	Go Neutral 2 – Solar PV and combination systems, PV, Battery Storage and EV charging infrastructure
On-site low carbon mobility infrastructure (e.g. EV charging)	

6 SOFT MARKET TEST BUILDING CRITERIA

6.1 Application of building selection criteria have been applied to the GM wide energy data so that the building assets selected for the testing are -

- Owned by the District
- Remaining in the portfolio over at least next 5 years
- Not under any planned large-scale refurbishment
- No recent investment grade audit carried out or planned
- Incorporates feedback from the Districts

7 ENERGY AND BUILDINGS SCOPE

7.1 The total energy use across the GM public buildings within scope is circa 788,000 MWh (2018/19) and accounts for ~169,000 tonnes CO_{2e}

7.2 The Top 100 Assets in GM, which are in compliance with the selection criteria account for ~30%.

7.3 The top 5 archetypes are Leisure Centres, Administrative Buildings, Police Stations, Market Halls and Depots and account for 91% of building types within scope.

7.4 To keep the exercise manageable within timescales and acting on initial feedback from the companies involved, a focused approach has been taken which is -

- 12 Mandatory Buildings have been selected with a spread across the Districts and of archetype.
- ~90 buildings have remained as optional buildings to keep scale and flexibility.
- Currently there are 8 Optional buildings within scope, with the potential for further clustering of opportunities.
- This captures ~66,000 MWh – (~36,000 MWh Gas / ~30,000 MWh Electricity) and represents ~8% of GMCA spread across 219,000 m² (~7% of GM built estate area).

8 OUTCOMES

8.1 The Soft Market testing will conclude over the late summer with detailed intervention reports for 12 Mandatory buildings and optional buildings. This will also include an extrapolation of interventions across the top 100 Assets identified, which will help shape the view on the size and scale of interventions.

- 8.2 A summary report will be produced and considered within GMCA, which will address overall opportunities and a recommended pathway. This will assist in assessing hard opportunities and public procurement opportunities to achieve value for money, which will directly feed into the development of Carbon Masterplans for the Districts
- 8.3 In addition, the outcomes will help the Districts gain key information about -
- Energy and carbon interventions ROI and lifetime savings (Energy carbon and revenue) for their whole estate
 - Knowledge to unlock potential funding routes for investments and procurement options
 - Information about key factors affecting decision making on built environment retrofit (and new development) and help shape the response to the District's declared climate emergencies.