

GREATER LONDON AUTHORITY

REQUEST FOR ASSISTANT DIRECTOR DECISION – ADD2283

Title: Energy Efficiency and Cooling Follow on Research

Executive Summary:

The London Environment Strategy, with its carbon budgets and zero carbon pathway, form a Paris compliant climate action plan for London. This ensures London is doing its bit to keep our climate below 1.5 degrees warming above pre-industrial levels. This pathway was informed by modelling by Arup which looked at the speed and cost of improving the energy efficiency of London's buildings. Element Energy were commissioned to combine the central results of this energy efficiency modelling with data from the Mayor's Transport Strategy and develop an overall energy system models for London. Both parts of this modelling (Arup's energy efficiency and Element Energy's energy system model) were procured and funded directly by C40 Cities.

During this modelling two areas were identified by the GLA and external stakeholders (including UK Power Networks, National Grid and TfL) to be worthy of further research:

- The impacts on our carbon targets of achieving lower levels of energy efficiency
- The impacts on our targets of increased demand for power for cooling, due to hotter summers.

In view of their development of the energy system model and supporting models, it is proposed to contract Element Energy to investigate these additional areas. The additional research would provide more robust results and evidence to support our zero carbon policies.

Decision:

That the Assistant Director of Environment approves:

1. Expenditure up to £21,700 from the Zero Carbon Policy Team budget on the following;
 - £10,000 to Element Energy to complete a re-run of their modelled scenarios with a lower energy efficiency uptake, to determine the carbon, cost and electricity grid impacts;
 - Up to £11,700 for Element Energy to investigate the impacts of a higher cooling energy demand for the modelled scenarios; and
2. A related exemption from requirement of the GLA's Contracts and Funding Code to procure such services competitively and to commission the above services from Element Energy This is on the basis that this is a continuation of existing work that cannot be separated due to Element's detailed knowledge and ownership of the models.

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:

5/11/2018

PART I - NON-CONFIDENTIAL FACTS AND ADVICE

Decision required – supporting report

1. Introduction and background

- 1.1. London was one of seven pilot cities to develop a Paris compliant Climate Action Plan with C40 support. These pilots will help C40 to develop its Climate Action Planning Framework further so that the support can be rolled out to other cities internationally. Under the framework, London received support from C40 to commission research across four work packages which covered:
 - London's powers to deliver carbon reductions and adapt to climate change;
 - A central energy efficiency deployment pathway that could be achieved if policy effort is focused, recognising the important of energy demand. This scenario is ambitious given cuts to national policies and programmes;
 - Energy systems pathway modelling scenarios for 2050 zero carbon energy systems. This considered the costs at a building, network and consumer level (ie for fuel and energy bills) associated with different pathways and the overall impact on local network electricity infrastructure down to the substation level; and
 - Work on climate change impacts and adaptation to create a consolidated and up to date assessment of climate risks which can be used for future adaptation policy development.
- 1.2. Each package was carried out by separate consultants although there is significant overlap between them, particularly the energy efficiency and energy systems work.
- 1.3. Element Energy carried out the energy systems scenario modelling mentioned in paragraph 1.1. This involved designing the scenarios and uptake rates of scenarios. Element have previously developed detailed models to assess district heat supply and demand and peak demand growth and therefore network upgrade requirements. These were developed for London as part of the London Energy Plan. The peak demand model is built upon information that Element receives from the network operator as part of the building and management of their load growth forecast model. Element then built a London wide model (the energy systems model) to collate costs, carbon and energy demand of each scenario and produced a detailed report on results.
- 1.4. These work packages ensured we could set a zero carbon pathway, develop associated carbon budgets and a Paris compliant climate action plan for London. The outputs of the energy systems research were used to finalise the London Environment Strategy and also provide evidence to support the draft London Plan. We also intend to summarise the research in a Climate Action Plan to be launched in November 2018 to coincide with the 10th anniversary of the Climate Change Act.
- 1.5. However, two key questions remained at the end of the energy systems pathway modelling:
 - What if improvements to the energy efficiency of the building stock are slower than under the central scenario developed by Arup and used in the energy systems modelling?
 - What happens to summer electricity demand should temperatures continue to rise and there is a significant shift to air conditioning, notably in the domestic sector where it is currently extremely rare?
- 1.6. To look at these two questions, Element Energy is able to rerun the models it developed for the energy systems analysis. They have quoted £21,700 + VAT for the work. This is the only additional modelling we anticipate conducting in the near term based on the C40 work packages.

