GREATER**LONDON**AUTHORITY

REQUEST FOR ASSISTANT DIRECTOR DECISION – ADD2629

Title: Feasibility study for the installation of a solar membrane on London Stadium

Executive Summary:

The Mayor has set the ambition for London to be net zero 2030. To support this, a climate budget has been published within the GLA group budget for 2023-24. The climate budget sets out the actions needed across the GLA group to achieve net zero. It also sets both funded and unfunded measures that are required. His manifesto commits to creating a finance facility, to accelerate green projects. The Mayor announced a package of £90 million in 2022 to support projects from the GLA group and strategic partners. The GLA environment and energy team, along with London Treasury Ltd have been working to identify projects that could be supported via green finance.

The London Legacy Development Corporation's (LLDC) climate budget identified a suite of unfunded projects at the London Stadium, including the installation of a solar PV membrane on the roof. These projects, which are in line with the Mayor's net zero ambitions, require technical support to develop them further. To progress the solar PV membrane, a feasibility study needs to be undertaken to ensure that it is technically feasible and that the technology is viable. Additionally, the business case for the project needs to be developed to ensure a robust analysis of costs, impact and energy savings. The LLDC, following a competitive process, have appointed consultants to carry out the study from their existing Stadium Consulting Framework.

This decision asks that the GLA provide a £45k grant to the LLDC to support the study, with a view to providing finance to support the project it is viable. The LLDC will also provide £45k of match funding to support the project identified from their own budget.

Decision:

That the Assistant Director of Energy and Environment approves:

- A grant of £45,000 (50 per cent of total project costs), to the London Legacy Development Corporation by way of a revenue grant under section 121 of the Greater London Authority Act 1999 ('the GLA Act) towards the development of a technical feasibility study and business case for the installation of a solar membrane on the London Stadium.

AUTHORISING ASSISTANT DIRECTOR/HEAD OF UNIT

I have reviewed the request and am satisfied it is correct and consistent with the Mayor's plans and priorities. It has my approval.

Name: Catherine Barber

Position: Assistant Director, Environment & Energy

Signature:

CBarber

Date:

08/02/2023

PART I - NON-CONFIDENTIAL FACTS AND ADVICE

Decision required – supporting report

1. Introduction and background

1.1. The Mayor has set an ambition for London to become a net zero carbon city by 2030. In January 2022, the Mayor published a series of pathways that could deliver the ambition, including his preferred 'green accelerated pathway'. The Mayor's manifesto also committed to developing a financing facility to support the acceleration of infrastructure projects and support London to be a world leader in green finance.

1.2. As part of the Mayor's commitment to net zero 2030, the GLA functional bodies are developing plans to deliver net zero in their own organisations by 2030. These plans are captured within the GLA Group budget process for 2023-24, which for the first time included a climate budget. The Climate budget sets out the trajectory required to achieve net zero for each functional body. It also identifies the funded and unfunded measures required to deliver it.

1.3. In February 2022 the Mayor announced £90 million of revenue support to assist the development and delivery of net zero projects from the GLA group and strategic partners. Through ongoing discussions with the GLA group and the Climate Budget, opportunities have been identified that will require financing from across the GLA group estate and fleets. Some of these projects will require further assistance to develop business cases.

1.4. An important early opportunity identified by the LLDC is around the London Stadium. The range of potential unfunded projects have been identified that can be delivered in the near-term and include the installation of a lightweight solar PV membrane on the roof of the stadium. Other possible LLDC projects are set out in 2.5 The stadium currently uses 12,000 kWh of electricity per year. Further feasibility work is needed to assess the technical feasibility (roof loading, technology performance, readiness) and assess the business case (capital costs, energy saving, greenhouse gas savings) in order to progress the project to the point where it can be financed.

1.5. This decision requests that the GLA provide grant funding of £45k to the LLDC, to support the costs of undertaking feasibility work (detailed below). The LLDC will also contribute £45k towards the study. The grant will be made under the provisions of Section 121 of the GLA Act 1999.

1.6. The LLDC have undertaken a competitive procurement process to undertake the works and have appointed Mace (Project Managers), Buro Happold / OPS (Engineers and Populous (Architects) through the existing London Stadium framework. The appointments were based on their competitively tendered fee rates, technical expertise and knowledge of the stadium. Mace are currently preparing the stadium sustainability strategy and Buro Happold were the roof engineers. Populous designed the stadium.

