

# GREATER LONDON AUTHORITY

**REQUEST FOR DIRECTOR DECISION – DD2272**

**Title: FlexLondon Challenge Phase 2**

## **Executive Summary:**

London is a city of significant electricity demand and there are opportunities to both reduce demand and use electricity more flexibly (e.g. through storage and shifting demand to another time of the day).

FlexLondon Challenge will deliver up to five projects to unlock business and public sector organisations' energy flexibility. This will help to cut their energy bills, reduce their energy use and financially reward their energy flexibility, and contribute to a smarter, cleaner energy system for London. Additional benefits include better meeting the demand for power with the supply at times of critical need (i.e. peak times of the day), supporting renewable generation to provide more clean power and helping London and the UK meet its climate reduction targets.

FlexLondon Challenge will accelerate the delivery of a number of Mayoral aims and objectives:

- Supporting London to be a zero emission city with clean transport and clean energy
- Developing clean and smart, integrated energy systems utilising local and renewable energy resources
- Investigating the potential for demonstrators where Londoners can help manage London's energy demand, including up to 1 GWe of flexible demand potential
- Undertaking demonstration projects to improve London's energy systems, placing London at the forefront of energy innovations

Phase 1 of the challenge was approved by ADD2127.

## **Decision:**

That the Executive Director of Development, Enterprise and Environment approves:

- Expenditure of up to £75,000 to pay for external services to deliver the FlexLondon Challenge phase 2 including challenge set up, communications, developing and managing flexibility projects, monitoring and evaluation of the initiative (note that this will take spending across both phases up to a maximum of £115,000)
- An exemption from the requirement in the Contract and Funding Code to procure services competitively.

## **AUTHORISING DIRECTOR**

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:** Juliemma McLoughlin (on behalf of Lucy Owen)

**Position:** Assistant Director - Planning

**Signature:**

**Date:**

30-8-18.

## **PART I - NON-CONFIDENTIAL FACTS AND ADVICE**

### **Decision required – supporting report**

#### **1. Introduction and background**

- 1.1 The Mayor wants London to be zero a carbon city by 2050. To help achieve this aim, the London Environment Strategy (the Strategy) sets the objective to develop clean and smart, integrated energy systems utilising local and renewable energy resources. This objective will, in part, be delivered by the action included in the Strategy implementation plan to complete smart, flexible energy system projects, demonstrators and pilots by 2020 to improve London's energy systems, including the FlexLondon challenge. FlexLondon Challenge (the Challenge) aims to unlock the 1GWe of demand side flexibility available in London<sup>1</sup>.
- 1.2 National Grid and the UK's distribution network operators (DNOs) are looking for ways to replace the loss of many fossil fuel power stations (two-thirds of the UK's existing power stations are expected to close by 2030) through building a more flexible electricity system. Storage, demand flexibility (and high voltage interconnection) innovations will help deliver this type of system. The benefits of this include the potential to displace part of the need for new (costly) generating capacity, support renewable generation, save money for businesses and domestic consumers and help London and the UK meet its climate reduction targets. The National Infrastructure Commission (Smart Power, 2016) estimates a saving as large as £8 billion a year from these three innovations by 2030.
- 1.3 The Challenge has two phases. Phase 1 (ADD2172) identified energy flexibility opportunities and benefits (the right type of buildings and business operations in London) and worked with organisations to develop their understanding of the opportunities and benefits. Phase 2, the subject of this Director Decision (DD), will pay for external services to bring together organisations that can use energy more flexibly with innovative solution providers who can help them. The external services include technical and commercial support for organisations and solution providers to deliver flexibility projects. The Challenge will deliver up to five projects over twelve months, using storage and demand flexibility solutions. The focus of the projects will be on the needs and opportunities identified during phase 1 (see section 1.6 for more detail on the lessons learnt).
- 1.4 The Challenge locations will be analysed and selected to meet the following criteria:
- Manage electricity network constraints or congestion
  - Support new developments to reduce pressure on local electricity infrastructure
  - Select hot-spot locations for expansion of electric vehicle (EV) fleets and charging infrastructure
  - Identify air quality hot-spots that can be improved by more EV fleets or replacing high emission back-up power diesel generators
  - Support businesses that may benefit from large battery energy storage but need to share its use and maintenance to make it economically viable for them to invest
- 1.5 All the organisations (up to 75 in total) engaged from phase 1 will be invited to participate. This will include GLA group organisations, helping to demonstrate that the Mayor and functional bodies are leading by example. The Challenge delivery team will select up to 10 organisations that best fit the Challenge criteria. Innovative solution providers will then be guided through a match-making process that ensures the right people are working together on the right project proposals. If additional

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<sup>1</sup> Modelled by the Greater London Authority and published in the Strategy.

investment is required to deliver the projects this will be made by participating organisations and solution providers.

