

**Manchester City Council
Report for Information**

Report to: Resources and Governance Scrutiny Committee – 20 July 2021

Subject: Delivery of the Public Sector Decarbonisation Scheme

Report of: Deputy Chief Executive and City Treasurer

Summary

The Public Sector Decarbonisation Scheme will deliver grant funded investment of £19.67m across eleven public buildings in Manchester with an anticipated carbon reduction impact of 2,123 tCO₂ per year. The scheme is largely focussed on decarbonisation of heat. There is a challenging delivery timescale, and projects are being delivered through a variety of contracting partners. The schemes are currently in design with site works planned to start between August and October 2021.

Recommendations

That the Committee note and comment on progress to date as set out in the report.

Wards Affected: All

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

| |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Council's property and land assets are a significant area of focus in efforts to achieve the zero-carbon target for the city. In terms of the Council's direct carbon emissions, in 2019/20 the Council's operational buildings accounted for around 75% of the total emissions. As reported to the Neighbourhoods and Environment Scrutiny Committee in February 2021, the Council's direct CO ₂ emissions overall reduced by 54.7% between 2009/10 and 2019/20. Emissions from energy use in Council buildings have reduced again in 20/21 compared to the same period the previous year; this has been driven by the installation of energy efficiency measures and renewable energy generation capacity, and further affected by the decarbonisation of the national grid and the changes to building use caused by the Covid-19-19 pandemic. This report includes an update on the Public Sector Decarbonisation Scheme, a specific grant funded investment programme focussing on building retrofit, heat decarbonisation and energy generation, to increase the scale and pace of carbon reduction activity on the estate. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Our Manchester Strategy outcomes | Summary of how this report aligns to the OMS |
|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A thriving and sustainable city: supporting a diverse and distinctive economy that creates jobs and opportunities | The delivery of the Public Sector Decarbonisation Scheme in Manchester will support the local construction supply chain and in particular the low carbon sector. |

| | |
|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A highly skilled city: world class and home grown talent sustaining the city's economic success | The delivery of the Public Sector Decarbonisation Scheme in Manchester will support the development of new skills within the Council and supply chain, specifically around heat pump technology. |
| A progressive and equitable city: making a positive contribution by unlocking the potential of our communities | Everyone has a role to play in tackling climate change, and learning from the delivery of the Public Sector Decarbonisation Scheme can be shared to support and inspire other schemes across Manchester's communities. |
| A liveable and low carbon city: a destination of choice to live, visit, work | The delivery of the Public Sector Decarbonisation Scheme in Manchester will directly contribute to reducing carbon emissions in the city. |
| A connected city: world class infrastructure and connectivity to drive growth | The delivery of the Public Sector Decarbonisation Scheme in Manchester includes delivering battery technology that can support the cities electricity infrastructure to become more sustainable. |

Contact Officers:

Name: Richard Munns
Position: Head of Corporate Estate and Facilities
Telephone: 0161 234 7226
E-mail: richard.munns@manchester.gov.uk

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.

N/A

1.0 Introduction and Background

- 1.1 This report provides an update on the delivery of the Public Sector Decarbonisation Scheme in Manchester.
- 1.2 In July 2020, a £1.1b fund was announced to support the decarbonisation of the public estate. In October 2020, The Department for Business, Energy and Industrial Strategy (BEIS) released further guidance about the bid process and eligibility criteria.
- 1.3 The Public Sector Decarbonisation Scheme (PSDS) provides up to 100% capital grant funding for energy efficiency and heat decarbonisation projects in non-domestic public sector buildings, providing they could demonstrate a lifetime carbon saving of £500 per tCO₂ or better, and could be delivered by September 2021. The bidding window opened with the launch of the guidance in September 2020 and closed in January 2021. The grant is administered on behalf of BEIS by Salix.

2.0 Manchester City Council's Bid

- 2.1 Recognising the scale of the opportunity presented by the PSDS, officers from the City Policy, Estates, Capital Programme, and Finance teams worked with existing delivery partners (Ameresco, Kier and ISG) to produce a large and ambitious bid within four weeks of the guidance being released.
- 2.2 At the same time the MCC bid was being developed, the Greater Manchester Combined Authority were developing proposals for a combined city-region bid. In consultation with Executive Members, MCC agreed to join the GM wide bid, on the basis that a larger partnership bid was likely to be more attractive to BEIS, and the combined bid would benefit from the strong relationships between GMCA and BEIS and make use of existing GMCA programme management resources. In November 2021 the MCC bid was submitted along with 13 other partners by GMCA. The combined bid was to support energy efficiency upgrades in more than 150 public buildings across Greater Manchester.
- 2.3 The Manchester bid highlighted the efficiency works already committed to by the Council through the Estates Carbon Reduction Programme. Aligned to the scheme criteria, the Manchester bid focussed on new opportunities to decarbonise heat, moving away from gas heating through the installation of Ground Source and Air Source Heat Pumps. Demonstrating the financial case for low carbon alternatives to traditional boilers in buildings already connected to the gas network is a challenge, with higher capital costs as well as a higher ongoing running costs, so grant funding is a significant benefit to this type of project. The bid also included for additional solar panels (also known as PV – photovoltaics) on a number of buildings, as by combining low carbon heat with additional grant funded Solar PV installations it is possible to offset a portion of the increased running costs whilst further reducing our overall carbon emissions.

