

<b>Committees:</b> Resource Allocation Sub - for decision Projects and Procurement Sub - for information	<b>Dates:</b> 11 Jul 2024 15 Jul 2024
<b>Subject:</b> Climate Action Strategy Capital Delivery Programme – Heat Decarbonisation  <b>Unique Project Identifier:</b> 12454	<b>Gateway 2:</b> <b>Project Proposal</b> Regular
<b>Report of:</b> City Surveyor <b>Report Author:</b> Mark Donaldson	<b>For Decision</b>
<h1>PUBLIC</h1>	

## Recommendations

<b>1. Next steps and requested decisions</b>	<p><b>Project Description:</b> commencement of the decarbonisation of the heat supplies to our larger corporate buildings in support of the 2027 net zero carbon target within our Climate Action Strategy. This project will prioritise opportunities for supplementing, or replacing, gas boilers primarily with electrically driven heat pumps to generate on-site low carbon space heating and hot water. The project will encompass multiple corporate sites and each will be developed separately as a sub-project progressed through separate subsequent gateway papers.</p> <p><b>Next Gateway:</b> Gateway 3/4 - Options Appraisal (Regular) for each of the three proposed sub-projects.</p> <p><b>Next Steps:</b></p> <ul style="list-style-type: none"> <li>• Undertake project develop works, including building surveys and support for planning permission and listed building consents where required.</li> <li>• Approval of the allocation of Cyclical Works Programme funding towards this project.</li> <li>• Develop Investment Grade Proposals.</li> <li>• Apply for grant funding where site projects are eligible.</li> <li>• Draft Gateway 3/4 papers for each sub-project.</li> </ul> <p><b>Requested Decisions:</b></p> <ol style="list-style-type: none"> <li>1. That a budget of <b>£42,368</b> is approved for further development of the three proposed sub-projects (including building surveys, design and obtaining planning/listed building permissions, and project management) to reach the</li> </ol>
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	<p>next Gateway to be funded through the Climate Action Strategy (CAS) Year 4 Plan approved budget;</p> <p>2. Note the total estimated cost of the project at <b>£3,163,749</b> (excluding risk);</p> <p>3. Note the total estimated cost of the project at <b>£3,638,311</b> (including risk);</p> <p>4. That a Costed Risk Provision of <b>£9,491</b> is approved (to be drawn down via delegation to the City Surveyor) to allow for additional building surveys if required to reach the next Gateway, to be funded wholly through the CAS Year 4 Plan for buildings.</p>																					
<p><b>2. Resource requirements to reach next Gateway</b></p>	<p>The following provides a breakdown of the resources required to reach the next Gateway and a budget of <b>£40,881</b>.</p> <table border="1"> <thead> <tr> <th>Item</th> <th>Reason</th> <th>Funds/ Source of Funding</th> <th>Cost (£)</th> </tr> </thead> <tbody> <tr> <td>Fees: Asbestos R&amp;D surveys</td> <td>Compliance and risk management</td> <td rowspan="5">CAS Year 4 Plan approved budget</td> <td>£15,000</td> </tr> <tr> <td>Fees: structural surveys</td> <td>Inform on design and viability</td> <td>£5,500</td> </tr> <tr> <td>Fees: acoustic surveys</td> <td>Inform on design</td> <td>£3,500</td> </tr> <tr> <td>Fees: Project Management</td> <td>Management support to progress to next gateway</td> <td>£14,381</td> </tr> <tr> <td><b>Total</b></td> <td></td> <td></td> <td><b>£40,881</b></td> </tr> </tbody> </table> <p><b>Costed Risk Provision requested for this Gateway: £9,491</b> (as detailed in the Risk Register – Appendix 2), to allow for additional building surveys if required to reach the next Gateway, to be funded wholly through the CAS Year 4 Plan for buildings.</p>	Item	Reason	Funds/ Source of Funding	Cost (£)	Fees: Asbestos R&D surveys	Compliance and risk management	CAS Year 4 Plan approved budget	£15,000	Fees: structural surveys	Inform on design and viability	£5,500	Fees: acoustic surveys	Inform on design	£3,500	Fees: Project Management	Management support to progress to next gateway	£14,381	<b>Total</b>			<b>£40,881</b>
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<b>Total</b>				<b>£40,881</b>																		
<p><b>3. Governance arrangements</b></p>	<p>3.1 All projects will be reported collectively to the following:</p> <ul style="list-style-type: none"> <li>• Executive Director of Innovation and Growth (SRO)</li> <li>• Climate Action Strategy – Building Chief Officers Group (BCOG)</li> <li>• Corporate Projects Board – for any Issue reports and Gateway 6.</li> <li>• Resource Allocation Sub-Committee</li> <li>• Projects and Procurement Sub-committee</li> </ul>																					

