

<p>Committees: CAS SRO – for Decision Resource Allocation Sub-Committee – for information Projects & Procurement sub-Committee – for information</p>	<p>Dates: February-24 11/03/2024 15/04/2024</p>
<p>Subject: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings: LMA Solar PV</p> <p>Unique Project Identifier: 12418</p>	<p>Gateway 3/4/5: Options Appraisal and Authority to Start Work (Regular)</p>
<p>Report of: City Surveyor</p> <p>Report Author: Mark Donaldson</p>	<p>For Decision</p>
<h1>PUBLIC</h1>	

<p>1. Status update</p>	<p>Project Description: installation of Solar Photovoltaic panels (Solar PV) to the roof the London Metropolitan Archives (LMA) main building to provide energy cost and carbon emission savings in support of the City Corporations Climate Action Strategy (CAS).</p> <p>This project was included within the ‘Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings’ which was approved at GW2, see background papers, which agreed that projects within the programme would be approved through individual gateway papers.</p> <p>RAG Status: Green</p> <p>Risk Status: Medium</p> <p>Total Estimated Cost of Project (excluding risk): £129,116</p> <p>Change in Total Estimated Cost of Project (excluding risk): £19,779 mainly due to the requirement for a new electrical panel to be installed.</p> <p>Spend to Date: £2,989 (for surveys and permissions)</p> <p>Costed Risk Provision Utilised: £0 (of which £0 amount has been drawn down since the last report to Committee);</p> <p>Funding source: CAS Year 3 Plan budget</p> <p>Slippage: none.</p>
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<p>2. Next steps and requested decisions</p>	<p>Next Gateway: <i>Gateway 6: Outcome Report</i></p> <p>Next Steps:</p> <p>Enter into contract for the Solar PV works.</p> <p>Design then instruct the electrical panel upgrade works.</p> <p>Requested Decisions:</p> <ol style="list-style-type: none"> 1. Note the total estimated cost of the project at £129,117 (excluding risk); 2. Approve a further budget of £122,789 for the project to reach the next gateway, to be wholly funded from the budget approved for the Climate Action Strategy Year 3 plan for NZ1 and delivered; 3. Approve procuring the design and capital works for the Solar PV installation through entering into a new Works Agreement with Vital Energi under our existing contract and instructing the Comptroller in this regard; 4. Approve delivering the electrical panel works through instruction to Sykes and Sons via the existing Measured Terms Contract; 5. That a Costed Risk Provision of £21,089 is approved (to be drawn down via delegation to Chief Officer) to be funded wholly from the budget approved for the Climate Action Strategy Year 3 plan for NZ1. 6. That Option 2 is approved for the installation of the proposed solar PV and electrical works.
<p>3. Budget</p>	<p>The total estimated cost of the project is £150,206 (including a costed risk budget of £21,089), of which:</p> <ul style="list-style-type: none"> • £6,327 to be funded from a draw-down of the £250,000 budget approved at GW2, see background paper ‘GW2 Paper: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings’. <ul style="list-style-type: none"> ○ Expenditure to date of £2,989. • £143,879 (incl. CRP of £21,089) to be funded from a draw-down of the approved Year 3 budget allocation of £5,108,715 for ‘Corporate Property Group Buildings’, see background paper ‘Year 2 quarter 4 update on Climate Action Strategy Year 3 Plan’. The allocation will be 100% City Fund. <ul style="list-style-type: none"> ○ Expenditure to date of £0. <p>In accordance with the ‘Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings’ (see background documents) “In the case of centrally funded sites, financial savings that are made will accrue back to the City Corporation as a contribution to the Build Back Better Fund held in City Fund or City’s Cash as appropriate. Therefore, departmental local risk budgets will be adjusted accordingly.” Note, only ‘cashable’</p>

savings will be recouped to the Build Back Better Fund and only on the fiscal year succeeding the completion of the works.