1.7. The Solar membrane roof forms part of a wider opportunity to deliver a range of decarbonisation projects at the stadium that are being explored through the Mayor's Finance Facility ('Green Finance for London') programme which are set out below.

2. Objectives and expected outcomes

2.1. The feasibility study for installing a solar PV membrane on the roof of the London Stadium forms part of a wider series of measures. The study will

- advise on the feasibility, cost and programme for a solar panel stadium roof
- prepare and finalise the specification to be used for the procurement of the Solar panels and their installation on the stadium.

2.2. Following a competitive process, the LLDC have appointed consultants to undertake the work set out in 1.6. In delivering the study aims above the feasibility work includes:

Feasibility

- review of existing material (Roof loading study, high level estimates of capital cost, energy savings, carbon savings, risk, funding)
- to review the market and provide advice for the specification on the installation
- to commission / carry out any necessary surveys needed for the specification
- advise, recruit and oversee project.

Business case

- to draw together a business case including a recommendation; pre-tender capital cost estimate; pay back estimate for cost versus savings; funding opportunities; LS185 funding; third party funding; sustainability benefits, risks; procurement; programme.

Specification

- draw together the specification to go out to tender, including, construction requirements, Outline Design (provided by architects) and engineering information. Information, Survey requirements, Environmental requirements in the specification. The programme for the project to be included in the statement of requirements.

London Stadium net zero projects

2.3. The GLA are exploring the potential to support this opportunity through the Mayor's Green Finance London programme. If the business case demonstrates the feasibility of the project, the GLA will explore how it can support the financing required to deliver the project, subject to further approval.

2.4. Proposals around the stadium form an important part of the LLDC's approach to decarbonising its operations. The stadium would provide an impactful showcase of the work being undertaken by the GLA to drive forward climate action in London.

2.5. The LLDC climate budget sets out the following opportunities at the London Stadium.

	Description	**Estimated lifetime CO_2 savings**	**Cost £ (000's)**	**ROI**
London Stadium Solar PV	Solar PV membrane installed on stadium	7,480	4,000	4 years
London Stadium upgrade of Building Energy Management System	Technical equipment and behaviour change initiative to improve energy use at the stadium	1,239	200	1 year
London Stadium LED lighting	Replacing back of house lights in stadium with LED	7,628	889	7 years

Solar Upgrade to ticket office and shop	Solar PV installation on Ticket office and shop	tbc	81	7 years

**Source: LLDC Climate Budget*

2.6. The London Stadium currently uses around 12,000 MWh of electricity per year, initial estimates suggest a solar membrane even partially covering the roof could provide a significant opportunity to support this demand. As well as exploring the opportunity for solar on the 24,000 m2 of roof, the LLDC are investigating the potential for battery storage to store solar PV when demand is less than generation. Initial estimates suggest that the capital investment required could be repaid in five years through reduced energy costs.

2.7. The London Legacy Development Corporation owns the freehold to the London Stadium and leases it to E20 Stadium LLP (a subsidiary of LLDC) on a long lease (until 2115). The LLDC's capital expenditure programme for the stadium includes limited funding for further capital works for lifecycle and improvement works (such as spend to save and energy efficiency projects). The works identified above would require additional capital investment which is not available in that plan.

2.8. Subsequently, the works are being considered for support through the Mayor's Green Finance for London programme, subject to the outcome of the feasibility works.

2.9. Given the expertise and understanding of the Stadium required to undertake the feasibility works the project is not suitable for support from the Local Energy Accelerator (LEA). Using the LEA in this circumstance would elongate the process, require greater consulting hours and to undertake the feasibility work.

3. Equality comments

3.1. The public sector equality duty requires the identification and evaluation of the likely potential impacts, both Under Section 149 of the Equality Act 2010 (the "Equality Act") as public authorities, the Mayor and the GLA must have due regard to the need to eliminate unlawful discrimination, harassment and victimisation, and to advance equality of opportunity and foster good relations between people who share a protected characteristic and those who do not. Protected characteristics under the Equality Act comprise age, disability, gender re-assignment, pregnancy and maternity, race, religion or belief, sex, sexual orientation, and marriage or civil partnership status.