- 1.7. This request therefore also seeks approval for an exemption from the requirement in the GLA Contracts and Funding Code to procure services competitively (i.e. approval of a single source exemption) on the basis of their previous involvement in this project. This is a continuation of existing work that cannot be separated from it. Element Energy also won the original work in a competitive tender based on their expertise, which includes building and continued involvement with UKPN's load forecasting model.

2. Objectives and expected outcomes

- 2.1. This modelling would provide us with a new scenario in which lower levels of energy efficiency improvements take place across London to 2050. This would enable us to quantify the importance of concerted action on energy efficiency in meeting our carbon reduction targets.
- 2.2. The additional modelling would also provide us with a more detailed understanding of the impacts on the electricity network associated with a more marked increase in demand for cooling as our summers get hotter. Both pieces of work would rely on changes to existing models. Element would then produce a short standalone report on the energy efficiency and cooling sensitivity analysis.
- 2.3. The GLA is hoping to launch its Climate Action Plan in November. These results will significantly improve the robustness of the Climate Action Plan by quantifying the carbon impacts associated with slower uptake of energy efficiency measures and grid impacts of additional summer cooling. The outcomes from the work will be used to strengthen our case for further energy efficiency programs in London and help our development of strategies to reduce and mitigate overheating in a changing climate.

3. Equality comments

- 3.1. Under Section 149 of the Equality Act 2010, as a public authority, the GLA must have 'due regard' of the need to:
- Eliminate unlawful discrimination, harassment and victimisation; and
 - Advance equality of opportunity and foster good relations between people who have a protected characteristic and those who do not.
- 3.2. The work will add to the body of evidence for London's carbon reduction plans. It could also be used to develop policies on tackling fuel poverty and overheating, both of which disproportionately affect people with existing medical and mobility problems, on low incomes and living in poor housing.
- 3.3. Element Energy will be required to take equality considerations into account as part of the project.

4. Other considerations

- 4.1. This work will directly help the zero carbon ambition and strengthen our ability to influence and share our learnings from the existing C40 modelling work.
- 4.2. There is a risk that this extra modelling work will still not achieve our aims in either driving action inside or outside London to the zero carbon future. However, our existing modelling has already been well received by the boroughs and other key stakeholders, such as UKPN. We think that this modelling will strengthen our case with these stakeholders and therefore be a worthwhile addition to the existing work.

- 4.3. We will not require any additional sensitive data so there are no GDPR considerations and we will not directly engage with Londoners.

5. Financial comments

- 5.1. Assistant Director's approval is sought for expenditure up to £21,700 for the following;
- £10,000 to Element Energy to complete a re-run of their modelled scenarios, with a higher energy demand (lower energy efficiency uptake), to determine the carbon, cost and electricity grid impacts; and;
 - up to £11,700 for Element Energy to investigate the impacts of a higher cooling energy demand for the modelled scenarios.
- 5.2. The cost of this is to be funded from Environment team's 2018-19 Zero Carbon Policy budget.

6. Legal comments

- 6.1 The foregoing sections of this report indicate that:
- (a) The decisions requested of the assistant 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 GLA'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 assistant 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 assistant director should have particular regard to section 3 (above) of this report.
- 6.3 The GLA Contracts and Funding Code (the "**Code**") requires the GLA to either seek a call-off from a suitable framework or, if not, undertake a formal tender process which will be managed by TfL in respect of the services. However, the assistant director may approve an exemption from this requirement under section 10 of the Code. The officers have set out at paragraph 1.6 of this report the reasons why they believe this meets the exemption. On this basis the assistant 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 GLA and Element Energy before the commencement of the required services.

7. Planned delivery approach and next steps

Activity	Timeline
Entering into contract with Element Energy	Nov 2018
Main milestones	Kick off November Energy efficiency modelling completed end Nov Cooling modelling completed 7 th December Reports delivered 21 st December
Delivery End Date	21 st December

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:

Clare Silcock 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 5 November 2018.

ASSISTANT DIRECTOR OF FINANCE AND GOVERNANCE:

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

Signature



Date

05.11.18