

# GREATER LONDON AUTHORITY

REQUEST FOR ASSISTANT DIRECTOR DECISION – ADD2172

**Title: FlexLondon Challenge: Phase 1 – Mapping and Challenge Set Up**

**Executive Summary:**

The national electricity system is losing 'supply-side' flexibility, with negative impacts for the UK's ability to balance electricity supply and demand. This is due to the decommissioning of coal-fired power stations, which can alter electricity output in response to demand, and their replacement with less flexible sources of electricity such as wind, solar and new nuclear. National Grid (NG), the national system operator, is looking at ways to replace this loss of supply-side flexibility with 'demand-side' flexibility.

The FlexLondon Challenge aims to accelerate the delivery of London's 1 GWe of flexible demand potential by mapping sites that have flexible potential and introducing them to innovative flexibility solutions. The increased flexibility will help reduce consumer energy costs, create jobs in the distributed energy resources market and place Londoners at the forefront of energy market innovation.

FlexLondon supports the draft London Environment Strategy proposals for 'smart, flexible, energy system demonstrators and pilots where Londoners can help manage demand', and comprises two phases. Phase 1, the subject of this ADD, will fund consultancy services to map the flexibility potential of London's energy demand and design the Challenge.

**Decision:**

That the Assistant Director (Environment) approves expenditure of £40,000 on consultancy services to map London's 'flexible' energy capacity and prepare for the FlexLondon Challenge.

**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:** Patrick Feehily

**Position:** Assistant Director (Environment)

**Signature:**



**Date:**

10 9<sup>th</sup> / 1 / 2018

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

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

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

- 1.1 The national electricity system is losing 'supply-side' flexibility, with negative impacts for the UK's ability to balance electricity supply and demand, due to the decommissioning of coal-fired power stations, which can alter electricity output in response to demand, and their replacement with less flexible sources of electricity such as wind, solar and new nuclear.
- 1.2 Analysis for the London Environment Strategy (2017), indicates that London has the potential for up to 1 GWe of demand-side flexibility in residential, commercial, and public-sector buildings and sites in London (but doesn't identify specifically where this is located). This represents an opportunity for Londoners to benefit (financially and environmentally) by playing their part in a changing electricity system.
- 1.3 National Grid is incentivising consumers able to alter their electricity use (demand) to match the available electricity generation (supply). However, the demand-side flexibility market has been inhibited by multiple barriers, including a lack of confidence among those with flexibility potential, non-standard business models and prohibitive costs of customer acquisition (Energy Unlocked, 2017). This means the potential for consumers to benefit from this market is currently limited.
- 1.4 Further development of flexibility solutions, such as Demand Side Management (DSM) and Distributed Energy Resource (DER) technologies (such as storage) and services, combined with innovative business models, is required if we are to maximise the potential of energy flexibility.
- 1.5 The FlexLondon Challenge will educate and demonstrate to energy consumers who have sites and activities with energy demand flexibility the potential opportunities around flexibility (reduce energy costs, save carbon emissions etc). FlexLondon does this by bringing together energy consumers with solution suppliers, helping suppliers to reduce the cost of finding new customers (a current challenge faced by this market) and by supporting consumers to buy flexibility solutions that benefit them. This will support the growth in business activity and the number of high value, good jobs in London.
- 1.6 Phase 1 of FlexLondon requires GLA expenditure and guidance (with external consultant support) to i) identify and map London's untapped flexible energy loads (energy demand), and ii) set up the FlexLondon Challenge (including challenge design, creating online data portal), establishing the mechanism to connect consumers flexible demand sites with solutions provided by suppliers.
- 1.7 Phase 2 is running the FlexLondon Challenge (up to twelve months), this will combine private investment (from energy consumers and solution providers) and additional sponsorship to run the challenge established during Phase 1. Should Phase 2 not progress (lack of investment), the project has been designed so that the Phase 1 standalone outputs represent value for money for the Mayor and GLA, forming part of the evidence base for delivering the London Environment Strategy.

#### **2. Objectives and expected outcomes**

- 2.1 By supporting FlexLondon, the Mayor will:
  - 1) Support and accelerate the use of innovative flexible energy solutions needed to unlock London's spare and valuable grid capacity.
  - 2) Provide London energy customers the opportunity to trial technologies and services that can benefit them, financially rewarding the flexibility they provide.