The budget breakdown for recommended option 2 (the installation of the solar PV and associated electrical works):

Item	Reason	Funds/ Source of Funding	Cost (£)
Works: Vital Energi	Main works: Solar PV	CAS Year 3 Plan budget (this paper, GW5 approved budget drawdown)	£90,264
Works: Electrical Panel	Essential to enable the PV installation		£10,000
Works: IT network connection	Monitoring of Solar PV installation		£1,500
Works: warranty extension	Extend Solar PV warranty		£2,000
Works: Fire safety isolation	Compliance		£2,000
Fees: Landlords Consent	Permission		£5,000
Fees: Roof Guarantor	Maintaining warranty		£2,500
Fees: Lightning protection systems survey	Compliance		£500
Fees: Staff/consultant fees for Project Management	Manage project delivery		£9,026
Fees: structural survey	Required for PV works		£899
Fees: DNO application	Required for PV Works	£658	
Fees: building control	Compliance	£2,537	
Fees: Prior Approval Planning Application	Compliance	£1,432	
Fees: Asbestos R&D - solar pv	Compliance	£800	
Total			£129,116
from CAS GW5 budget (approved by this paper)			£122,790
from CAS GW2 project development budget			£6,326

Costed Risk Provision requested for this Gateway: £21,089 (as detailed in the Risk Register – Appendix 2). **Consisting of:**

- £18,589 associated with the Solar PV scope of works; and
- £2,500 associated with the electrical panel works.

4. Overview of project options

- **Option 1 (not recommended). Do not proceed with the project.** This option is not recommended as it will not allow a reduction in the carbon emissions for the site and therefore not support the City Corporations achievement of net zero carbon emissions by 2027.
- **Option 2 (recommended): Proceed with the project to install Solar PV.** This option is for the installation of the proposed Solar PV panels to the roof of the main building of the LMA.
- **Option 3 (not recommended):** Defer the project. This option is to defer a decision on the installation of Solar PV until there is certainty over a future lease of the building.

5. Recommended option

Option 2. This option provides saving of c. 6 tCO2e per annum (based on projected 2027 electricity carbon factors) which will support the City Corporation to meet its net zero carbon by 2027 target as set out in the CAS. This option will also deliver a net cost saving of c. £12,000 per annum (based on expected

	<p>short-term electricity prices of 27.5p/kWh) which will support the City Corporations Build Back Better Fund. The payback for this measure is 11-13 years. This project is primarily supporting the CAS net zero target for our properties by 2027. The business case for the request for CAS funding is therefore aiming to achieve carbon emission savings as a priority over other benefits, such as cost savings and a financial payback.</p>
<p>6. Risk</p>	<p>Removal at lease expiration. The building owners’ agent (William Sturges LLP) has informed us their “clients are agreeable in principle to what’s proposed subject to the completion of a formal licence, (which will provide for the removal and/or reinstatement of the equipment at expiry or sooner determination of the lease) and payment of their legal and surveyors costs”. The current building lease expires in 2035 (within 12 years). Installation of the works constitutes a risk of the future cost to carry out removal and/or reinstatement. There is also a risk that the installation will not payback prior to the lease expiration, although this may well change if energy prices increase further in the coming years.</p> <p>Landlords consent. The building is leased to City Corporation and landlords’ consent is required. The owners’ agent has confirmed their client is agreeable in principle to what is proposed, and consent will be sought if the project is approved to proceed.</p> <p>Electrical upgrades. The Solar PV installation requires a new electrical panel. It is proposed for these works are procured and delivered by a separate contractor. The Solar PV is dependent on the electrical works being completed to allow final system commissioning.</p> <p>Roof guarantee. The flat roofing cover of the main LMA building, to which the Solar PV would be mounted, was replaced in 2017 and a guarantee established up to the 2035 lease break. The project must ensure this guarantee is maintained.</p> <p>Health and safety: the electrical and builders work on the roof, service risers and switch room, as well as the deliver and craning of materials require careful management in line with City of London policies and local permissions.</p> <p>Costs exceed approved budget and costed risk provision. This could be mitigated through a review of the project scope or consideration of either cancellation or approval of additional CAS funding.</p> <p>Energy and carbon savings are lower than estimated.</p> <p>Further information available in the Risk Register (Appendix 2) and options appraisal matrix.</p>
<p>7. Procurement approach</p>	<p>The project works will be delivered in two separate parts: 1) Electrical panel, 2) Solar PV.</p>