	<p>3.2 Where a subsequent Gateway paper has an estimated cost (including risk) under £1M it is expected that decisions will be requested from the SRO, under the delegated authority from Policy and Resources Committee.</p> <p>3.3 A specific project board is not deemed necessary as this project will be integrated with the existing Climate Action Strategy governance and report to BCOG which includes chief and senior officer representation.</p>
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**Project Summary**

<p><b>4. Context</b></p>	<p>4.1 The City Corporation adopted the Climate Action Strategy (CAS) in 2020 which set a target to achieve net zero carbon emissions within its own estate (scope 1&amp;2) by 2027.</p> <p>4.2 This target was informed by modelling the types of measures required to reduce carbon emissions. This identified that while the majority of the carbon reduction would come through improving the energy efficiency of our buildings, there would be a need to start the transition from gas boilers to lower carbon, electrically driven heating systems typically, but not limited to, heat pumps.</p> <p>4.3 Based on our carbon emissions as at Mar-24 we project a further carbon reduction of c.2,250 tCO<sub>2</sub>e/year is required by Mar-27 from our corporate buildings to support the net zero target.</p> <p>4.4 Gas consumption at our corporate buildings currently accounts for a significant c.25% of our scope 1 and 2 carbon emissions. Unlike the electricity grid, the gas grid is not anticipated to significantly decarbonise in the short-medium term and the UK government’s main policy drive is toward electrification of heat to meet net zero.</p> <p>4.5 The CAS Year 4 plan was approved by Policy and Resources in April 2024. This sets out the programme for delivering different building measures to reduce our carbon emissions and support the net zero target.</p> <p>4.6 The bulk, c.93%, of the reduction we plan to achieve through maximising the efficiency and control of our buildings on-site as well as supporting the decarbonisation of the Citigen heat network.</p> <p>4.7 The remaining c.7% reduction, which equates to c.175 tCO<sub>2</sub>e we plan to achieve through heat pump projects.</p> <p>4.8 The scope of works set out in this project was originally included within a GW2 paper titled ‘Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings’, approved by Policy and Resources Committee (P&amp;R) in January 2023. The heat pump opportunities have since been progressed through site surveys and studies. A GW2 Issue Report received by P&amp;R alongside this GW2 ‘CAS – Capital Delivery Programme – Heat Decarbonisation’ paper recommends</p>
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	<p>these particular heat pump works are delivered through this separate project due to their business case (e.g. costs and benefits) being significantly different to the rest of the original project. These are included as background papers.</p>
<p><b>5. Brief description of project</b></p>	<p>5.1 This project aims to start the transition from gas boilers to low carbon heating for our corporate buildings, primarily through electrically driven heat pumps (and solar photovoltaic panels where viable), to provide targeted support for our net zero 2027 goal.</p> <p>5.2 Under business as usual, our Cyclical Works Programme (CWP) and other asset replacement plans typically only budget for a like-for-like replacement of existing gas boilers when they reach end-of-life. Therefore, existing budgets usually do not allow for higher cost, low-carbon heat generation options.</p> <p>5.3 The project will encompass multiple corporate sites (currently three have been prioritised), and each will be developed separately as a sub-project progressed through separate subsequent gateway papers.</p> <p>5.4 The following priority sub-projects have been provisionally selected, whose works will encompass with full replacement of existing gas-plant or retaining gas plant for back-up and/or top-up heat alongside new low carbon plant:</p> <ul style="list-style-type: none"> <li>• Walbrook Wharf: Phase 2 front office only</li> <li>• Heathrow Animal Reception Centre: main building only</li> <li>• Mansion House</li> </ul> <p>Further details are provided in appendix 4</p> <p>5.5 We recommend these sub-projects are further progressed with individual gateway 3/4 papers. Please note the sub-project for Mansion House has been previously progressed to Gateway 3/4 within the project described in 4.8 above. See background paper.</p> <p>5.6 We will continue to review the options for alternative sites so that if any of these priority sub-projects are unable to be taken forward, we can consider alternative site options to still meet the overall contribution of 175 tCO<sub>2</sub>e/year reduction to support our net zero target.</p>
<p><b>6. Consequences if project not approved</b></p>	<p>6.1 If this project is not approved there is a risk that the corporate properties will not be able to sufficiently decarbonise to support meeting our 2027 net zero target. Our CAS programme has already prioritised the more cost-effective efficiency and control projects, and hence the opportunities for further efficiency are limited and this would present a significant challenge to fill any carbon reduction gap.</p> <p>6.2 Under business as usual it is highly probable that gas boilers which are at/near end-of-life will be replaced on a</p>