- 3) Achieve cost savings for the consumer (associated with avoided generation and energy infrastructure investment), and
- 4) Make London's grid more efficient (better matching supply and demand) and secure.

- 2.2 In addition, the project will support the Mayor's smart energy programme objectives to:
- Work with key stakeholders (including TFL, UKPN, BEIS and Ofgem) to design flexibility markets that encourage lower system-cost ways for London to balance its power networks and local energy markets, and improve utilisation of its network capacity;
  - Bring together groupings of innovation within the DER space to enable solutions that no one party would develop/find for itself, but could if encouraged and supported (by demonstration and/or future policy initiatives) lead to lower costs, reduced demand, saved emissions, new business value and jobs (including business support for London's SME technology and energy sectors).
  - Develop low-cost ways for the energy system to accommodate electrification of transport.
  - Explore flexible demand side solutions in Private, Social and Private Build-to-Rent accommodation which can help reduce owner and tenant energy costs, demand and fuel poverty.
- 2.3 FlexLondon aligns with the following Energy for London (EFL) objectives, policies and proposals in the LES:
- Decarbonise London's homes and workplaces while protecting the most vulnerable by tackling fuel poverty.
  - Develop clean and smart, integrated energy systems using local and renewable energy resources.
  - Planning for London's smart energy infrastructure.
  - Undertake demonstration projects and trials to improve London's energy systems.
  - Investigate the potential for further smart, flexible energy system demonstrators and pilots where Londoners can help manage demand.

### **3. Equality comments**

- 3.1 The GLA will ensure that barriers are removed that may prevent those with protected characteristics benefiting from the project. The project specification will require the consultant to identify those protected groups who could benefit, determine whether barriers exist and measures to remove those barriers. The consultants will estimate the numbers involved for each relevant characteristic. Phase 2 will evaluate the outcomes.

### **4. Other considerations**

- 4.1 The project relies on buy-in and sign-up to the project from additional stakeholders (some of whom have expressed an interest: TfL, BEIS, UKPN, National Grid, Energy Systems Catapult):
- Additional Lead Advisory Partner(s) to be signed-up during Stage 1 (TfL, UKPN, one or more energy innovation agencies) for direction on flexibility needs in London, and as a source of introductions to other energy demand site stakeholders.
  - Stakeholders – public and private owners (or influencers) of significant amounts of energy demand and potentially controllable loads (now or in future). To be mapped and signed up for data provision in phase 1, and subscribe to the FlexLondon challenge in phase 2.
- 4.2 TfL Commercial will be engaged to manage the procurement process (three quotes).

## 5. Financial comments

- 5.1 Assistant Director's approval is sought for expenditure of £40,000 for consultancy services to map London's 'flexible' energy capacity, identify projects to accelerate and design the Phase 2 project that could lead toward solutions with potential to meet 10 per cent of peak demand (1 GWe) through flexible solutions. This is phase 1 of the project and is expected to be delivered by April 2018.
- 5.2 Expenditure up to £40,000 is to be funded from the Smart Energy budget under Energy Supply within the Environment Team.
- 5.3 The budget for Phase 2 is expected to be up to £100,000. This will come from private investment (from energy consumers and solution providers) and additional sponsorship.

## 6. Planned delivery approach and next steps

Activity	Timeline
Procurement of contract	January '18'
Delivery Start Date	February '18'
Demand mapping and challenge preparation (phase 1)	February – April '18'
Phase 1 delivery end date	April '18'

**Appendices and supporting papers: None**

**Public access to information**

Information in this form (Part 1) is subject to the Freedom of Information Act 2000 (FOI Act) 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 approval or on the defer date.

**Part 1 Deferral:**

**Is the publication of Part 1 of this approval to be deferred? YES**

Please defer publication until the procurement process is concluded, to avoid jeopardising the GLA's ability to select the best service and ensure value for money.

Until what date: 31/01/2018

**Part 2 Confidentiality:** Only the facts or advice considered to be exempt from disclosure under the FOI Act should be 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:**

Rick Curtis has drafted this report in accordance with GLA procedures and confirms that the Finance and –if relevant- Legal teams have commented on this proposal as required, and this decision reflects their comments.

**Corporate Investment Board:**

The Corporate Investment Board reviewed this proposal on 8 January 2018.

**HEAD OF FINANCE AND GOVERNANCE:**

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

**Signature:**



**Date:**

08-01-18