	<p>Solar PV. The scope of works set out in section 8 below, are to be procured under a design and build contract. We shall enter into a new works agreement with Main Contractor Vital Energi, under our existing Call-off-Contract. Vital Energi were previously procured under the Greater London Authority's Retrofit Accelerator for Workplaces framework, to carry out Energy Efficiency Measures under an Energy Performance Guarantee. Vital Energi will undertake the design and construction of the works and undertake the duties of Principal Contractor and Principal Designer.</p> <p>Electrical panel works. The scope of works set out in section 8 below, are proposed for delivery by Skyes and Sons through the Measured Terms Contract.</p>
<p>8. Design summary</p>	<p>Solar PV. The scope of works consists of a solar photovoltaic array mounted on the flat roof of the main building of the LMA. A 60.1 kWp installation has been sized based on the available area and optimised to offset the on-site consumption import of electricity. The installation consists of No.132 roof mounted solar PV panels (manufactured by SunTech, who are SA8000 accredited and a participant of the UNGC – United National Global Compact), Van der Valk Solar Systems ValkPro+ mounting system, Huawei SUN2000-50KTL-M3-400V inverters and a Huawei Smart Logger 3000B with built in bi-directional meter to enable remote monitoring of the system. The Main Contractor, Vital Energi, have specified the works to be installed and commissioned by a single sub-contractor: Ivegate (MSC Certified and NICEIC Approved Contractor), who have installed over 30MW of solar systems in past projects. The equipment will be crane lifted to the roof and licences for this will be applied for by the Main Contractor.</p> <p>The project has been designed up to stage 3, including for specification of equipment, datasheet and layout drawings. The project is to be procured through a design and build contract, and thus the final design will follow Gateway 5 but is not expected to significantly deviate from what is set out here.</p> <p>A structural survey of the roof has been carried out and advised no structural works will be required to support the proposed installation.</p> <p>The roofing material was replaced in 2017 and came with a long guarantee up to 2035. The project will ensure this guarantee is maintained in accordance with its terms and conditions.</p> <p>The LMA is leased, and the owner's agent have informed us the owner is supportive in principle of the works, subject to a formal licence been secured and subject to later removal/restoration on lease expiration if required.</p> <p>The solar PV has been designed to comply with the General Permitted Development Order (GPDO) and a prior approval</p>

	<p>planning application has been made. Note: the LMA site and main building are not listed.</p> <p>In compliance with G99 regulations, an application has been made with UKPN for their approval and notification of any charges and works required to enable the project.</p> <p>The project would arrange for future maintenance of the installed equipment, either through the existing corporate contract or separate. The equipment will require minimal maintenance, mainly consisting of 6-12 monthly inspections and cleaning of the panels to ensure ongoing safe and efficient operation.</p> <p>Warranty terms of the main items are:</p> <ul style="list-style-type: none"> • Panels: 12-25 years • Mounting frame: 10 years • Inverters: 5 years • On-site installation: 1 year <p>Electrical panel. The proposed Solar PV installation needs an electrical connection to the site to supply its generated electricity for on-site usage. The existing main electrical switch board is old and not suitable for connection to. To provide compliance with the current electrical standards a new electrical panel will be installed.</p> <p>Works alignment. The PV installer will install all bracketry, panels, containment and DC cabling up to a rotary isolator. The AC cabling from the inverter to point of connection will not be installed until the above LV panels works have been completed.</p> <p>Assuming approval by 31st January 2024, project completion would be expected by end of August 2024.</p>
9. Delivery team	The project for the installation of the Solar PV scope of works will be internally managed by the Surveying & Engineering Projects Team within the City Surveyor's Operations Group.
10. Success criteria	<ol style="list-style-type: none"> 1. Completed by 31st August 2024. 2. Completed within budget. 3. Verified net cost savings of c. £12,000 per annum, based on est. electricity savings of c. 45,000 kWh/yr, and projected short-term electricity price of 24p/kWh. 4. Verified carbon savings of c. 6 tCO₂e per annum (based on projected 2027 carbon factors).
11. Progress reporting	Project Vision progress reports with issues requiring decision coming back as an Issue Report. Internal reporting to BCOG and the CAS Project Board.