1.6 The Challenge delivery team (external consultants working with the GLA smart energy team) will:

**1. Set up the Challenge:**

- organise a kick off meeting
- set up and convene an advisory group
- define the challenge template
- confirm the challenge areas (geographic) with GLA
- run 'Flexathon' part 1 - challenge setting
- define data needs
- collect challenge definitions and data from sites.

**2. Announce the Challenge to innovative solution providers:**

- announce the Challenge to organisations and solution providers, including how to get involved
- call for innovators to join and vet a long list
- run 'Flexathon' part 2 – bringing the right people together, facilitating the right conversations and project proposals (up to ten)
- manage organisations' needs.

**3. Deliver the best five projects selected from the ten proposals:**

- define data sharing needs
- create project templates, including how the economic values stack up
- enable submission of project plans
- select up to ten projects to take forward – informed by advisory panel
- enable project delivery and tracking progress.

**4. Monitor, evaluate and disseminate**

- monitor, evaluate and disseminate the Challenge results, outputs and outcomes.
- draft a public report covering project case studies and results
- host two 'Flexathon' workshops and follow up 'project sprints' over a 12month period to deliver up to five projects.

1.7 The key findings from phase 1 will be incorporated in the design and delivery of phase 2. Lessons learnt include:

- Electricity flexibility is not easy to do: several barriers, including the commercial return on investment and hassle factor versus perceived reward, were identified, and these inhibit the flexibility market in London
- Flexibility services for businesses need to offer more than just small financial rewards received by providing demand side response services
- Installing monitoring equipment and technology that controls energy use and resources (including energy storage) provides better management of energy use and clean, renewable sources of energy than current demand side response services sold to businesses
- Flexibility that includes demand side response, storage and generation can create more value for consumers by delivering: better energy efficiency, reduced carbon emissions, increased self-

consumption of on-site renewables (or matching demand to local generation across a number of organisations), increased installation of microgeneration and electrical heating technologies (such as heat pumps), and (in some situations) maximising the use of on-site power supply infrastructure and network connection capacities to accommodate more EV charging or site expansion

- Being flexible to provide demand side response services for a financial return, alone, has limited appeal. Organisations are seeing value from more operation-wide flexible energy management opportunities and services. However, they need help to integrate these local value opportunities and solutions, as not all the local value is rewarded under current national energy market arrangements. This means the wider potential and value of flexibility for London's businesses and the city is limited (i.e. it is primarily National Grid who pay organisations, normally through aggregator intermediaries, for delivering a service that meets National Grid's prescribed flexibility needs). The introduction of city level, as well national, policies, incentives and initiatives to encourage flexibility will go some way to addressing this problem

1.8 It is recommended that a single source procurement activity takes place for this work. The supplier from phase 1 (Energy Unlocked) undertook a role that included extensive stakeholder outreach and engagement, phase 1 analysis, and phase 2 design. There are multiple benefits in keeping continuity in phase 2 due to the relationships and momentum generated by Energy Unlocked with the project advisory committee, organisations' energy managers and innovative solution providers. Delaying appointment of phase 2 delivery partners, or introducing a new project team for phase 2, risks losing the commitments made by external organisations to participate, with a detrimental effect on project delivery (timelines, impacts and outcomes). The justification stated in the SSJ is that the supplier, Energy Unlocked: "...has had previous involvement in the specific current project and that it involves continuation of existing work which cannot be separated from the new project." Detailed phase 2 outputs, outcomes and deliverables have been set out by GLA officers. The phase 2 project proposal from Energy Unlocked will be assessed against this and the contract will ensure all conditions are met and provide good value for money.