3.2. This work furthers actions and policies set out in the London Environment Strategy (e.g. reducing carbon emissions in London) which has been consulted on publicly and sought input from all groups and communities. All responses to those consultations were analysed to help ensure the Strategy reflects diverse views and needs.

4. Other considerations

Key risks and issues

Risk/issue	Mitigating actions
1. The Feasibility study is delayed	Regular project meetings will be held to ensure the project remains on track. The LLDC will provide regular updates to the GLA on progress and flag any potential delays in delivery
2. Quality of the work is not good enough	The consultants have been appointed following a competitive process, taking account of their experience, price and understanding of the stadium. Ras above regular meetings will eb held to ensure the works produced meets the original scope.

Link to Mayoral strategies and priorities

4.1. This work is designed to support delivery of the Mayor's London Environment Strategy and ambition for London to be zero carbon by 2030. The Mayor's preferred pathway to 2030 requires the uptake of 1.5 GW of solar by 2030. The Mayor is working with the functional bodies to set out plans to deliver net zero 2030 in their own operations by 2030. This project directly contributes to that aim.

Green New Deal and London Recovery work

4.2. The Green New Deal Mission has been designed in collaboration with London Councils, taking account of the views of Londoners and stakeholders. The mission has set the challenge of tackling the climate and ecological emergencies and improving air quality by doubling the size of London's green economy by 2030 to accelerate job creation for all. The mission identifies the opportunity to support London's recovery through tackling huge city challenges like improving London's homes and workplaces to reduce their energy demand and carbon emissions. The power sector (including Solar PV) is identified as one of four key growth sectors in the green economy. It is forecast to grow from 82,900 employees to between 102,700-155,500 by 2030[1].

4.3. The Mayor has committed to establishing a Green Finance Facility to support his environmental priorities and accelerate private sector investment into London projects. This project provides an important opportunity to support that aspiration and showcases the actions that the GLA group are taking to meet the Mayor's net zero ambition.

4.4. There are no conflicts of interest to note for any of the officers involved in the drafting or clearance of this decision form.

5. Financial comments

5.1. Approval is being sought for a grant of £45,000 of revenue funding from the GLA to the London Legacy Development Corporation towards the development of a technical feasibility study and business case for the installation of a solar membrane on the London Stadium. The revenue grant will be administered to LLDC as a section 121 transfer, in line with section 121 (1) of the GLA Act.

5.2. The transfer of funds will be completed by 31st March 2023 and the GLA contribution to the project will be funded from identified underspend in the Adaptation budget line within the Environment business unit.

6. Planned delivery approach and next steps

Activity	Timeline
Contract start date	Jan 2023
Market Engagement	Jan and Feb 2023
Initial draft Feasibility study	End of Feb 2023
Final report submitted to the LLDC	Mid-March 2023

Appendices and supporting papers:
None.

[1] Green-Jobs-and-Skills-in-London-Final-Report-1.pdf (wpieconomics.com)

Public access to information

Information in this form (Part 1) is subject to the Freedom of Information Act 2000 (FoIA) and will be made available on the GLA website within one working day of approval.

If immediate publication risks compromising the implementation of the decision (for example, to complete a procurement process), it can be deferred until a specific date. Deferral periods should be kept to the shortest length strictly necessary. **Note**: This form (Part 1) will either be published within one working day after it has been approved or on the defer date.

Part 1 - Deferral

Is the publication of Part 1 of this approval to be deferred? NO

Part 2 – Sensitive information

Only the facts or advice that would be exempt from disclosure under FoIA should be included in the separate Part 2 form, together with the legal rationale for non-publication.

Is there a part 2 form – NO

ORIGINATING OFFICER DECLARATION:	Drafting officer to confirm the following (✓)
Drafting officer: Peter Daw has drafted this report in accordance with GLA procedures and confirms the following:	✓
Corporate Investment Board This decision was agreed by the Corporate Investment Board on 6 February 2023.	✓

ASSISTANT DIRECTOR OF FINANCIAL SERVICES:

I confirm that financial and legal implications have been appropriately considered in the preparation of this report.

Signature:

Date:

07/02/2023