Appendices

Appendix 1	Project Coversheet
Appendix 2	Risk Register

Background documents

GW2 Paper: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings

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Options Appraisal Matrix

<i>Option Summary</i>	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3</i>
<p>1. Brief description of option</p>	<p>Option 1 (not recommended). Do not proceed with the project. This option is not recommended as it will not allow a reduction in the carbon emissions for the site and therefore not support the City Corporations achievement of net zero carbon emissions by 2027</p>	<p>Option 2 (recommended): Proceed with the project to install Solar PV. This option is for the installation of the proposed Solar PV panels to the roof of the main building of the LMA and associated electrical upgrades.</p>	<p>Option 3 (not recommended): Defer the project until around 2035. This option is to defer a decision on the installation of Solar PV until there is certainty over a future lease of the building.</p>
<p>2. Scope and exclusions</p>	<p>N/A</p>	<p>Scope: Solar PV panels to be installed on the main roof area of the Main Building of the LMA. Generated electricity to supply the main building only. Electrical upgrade works to main building only. Exclusions: Other roof spaces/buildings within the site.</p>	<p>N/A</p>
<p>Project Planning</p>			

Option Summary	Option 1	Option 2	Option 3
3. Programme and key dates	N/A	<p>Jan-24 GW3-5 approved</p> <p>Feb-24 Solar PV Works Agreement with Vital Energi commenced</p> <p>Mar-24 Solar PV works and electrical works design complete</p> <p>May-24 Electrical works instructed under MTC with Sykes and Sons</p> <p>Mar-24 permissions granted for planning, DNO, landlord</p> <p>May-24 Solar PV works commence</p> <p>Aug-24 Solar PV works complete</p> <p>Jul-24 Electrical works commence</p> <p>Aug-24 Electrical works complete</p> <p>Aug-24 Solar PV final commissioning</p>	N/A
4. Risk implications	Low	<p>Medium</p> <p>Further information available within the Risk Register (Appendix 2).</p>	Low
5. Stakeholders and consultees	N/A	<p>LMA Management: Stephen Maberly, Emma Markiewicz</p> <p>City Surveyors: Dorian Price, Peter Ochser, Luca Pagliaroli, Mark Donaldson, Chris Sharpe, Graeme Low, Paul Friend, Stephan Chandler,</p>	

<i>Option Summary</i>	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3</i>
		Jonathan Cooper, Darren Horrigan, Grayham Howarth, Matt Baker, Andrew Coke, David Renshaw, Terence Short CBRE Chamberlains: Carley Bower Procurement: TBC Legal: Philip Mirabelli UKPN Building owner and their representative (William Sturges LLP) Finsbury Business Centre Roof systems guarantor: IKO Local Planning Authority: LB Islington Local Building Control Authority: LB Islington Local highways authority: LB Islington	
6. Benefits of option	No requirement for funding the works. No disruption to the site.	Proceeding with the project will support the City Corporation to meet its 2027 net zero carbon target. Lower ongoing electricity costs for the LMA than would otherwise have been incurred.	No requirement for funding the works in the short term. No disruption to the site.
7. Disbenefits of option	Loss of opportunity to reduce the energy costs and carbon emissions.	Long financial payback. Disruption to the site. Risk of future cost for removal of the Solar PV installation if at the end of the lease the landlord requested this.	Loss of opportunity to reduce the energy costs and carbon emissions.
Resource Implications			

Option Summary	Option 1	Option 2	Option 3
8. Total estimated cost	Up to £8,500 for the abortive costs for the design and development work undertaken to date.	The total estimated cost of the project is £150,206 (including a costed risk budget of £20,582)	Up to £8,500 for the abortive costs for the design and development work undertaken to date.
9. Funding strategy	Abortive costs only, for design and development of the project to GW5. Funded through Climate Action Strategy Year 3 budget.	Wholly funded through the approved Climate Action Strategy Year 3 budget.	Abortive costs only, for design and development of the project to GW5. Funded through Climate Action Strategy Year 3 budget.
10. Investment appraisal	N/A	A simple payback for the whole project has been estimated of 11-13 years based on estimated energy cost savings of c.£12,000/yr. (based on short-term projected energy prices) and an assumed ongoing maintenance cost of £1,000/yr.	N/A
11. Estimated capital value/return	N/A	The site which encompasses the London Metropolitan Archives (40 Bowling Green Lane) is leased by the City Corporation. The lease expires on 24 June 2035, which is c. 11 years from when the proposed Solar PV would start operating. The report sets out the simple payback to be 11-13 years based on the short-term estimated electricity costs of 27.5 p/kWh. The payback is likely to exceed	N/A