2.4 The buildings included in the bid (detailed in the table below) were selected based on three criteria. These were: a focus on the highest emissions in order to achieve the maximum carbon reduction benefit; a focus on technologies that fit with the requirements of the PSDS scheme to maximise the grant funding opportunities; and to focus on buildings that provided the best opportunity to deliver at pace given the extremely short delivery timescales specified by the scheme.

2.5 In March 2021 GMCA received confirmation from BEIS that £78m of funding had been approved in total to GMCA. MCC were awarded the full amount included in the bid and received a Grant Funding Offer for £19.67m, with an anticipated carbon reduction impact of 2,123 tCO₂ per year. The table below shows a building by building breakdown of the grant awarded, the forecast reduction in carbon emissions for each building and the technologies funded by the bid.

| Building | £ Capital Grant Awarded (£000) | tCO ₂ / Yr Saved | Category 1, 2 & 4 Works (tCO ₂ Saving Requirement) | | | | | | Category 3 Works (No tCO ₂ Saving Requirement) | | |
|--------------------------------|--------------------------------|-----------------------------|---------------------------------------------------------------|-------------------------|----------------------|-----------------------|--------------|---------------------|-----------------------------------------------------------|-----------------------|---------------------------|
| | | | Solar PV | Ground Source Heat Pump | Air Source Heat Pump | Variable Speed Drives | LED Lighting | Fabric Improvements | Battery Storage | Metering & Monitoring | Electrical Enabling Works |
| Arcadia Leisure Centre | £328k | 65 | X | | X | | | | X | X | X |
| East Manchester Leisure Centre | £955k | 161 | | X | | | | | X | X | X |
| Hough End Leisure Centre | £772k | 117 | | X | | | | | X | X | X |
| Moss Side Leisure Centre | £232k | 61 | | | X | | | | X | X | X |
| North City Leisure Centre | £2,307k | 208 | X | X | | X | | | X | X | X |
| Sharp Project | £808k | 50 | X | | X | | | | X | X | X |
| Space Studios | £1,238k | 61 | X | | | | | | X | X | X |
| Wythenshawe Forum | £1,319k | 234 | X | | X | X | | | X | X | X |
| Manchester Aquatic Centre | £3,256k | 692 | X | | X | | | | X | X | X |

| | | | | | | | | | | | |
|-----------------------------------------------------------------------------------------------------|-----------------|--------------|---|---|---|--|---|---|---|---|---|
| National Cycling Centre | £2,528k | 354 | | | X | | X | X | X | X | X |
| Zion Arts Centre | £744k | 79 | X | | X | | | | X | X | X |
| Manchester Tennis & Football Centre | £571k | 41 | X | X | | | | | X | X | X |
| Category 3 Costs (to be split across all buildings) inc batteries, monitoring and electrical works. | £4,617k | - | | | | | | | | | |
| | £19,674k | 2,123 | | | | | | | | | |

2.6 Whilst funds have been awarded for the Manchester Tennis & Football Centre, it must be noted that this building is currently being used as a mass vaccination centre, so works are unable to complete within the required timescales. Alternate project proposals are being developed currently, and officers are working with GMCA to reallocate funding to these new proposals.

3.0 Delivery of The PSDS Works

3.1 Being awarded the full bid amount is a significant achievement that will accelerate plans to decarbonise heat within the estate and support the achievement of targets outlined in the Climate Change Action Plan 2020-25. This was an ambitious bid to match an ambitious target, and as a result a number of challenges need to be overcome to ensure the Council is able to deliver the funded works in line with grant funding conditions.

3.2 The first key challenge is the short timescales for the completion of works; as a condition of the funding agreement, initially all works were to complete by September 2021. This deadline has recently been extended to March 2022. The extended date for delivery is still an ambitious timescale given the scale of the works and the number of different buildings included.