## 2. Objectives, outputs and expected outcomes

### 2.1 Objectives:

- Unlock energy flexibility in London
- Gather learnings about the barriers and enablers to inform changes and initiatives the Mayor could make to bring about market change that delivers Strategy aims and objectives
- Understand and demonstrate where national and regional energy markets (i.e. flexibility services paid for by National Grid and DNOs) could value local 'city' benefits delivered from flexibility, including:
  - Improved air quality by encouraging ultra-low and zero emission vehicles
  - Reduced electricity infrastructure costs by using storage and demand flexibility to displace the need for new network connections and associated costs for businesses - including for EV charging (this is complex area because it requires coordinating multi-party interests and different investment planning regimes in regulated and unregulated sectors)
  - Better use of local generation by shifting demand to make best use of supply (e.g. solar PV matching and local CHP generation matching), and
  - Using flexibility to allow lower cost, lower carbon electrical heating solutions to be deployed

## 2.2 Outputs:

- Up to five flexibility projects with up to five organisations from ten project proposals, contributing to unlocking London's 1GWe potential
- Analysis of the 'local' (as well as national and regional) value of energy flexibility
- A robust evidence base (including the projects that did not work), including of analysis of how local energy flexibility, and the actions needed to unlock additional value, can make a business case stack up, and
- Dissemination of phase 2 findings, sharing knowledge with similar organisations and solution providers

## 2.3 Outcomes, the project will contribute to:

- Delivery of a zero carbon London by 2050 with smart flexible energy systems
- Readying London's businesses and electricity system for increases in renewable supply and use of electricity for heat, power and transport
- Supporting and increasing the use of innovative flexible energy solutions needed to unlock London's spare and valuable grid capacity
- London businesses trialling energy technologies and services that can benefit them, including financially
- Bringing together energy innovations that benefit more than one organisation, and creating new business opportunities for solution providers, including London's clean energy tech SMEs
- Helping electricity grid operators (National Grid and DNOs) to better manage their networks (i.e. peak times of energy use), making them more secure, and displacing part of the need for new (costly) infrastructure upgrades.
- Improving our work with key local and national stakeholders (including TfL, UK Power Networks, UK Government and Ofgem) to design flexibility markets that meet London's electricity system needs and improve utilisation of network capacity
- Producing local value including cutting bills, reducing emissions, better use of renewable generation and improving the investment case for storage
- Helping the UK meet its climate reduction targets

## 3. Equality comments

- 3.1 Under s149 of the Equality Act 2010 (the Equality Act), as a public authority the Mayor must have due regard to the need to eliminate discrimination, harassment and victimisation, and any conduct that is prohibited by or under the Equality Act; and to advance equality of opportunity and foster good relations between people who share a protected characteristic and those who do not.
- 3.2 The GLA will ensure that (as part of its on-going legal responsibility to have due regard to the need to promote equality, in everything it does, including its decision-making), barriers are removed that may prevent those with protected characteristics benefiting from the project. The project will require the service provider to identify those protected groups who could benefit, determine whether barriers exist and measures to remove those barriers. The service provider will estimate the numbers involved for each relevant characteristic and assist the GLA in discharging its duties under the Public Sector Equality Duty (PSED).

3.3 The GLA Environment Unit commissioned an Integrated Impact Assessment (IIA) on the draft London Environment Strategy. This evaluated the social, economic, environmental, health, community safety and equality consequences of the strategy's proposed policies to ensure they are fully considered and addressed. A post-adoption statement showing how the IIA influenced the final strategy and Equality Impact Assessment (EqIA) report has been published.

#### 4. Other considerations

4.1 The Mayor wants London to be zero a carbon city by 2050. To help achieve this aim, the London Environment Strategy (the Strategy) sets the objective to develop clean and smart, integrated energy systems utilising local and renewable energy resources. This objective will, in part, be delivered by the action included in the Strategy implementation plan to complete smart, flexible energy system projects, demonstrators and pilots by 2020 to improve London's energy systems, including the FlexLondon challenge.

#### 4.2 Key risks and mitigation

Category	Description	Probability	Impact	Risk Index	Treatment	Mitigation
Engagement	Lack of interest from potential flexibility providers (organisations)	2	5		Contingency	A. Use cases have been tested during phase 1 interviews B. Input (inclusion of sites) from the GLA group will be maximised, compensating for any shortfall should business interest be less than expected. Delivery objectives are closely aligned to agreed GLA group strategic environmental goals for 2018/19.
Commercial	Commercial benefits unrealised/revenues too low.	3	3		Contingency	A specific work stream will capture and assess all instances where projects fail/offerings cannot be commercialised. Learnings are hugely valuable and will inform future policy and market design research and proposals.
Management	Multi-partner project leading to poor coordination, delivery, timescales & grant claims missed	2	2		Reduce	Weekly & monthly calls/meetings. Escalation paths available for timely issue redress. Project management methods tailored to ensure delivery, combining PRINCE2 & Agile methodologies.
Scope	Full project has 'energy flexibility' broadly in focus but scope creep is possible once solutions providers realise the opportunities for reducing customer acquisition time. Participants may want to offer/seek energy related but non-flexible solutions.	2	2		Reduce	This will need to be managed in partnership with the delivery team to ensure that scope is agreed and any potential 'creep' raised in project management calls. Branding and early communications will also help to clarify objectives.