	like-for-like basis with new gas boilers which will likely remain in place for c.20 years and present a barrier to future decarbonisation and future City Corporation net zero targets.
<b>7. SMART project objectives</b>	<p>7.1 Achieve a reduction of at least 175 tCO<sub>2</sub>e carbon emissions per year by 2027.</p> <p>7.2 An overall cost of carbon reduction of under £20,000/tCO<sub>2</sub>e by 2027.</p> <p>7.3 Operation of new heating plant by end of March 2026 in order to provide a full year benefit to our 2027 target.</p> <p>7.4 Good continuity and performance of the new heat generation plant.</p>
<b>8. Key benefits</b>	<p>8.1 Supporting the net zero carbon target through lower building carbon emissions.</p> <p>8.2 Improved local air quality, due to reduced/eliminated of on-site gas combustion.</p> <p>8.3 New reliable heating plant with c.20 years life.</p>
<b>9. Project category</b>	5. Other priority developments
<b>10. Project priority</b>	B. Advisable
<b>11. Notable exclusions</b>	<p>11.1 Non-corporate buildings, such as those within the IPG (Investment Property Group) stock or housing stock.</p> <p>11.2 Carbon reduction measures which are not associated with the provision of low carbon heat, such as lighting or ventilation works.</p>

### Options Appraisal

<b>12. Overview of options</b>	<p>The following options, as a minimum, will be explored at the next gateway stage for each sub-project:</p> <p>12.1 Do not proceed with the sub-project for the decarbonisation of the heat generation at this site. Note, consideration will be given to reallocating the proposed budget to heat decarbonisation or efficiency works at alternative sites which may provide greater benefits. Under this option a Gateway 2 Issue report will be prepared to account for the change in scope and requirement for additional budget to progress with options for alternative works.</p> <p>12.2 Extend the delivery timeframe for the proposed heat decarbonisation works at the site to align with site plans, including any programmed boiler replacement or other sites works/closures.</p> <p>12.3 Proceed with the sub-project for heat decarbonisation at this site with the target for completion of on-site works by March 2026. Note, there may be additional options associated with proceeding with the project where there are</p>
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significant differences in the scope of works and associated budget/programme.