3.3 The second key challenge is ensuring the portfolio of investment stays within a limit of £487 per lifetime saving of tCO₂; this assessment is calculated by dividing the total capital cost by the total forecast carbon saving over the whole life of the installed technology, as below:

$$\text{Lifetime cost of carbon (£ per tCO}_2\text{)} = \frac{\text{Project cost (£)}}{\text{Annual carbon saving (tCO}_2\text{ × Persistence Factor)}}$$

3.4 Persistence factors account for the anticipated lifetime of an energy efficiency technology, and different persistence factors are used depending on the technology used. The approved limit of £487 per lifetime tCO₂ was based on the high-level designs used to inform the bid and necessary to meet the

Government's criteria for this funding. As the programme progresses through detailed design and delivery, the scope of works and achievable benefits will change, positively or negatively impacting the £ per lifetime tCO₂ calculation. Any change to scope and benefits will need to be approved by GMCA and BEIS.

- 3.5 The works themselves are to be delivered in a variety of ways, this is shown in the table below along with the procurement position and the start and completion dates for the works. All the schemes are currently in the design phase before contracts are finalised.

| Building | Delivery Partner | Dependency on Other Works? | Procurement Complete | Start on Site Date | Completion Date for the Works |
|-------------------------------------|-------------------------|-----------------------------------|-----------------------------|---------------------------|--------------------------------------|
| Arcadia Leisure Centre | Ameresco | No | Yes | 08-Oct-21 | 28-Jan-22 |
| East Manchester Leisure Centre | Ameresco | No | Yes | 03-Sep-21 | 08-Feb-22 |
| Hough End Leisure Centre | Ameresco | No | Yes | 03-Sep-21 | 28-Jan-22 |
| Moss Side Leisure Centre | Ameresco | No | Yes | 24-Sep-21 | 28-Jan-22 |
| North City Leisure Centre | Ameresco | No | Yes | 22-Sep-21 | 21-Jan-22 |
| Sharp Project | Ameresco | No | Yes | 22-Sep-21 | 21-Jan-22 |
| Space Studios | Ameresco | No | Yes | 13-Oct-20 | 28-Jan-22 |
| Wythenshawe Forum | Ameresco | No | Yes | 11-Aug-21 | 26-Jan-22 |
| Manchester Aquatic Centre | Kier | Yes | Yes | 30-Sep-21 | 19-Dec-21 |
| National Cycling Centre | ISG | Yes | Yes | 30-Sep-21 | 25-Mar-22 |
| Zion Arts Centre | Conlons | Yes | No | 01-Oct-21 | 25-Mar-22 |
| Manchester Tennis & Football Centre | - | - | - | - | - |

- 3.6 The PSDS funded works at the Manchester Aquatics Centre, National Cycling Centre and Zion Arts Centre are to be completed as part of wider in-flight projects being managed by Capital Programmes. The scope of works for these projects has been amended to include the PSDS deliverables. This has impacted the programme for each project, with works being brought forward to achieve the PSDS deadline for completion. However, as the works need to be delivered as part of wider, more complex, programmes there is a risk they will take longer than initially planned. There are a number of key dependencies to manage, set out below.
- 3.7 At the National Cycling Centre, the PSDS funded decarbonisation of heat works are dependent upon the wider refurbishment of the building being delivered by contractor ISG. As the design for the refurbishment progressed it became clear that a new plant room would be required, in part to accommodate the large heat pumps and associated infrastructure. All relevant works are forecast to complete in March 2022.
- 3.8 At the Manchester Aquatics Centre, the PSDS funded decarbonisation of heat works are dependent upon an upgrade to the low temperature hot water systems and air handling units, with these works being completed as part of the building refurbishment project, led by contractor Kier. The PSDS funded capital works can complete within the required timescales, however the full commissioning of the system may be delayed due to this dependency. As a result, the first year tCO₂ saving could be lower than anticipated.
- 3.9 At the Zion Arts Centre, a new roof is required before any PSDS funded Solar PV can be installed. Contractor Conlons has been appointed to complete the roof replacement works, they are also currently developing RIBA Stage 4 designs for the PSDS funded energy conservation works. The current programme date for the roof and Solar PV works to complete is the 25th March 2022.
- 3.10 Works in the remaining eight buildings are to be completed as discrete projects, with no dependencies. These will be designed and installed by our energy services delivery partner Ameresco, who will be managed by MCC Capital Programmes. Ameresco have recently completed works in each of the buildings included in scope (the first phase of investment delivered by the Carbon Reduction Programme) and will revisit these to complete the additional PSDS funded works. The detailed design for each of these buildings is underway currently.
- 3.11 Having been instrumental in the successful bid, the City Policy team have been commissioned to support the communication between MCC and GMCA in relation to progress reporting, funding claims and change management.

4.0 Recommendations

- 4.1 The Committee are recommended to note and comment on progress to date as set out in the report.