#### 5. Financial comments

5.1 Executive Director's approval is sought for the expenditure of up to £75,000 to pay for external services to deliver the FlexLondon Challenge (phase 2). This is a twelve-month programme that aims to deliver up to five projects that unlock businesses' energy flexibility and will bring the total spend on FlexLondon Challenge to £115,000 (phase 1 of this programme costing up to £40,000 was approved under ADD 2172).

5.2 The cost of this phase will be funded from the Environment Team’s Smart Energies 2018-19 programme budget.

## 6. Legal comments

6.1 The foregoing sections of this report indicate that:

- (a) the decisions requested of the director concern the exercise of the GLA’s general powers, falling within the GLA’s statutory powers to do such things considered to further or which are facilitative of, conducive or incidental to the promotion of economic development and wealth creation, social development or the promotion of the improvement of the environment in Greater London; and
- (b) in formulating the proposals in respect of which a decision is sought officers have complied with the Authority’s related statutory duties to:
  - pay due regard to the principle that there should be equality of opportunity for all people;
  - consider how the proposals will promote the improvement of health of persons, health inequalities between persons and to contribute towards the achievement of sustainable development in the United Kingdom; and
  - consult with appropriate bodies.

6.2 In taking the decisions requested, the director must have due regards to the Public Sector Equality Duty; namely the need to eliminate discrimination, harassment, victimisation and any other conduct prohibited by the Equality Act 2010, and to advance equality of opportunity between persons who share a relevant protected characteristic (race, disability, gender, age, sexual orientation, religion) or share it and foster good relations between persons who share a relevant protected characteristic and persons who do not share it (section 149 of the Equality Act 2010). To this end, the director should have particular regard to section 3 (above) of this report.

6.3 Section 9 of the Contracts and Funding Code (the ‘Code’) requires the GLA to call off the services required from an accessible framework or conduct an advertised tender for the services required. However, the director may approve an exemption from this requirement under section 10 of the Code upon certain specified grounds. One of those grounds is that approval of the exemption is justified due to previous involvement in a specific current project or continuation of existing work that cannot be separated from the new project. Officers have indicated at section 1 of this report that this ground applies, and have indicated that they will ensure the proposed contract affords value for money. On this basis the director may approve the proposed exemption if satisfied with the content of this report.

6.4 Officers must ensure that appropriate contract documentation is put in place and executed by the proposed service provider(s) and the GLA before the commencement of the required services.

## 7. Planned delivery approach and next steps

<b>Activity</b>	<b>Timeline</b>
Procurement of external services contract [single source]	Sept ‘18’
Phase 2 planning, including engagement across GLA group & key stakeholders	Aug - Sept ‘18’
Convene organisations (external and GLA group) and set challenges based in their needs – ‘Flexathon One’	Oct ‘18’
Publish flexibility challenges & call for solutions	Oct- Nov ‘18’
Innovative solution providers meet organisations – ‘Flexathon Two’	Nov ‘18’

Project designs and delivery	Dec '18' – June '19'
Monitoring (including kilowatts shifted, costs saved, investment case enhanced), evaluation, reporting	July/Aug '19'

**Appendices and supporting papers:**

None.



**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**

If YES, for what reason:

Until what date: (a date is required if deferring)

**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:**

Rick Curtis has drafted this report in accordance with GLA procedures and confirms the following:

✓

**Assistant Director/Head of Service:**

Patrick Feehily has reviewed the documentation and is satisfied for it to be referred to the Sponsoring Director for approval.

✓

**Financial and Legal advice:**

The Finance and Legal teams have commented on this proposal, and this decision reflects their comments.

✓

**Corporate Investment Board**

This decision was agreed by the Corporate Investment Board on the 28 August 2018.

**EXECUTIVE DIRECTOR, RESOURCES:**

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

Signature

*M. D. Blle*

Date 28.8.18