## Project Planning

<p><b>13. Delivery period and key dates</b></p>	<p><b>Overall project:</b> on-site works completed and commissioned by March 2026 and final project completion by end of June 2026.</p> <p><b>Key dates:</b></p> <p>Q3 2024/25: GW3/4 for each sub-project (Dec-24)</p> <p>Q4 2024/25: GW5 for each sub-project (Mar-25)</p> <p>Q1 2025/26: Works start on-site (Jun-25)</p> <p>Q4 2025/26: Works complete on-site (Mar-26)</p> <p>Q1 2025/26: Practical completion (Jun-26)</p> <p>Q4 2026/27: GW6 (Mar-27)</p> <p><b>Other works dates to coordinate:</b> This is specific to each sub-project for each site and will be further set out in the subsequent gateway papers.</p>
<p><b>14. Risk implications</b></p>	<p><b>Overall project risk:</b> Medium</p> <p>The estimated Costed Risk Provision for the project is <b>£474,562</b>.</p> <p><b>Costed Risk Provision requested for this Gateway: £9,491</b> (as detailed in the Risk Register – Appendix 2), to allow for additional building surveys if required to reach the next Gateway, to be funded wholly through the CAS Year 4 Plan for buildings.</p> <p>The major risks to the project are:</p> <ul style="list-style-type: none"> <li>• Obtaining planning permission and listed building consent for some sites</li> <li>• Installation health and safety, including asbestos</li> <li>• Minimise site disruption and ensuring continuity of services</li> <li>• Alignment of works with site plans</li> <li>• Enabling works, including electrical capacity and integration with existing building services</li> </ul> <p>Further information available within the Risk Register (Appendix 2)</p>
<p><b>15. Stakeholders and consultees</b></p>	<p>Internal for overall project:</p> <p>15.1 Energy Team: Graeme Low, Mark Donaldson, Adam Fjaerem, Athol Stewart</p> <p>15.2 Wider City Surveyors: Pete Collinson, Paul Wilkinson</p> <p>15.3 CAS Team: Kate Neale, Damian Nussbaum</p> <p>15.4 Minor Projects Team: Grayham Howarth, Chris Sharpe, Jonathan Cooper, Darren Horrigan, Simon Collins</p>

	<p>15.5 Facilities Management: Matt Baker, Andrew Coke, Samantha Williams</p> <p>15.6 Corporate Property Group (CPG): Peter Young, Paul Friend</p> <p>15.7 Chamberlains: Procurement (James Carter, Georgia Lawrence) finance (Andrew Little, Sonia Virdee), Sarah Baker</p> <p>15.8 Planning obligations officer: Carl Bernhardt</p> <p>15.9 Comptroller: Sean Austin</p> <p>Internal specific to provisional selected sub-projects:</p> <p>15.10 Mansion House: Mark Kober, Caroline Jack, David Lamb, Nina Tsindides.</p> <p>15.11 Walbrook Wharf: Alan Dingley, Luca Pagliaroli, Ian Hughes, Fiona McKeith, Dorian Price, tenants/occupants</p> <p>15.12 HARC: Susie Pritchard, Anastasia Batten, Gavin Stedman.</p> <p>External: Vital Energi (proposed main contractor), CBRE (corporate maintenance contractor), Schneider Electric (building controls maintenance contractor), Planning authority, English Heritage, District Network Operator</p>
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### Resource Implications

<b>16. Total estimated cost</b>	<b>Likely cost range (excluding risk): £3,163,749</b>	
	<b>Likely cost range (including risk): £3,638,311</b>	
<b>17. Funding strategy</b>	Choose 1: All funding fully guaranteed	Choose 1: Mixture - some internal and some external funding
	<b>Funds/Sources of Funding</b>	<b>Cost (£)</b>
	Cyclical Works Programme (CWP) – within the approved backlog maintenance budget	£455,250*
	Carbon Fund (S106 Offset fund) (approved, but pending full receipt)	£1,432,749
	Climate Action Strategy (CAS) from approved funding set out in the Year 4 CAS Plan for buildings	£1,275,749 (excl. costed risk provision) to £1,750,312 (incl. costed risk provision)
	Public Sector Decarbonisation Fund (PSDS) (pending a successful application to a future round)	£0
	<b>Total</b>	<b>£3,163,749 (excl. risk) to £3,638,311 (incl. risk)</b>

