



LONDON FIRE BRIGADE

Report title

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## **Purchase of Replacement Cooking Equipment and Appliance Bay Heaters – Decarbonisation of LFC Estate**

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Report to

Corporate Services Directorate Board  
Commissioner's Board  
Deputy Mayor's Fire and Resilience Board  
London Fire Commissioner

Date

7 December 2021  
14 December 2021  
18 January 2022

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Report classification:

**For Decision**

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The subject matter of this report deals with the following LFC strategic priorities:

### **Seizing the future**

The Mayor of London has committed to London to be a net zero carbon city by 2030 highlighting the urgency and the importance of the Greater London Authority (GLA) group leading by example. The LFC proposes to adopt the UK Green Building Council's (UKGBC) definition of zero carbon, which defines net zero operational carbon as: *'When the amount of carbon dioxide emissions associated with a building's operational energy on an annual basis is zero or negative. Using the World Green Building Council's definition, a net zero operational carbon building' is highly energy efficient and fully powered from on-site and/or off-site renewable energy sources and offsets.'* To meet this objective investment is required to enable the removal of gas from the estate and pilot projects to determine the ability to retrofit stations to enable the use of renewable energy.

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Report number – LFC – 0641

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For Publication

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**PART I - NON-CONFIDENTIAL FACTS AND ADVICE TO THE DECISION-MAKER**

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I agree the recommended decision below.



**Andy Roe**  
London Fire Commissioner

Date

This decision was signed  
remotely on the 21 March 2022

## Executive Summary

By 2023 London Fire Commissioner (LFC) will have met the 2018 decarbonisation target as stated in LFC report LFC-0256. The revised target is carbon net zero by 2030 in accordance with the UK Green Building Council definition. This paper seeks approval to implement several key actions to enable LFC to achieve 28% reduction of the property emissions net zero target by 2030. This would require the estimated funding below to be delivered from within the current property capital programme and additional revenue funding from sustainability and development.

The recommended actions to decarbonise the estate in Part 1 are to replace gas cooking equipment and gas appliance bay heaters with electric models across 40 sites. These have been selected where no electrical capacity upgrade works is required.

It should be noted that further carbon reduction measures were previously approved including the reduction of carbon consumption by upgrading the building management system (BMS) and undertaking carbon literacy training.

### For the London Fire Commissioner

The London Fire Commissioner agrees to commit capital expenditure of up to the amount set out in the Part 2 report for the purposes of Carbon reduction across the LFC estate.

## 1. Introduction and background

- 1.1 The London Environment Strategy (LES) was published in May 2018 with the support of LFEPA (FEP 2797). This reinforced the existing group wide 60% reduction target and set the further carbon zero target. Following this, the Deputy Mayor for the Environment tasked each of the Functional Bodies to develop a strategy setting out how the 60% CO<sub>2</sub> reduction target for 2025 would be met along with the five-year carbon budgets introduced through the LES.

- 1.2 The LFC carbon reduction paper (LFC0256) confirms the plan to achieve a 70-tonne carbon reduction across the LFC estate by 2023. This project is on target and budget to deliver the recommendations.
- 1.3 In July 2021 the Mayor of London committed to London being to be a net zero carbon city by 2030 highlighting the urgency and the importance of the Greater London Authority (GLA) group leading by example. The LFC proposes to adopt the UK Green Building Council's (UKGBC) definition of zero carbon, which defines net zero operational carbon as: *'When the amount of carbon dioxide emissions associated with a building's operational energy on an annual basis is zero or negative. Using the World Green Building Council's definition, a net zero operational carbon building 'is highly energy efficient and fully powered from on-site and/or off-site renewable energy sources and offsets.'*
- 1.4 The LFC corporate performance indicators already include the CO<sub>2</sub> reduction target, which is reported annually. More detailed performance monitoring information, including progress against carbon budgets is captured through the Sustainable development annual report to the Commissioner's Board.

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

### **Carbon net zero stations**

- 2.1 A feasibility study detailing the requirements to create a carbon net zero fire station has been carried out. The study identifies the removal of gas burning equipment, water saving measures and identifies that retrofitting of LFC stations is the least expensive option for achieving carbon net zero when compared to new build. The data extrapolated to provide indicative costs and a high-level strategy for all fire stations that has been submitted to the GLA.
- 2.2 Achieving carbon net zero by 2030 will require LFC to remove gas dependency from the estate. It is anticipated that this will require significant electrical capacity upgrade works and this will be covered in the commissioned net zero strategy. The LFB estate is currently fitted predominately with gas cookers that require replacement as they are beyond their economic life.
- 2.3 40 premises have been identified to have adequate electrical capacity to replace the existing gas cookers with electric cookers. Additionally, 16 of these premises have adequate electrical capacity to replace the gas appliance bay heaters with electric space heaters. Electric cookers and heaters are already in use in the PFI (Private Finance Initiative) estates. The PFI estates comprises 9 stations that were designed, built and maintained by Blue 3 using funding under the government Private Finance Initiative. The Blue 3 contract runs for 28 years and forms a public/private partnership. Engagement has been undertaken with Stations to confirm there is no operational impact to these proposals.
- 2.4 The premises have been selected based on the size of the electrical supply and available electrical capacity. Fire stations are required to retain 20% spare electrical capacity and 80% diversity based on the approved standard station design brief. Gas cooking will need to remain in the remainder of the estate until the carbon strategy is developed as the present station electrical capacity is insufficient.