<i>Option Summary</i>	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3</i>
		<p>the remaining lease length, therefore there is a risk the project will not payback if the City Corporation does not continue to occupy the site beyond the existing lease expiration.</p>	
<p>12. Ongoing revenue implications</p>	<p>N/A</p>	<p>The Solar PV will generate electricity of which we estimate 90% will be used on-site to offset imported electricity and the remainder will be exported to the grid. The energy cost savings are estimated to be c.£13,000 based on short-term projected electricity import and export prices.</p> <p>The project would arrange for future maintenance of the installed equipment, either through the existing corporate contract or separate. The equipment will require minimal maintenance, mainly consisting of 6-12 monthly inspections and cleaning of the panels to ensure ongoing safe and efficient operation. We estimate the annual cost for this to be c.£1,000.</p> <p>Therefore the net revenue implications are a decrease in costs of c.£12,000 per annum. In accordance with the 'Climate</p>	<p>N/A</p>

Option Summary	Option 1	Option 2	Option 3
		<p>Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings’ (see background documents) “In the case of centrally funded sites, financial savings that are made will accrue back to the City Corporation as a contribution to the Build Back Better Fund held in City Fund or City’s Cash as appropriate. Therefore, departmental local risk budgets will be adjusted accordingly.”</p>	
13. Affordability	N/A	<p>The project is to be wholly funded through the approved Climate Action Strategy Year 3 budget.</p>	
14. Legal implications	N/A	<p>The works are to be carried out through entering into a new works agreement with Vital Energi, under an existing Call-off-Contract. This will require the drafting of a JCT contract.</p> <p>Landlords consent would be required through a new licence. City Corporation have liaised with the freeholder’s agent, and they are supportive of the propose in principle pending licence agreements.</p>	

Option Summary	Option 1	Option 2	Option 3
15. Corporate property implications	Does not align with the Corporate Property Asset Management Strategy 2020-2025	<p>The building owners' agent (William Sturges LLP) has informed us their "clients are agreeable in principle to what's proposed subject to the completion of a formal licence, (which will provide for the removal and/or reinstatement of the equipment at expiry or sooner determination of the lease) and payment of their legal and surveyors costs". The current building lease expires in 2035 (within 12 years). Installation of the works constitutes a risk of the future cost to carry out removal and/or reinstatement.</p> <p>The flat roofing cover of the main LMA building, to which the Solar PV would be mounted, was replaced in 2017 and a guarantee established up to the 2035 lease break. The project must ensure this guarantee is maintained.</p>	
16. Traffic implications	N/A	The installation of the equipment (solar panels and their supports) to the roof will require a crane lift. This may require temporary road closure. The Local Authority (LB Islington) will be	

Option Summary	Option 1	Option 2	Option 3
		consulted and appropriate permissions obtain by the main contractor.	
17. Sustainability and energy implications	No proceeding with the project would limit the ability for the City Corporation to meet its 2027 net zero carbon target and would result in ongoing higher electricity costs for the LMA.	Proceeding with the project will support the City Corporation to meet its 2027 net zero carbon target and would result in ongoing lower electricity costs for the LMA than would otherwise have been incurred.	No proceeding with the project would limit the ability for the City Corporation to meet its 2027 net zero carbon target and would result in ongoing higher electricity costs for the LMA.
18. IS implications	N/A	May require data points for monitoring remotely	N/A
19. Equality Impact Assessment	N/A	N/A	N/A
20. Data Protection Impact Assessment	N/A	N/A	N/A
21. Recommendation	Not recommended	Recommended	Not recommended