	<p>17.1 <b>Cyclical Works Programme (CWP)*</b>. Where the CWP has approved funding to support the replacement of existing end-of-life gas boilers and associated heating plant/systems, this funding will be utilised to support a project to deliver an alternative, higher cost, low carbon solution. The current allocation against these projects will need to be increased and will follow the agreed CWP governance for such increases.</p> <p>17.2 <b>Carbon Fund (S106 Offset fund)</b>. We propose the allocation of S106 funding received by the City Corporation to meet up to 50% of the costs of eligible sub-projects. As of May 2024 £1,195k has been received, with a further £2,212k expected to be received during 2024/25.</p> <p>17.3 <b>Climate Action Strategy (CAS)</b>. We propose to top-up the identified CWP and S106 funding with capital funding from the CAS up to a limit of £20,000/tCO<sub>2</sub>e/yr estimated savings to ensure an overall cost-effective approach for the CAS programme to support net zero within its total funding limits.</p> <p>17.4 <b>Public Sector Decarbonisation Scheme (PSDS)</b>. Some of the heat pump works may be eligible for part funding through a government grant called the PSDS. We have identified up to a maximum likely application for £545,000 of grant funding could be made. Where eligible we shall apply for this funding and update the funding strategy and budget accordingly through subsequent gateways.</p>
<p><b>18 Investment appraisal</b></p>	<p>18.1 The project will overall aim to achieve a cost of carbon reduction of under £20,000/tCO<sub>2</sub>e.</p> <p>18.2 The options set out in item 12 above will be appraised against this overall objective and further to this the allocation of CAS funding will be limited to £10,000 for every tonne of carbon estimated to be saved in 2027.</p> <p>18.3 It should be noted the project will increase ongoing energy and maintenance costs for each site in scope and hence the business case for this project is not based on achieving a payback on the capital investment.</p>
<p><b>19 Procurement strategy/route to market</b></p>	<p>19.1 The preferred route is through our existing Call-off Contract with Vital Energi Utilities Limited procured under a Greater London Authority and Local Partnerships LLP framework for the Mayor of London’s building retrofit (RE:FIT) programme. Under this arrangement individual works agreements can be entered into for each sub-project.</p> <p>19.2 Where our existing Call-off Contract is not considered the preferred route for a particular sub-project, the alternative recommendation will be set out in the Gateway 3/4 paper in consultation with Commercial Services.</p>
<p><b>20 Legal implications</b></p>	<p>20.1 Under the above preferred procurement route the works agreement for each sub-project incorporates modified</p>

	conditions from the JCT Design & Build form of contract, prepare by the Comptroller & City Solicitor's Department.
<b>21 Corporate property implications</b>	<p>21.1 Selection of the three priority sub-projects (Mansion House, Walbrook Wharf and Heathrow Animal Reception Centre) and the development of their scope have each been considered in consultation with stakeholders against the following: alignment with site/asset management plans including future disposal, redevelopment, refurbishment or cyclical works; access and minimising disruption to site occupants/services; planning permission, including listed building consent; compatibility and integration with existing heating and building systems; electrical requirements; spatial and structural requirements. The gateway 3/4 papers will set out the specific site considerations in detail, and the following provides key challenges.</p> <p>21.2 Electrically driven heat pump projects will typically have higher energy costs than the gas boilers they replace. This project will aim to reduce this impact through the inclusion of solar photovoltaic panels where viable to supply low carbon electricity to offset a portion of the new demand from the heat pumps. The sites will also be included in the wider CAS programme to improve the efficiency and control of energy with the overall aim to achieve net-neutral site-level energy cost to meet net zero for the site. Energy costs are also mitigated through lower import electricity prices from our Power Purchase Agreement (PPA).</p>
<b>22 Traffic implications</b>	22.1 Implications for individual Sub-projects will be set out in their relevant gateway 3/4 papers.
<b>23 Sustainability and energy implications</b>	<p>23.1 This project is being led by the City Surveyor's Energy and Sustainability Team and has been instigated for the purpose of supporting our Climate Action Strategy (CAS) – the benefits of which are further set out in items 1-4 above.</p> <p>23.2 The project will be informed by the CAS design standards which set best practice standards across the project life-cycle, including consideration of whole-life carbon and embodied carbon.</p>
<b>24 IS implications</b>	24.1 None.
<b>25 Equality Impact Assessment</b>	25.1 An equality impact assessment will not be undertaken.
<b>26 Data Protection Impact Assessment</b>	26.1 The risk to personal data is less than high or non-applicable and a data protection impact assessment will not be undertaken

## Appendices

<b>Appendix 1</b>	Project Briefing
<b>Appendix 2</b>	Risk Register
<b>Appendix 3</b>	Project Coversheet
<b>Appendix 4</b>	Prioritisation of projects for on-site heat decarbonisation

### **Background papers**

GW2 Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings
GW2 Issue Report for Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings
GW3/4 Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings: Mansion House – Planning Permission Application

### **Contact**

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