- 2.5 The additional benefit is removing gas cookers and appliance bay heaters improves air quality and reduces maintenance due to the lack of flue gases requiring ventilation.
- 2.6 Suggested moves away from carbon producing heating equipment have included hydrogen as a fuel. Hydrogen could be a renewable fuel however 98% of the hydrogen produced in the UK is manufactured from steam reformation of methane and the energy required to produce hydrogen from the renewable electrolysis process and then compress it for transport makes it about 60% efficient when compared to using electricity supplied by the national grid.
- 2.7 To support behavioural change LFB is undertaking a technology upgrade as there are recognised as having the potential to deliver savings of 5% or more. The new BMS (Building Management System) will enable the central optimisation of energy usage in combination with the LFC green champions programme which seeks to promote behavioural change.

### **3. Equality comments**

- 3.1 The LFC and the Deputy Mayor for Fire and Resilience are required to have due regard to the Public Sector Equality Duty (section 149 of the Equality Act 2010) when making decisions. This in broad terms involves understanding the potential impact of policy and decisions on different people, taking this into account and then evidencing how decisions were reached.
- 3.2 It is important to note that consideration of the Public Sector Equality Duty is not a one-off task. The duty must be fulfilled before taking a decision, at the time of taking a decision and after the decision has been taken.
- 3.3 The protected characteristics are: age, disability, gender reassignment, pregnancy and maternity, marriage and civil partnership (but only in respect of the requirements to have due regard to the need to eliminate discrimination), race (ethnic or national origins, colour or nationality), religion or belief (including lack of belief), sex and sexual orientation.
- 3.4 The Public Sector Equality Duty requires decision-takers in the exercise of all their functions to have due regard to the need of:
  - eliminate discrimination, harassment and victimisation and other prohibited conduct
  - advance equality of opportunity between people who share a relevant protected characteristic and persons who do not share it
  - foster good relations between people who share a relevant protected characteristic and persons who do not share it.
- 3.5 Having due regard to the need to advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to:
  - remove or minimise disadvantages suffered by persons who share a relevant protected characteristic where those disadvantages are connected to that characteristic
  - take steps to meet the needs of persons who share a relevant protected characteristic that are different from the needs of persons who do not share it
  - encourage persons who share a relevant protected characteristic to participate in public life or in any other activity in which participation by such persons is disproportionately low.

- 3.6 The steps involved in meeting the needs of disabled persons that are different from the needs of persons who are not disabled include, in particular, steps to take account of disabled persons' disabilities.
- 3.7 Having due regard to the need to foster good relations between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to:
- tackle prejudice
  - promote understanding.

#### **4 Collaboration**

- 4.1 The outline principles in the paper have been shared with the ENVIG chair. It was noted by the chair that she approves of LFC's decision to separate out the decarbonisation report into different papers, to concentrate on the immediate opportunities while continuing to explore a longer-term plan.

#### **5. Other Considerations**

##### *Workforce comments*

- 5.1 Given the significance of the targets and that the GLA has declared a climate emergency, it is intended that the strategy will receive a formal launch. A foreword to accompany the strategy will be drafted for the Commissioner and discussions will take place with the communications department and the GLA with regards to appropriate launch activity and press.

##### *Sustainability comments*

- 5.2 This report outlines LFC's carbon reduction plans, in accordance with the 2030 net zero targets set by the GLA.

##### *Procurement comments*

- 5.3 A collaborative framework agreement will be utilised to procure the replacement electric cookers and appliance bay heaters. The successful contractor will be expected to provide a dedicated project manager to deliver the programme of work and report to the Capital Delivery Team.
- 5.4 The new carbon zero strategy will be undertaken by the current energy management consultant through their contract with LFC to provide energy management and consultancy services. TEAM Energy provide regular reporting on consumption, cost, carbon emissions and renewable energy, and are familiar with all the buildings through site visits.

#### **6. Financial comments**

- 6.1 The majority of the gas cookers and heaters in the estate are past their expected economic life. In many cases they have faults including the pilot lights running continuously. The replacement of the assets and the pilot projects will be funded through the LFB Property Capital Programme.
- 6.2 Property already have approval within the capital programme to fund the amount requested. The profiling of spend will be adjusted across the years 2022/23 to 2024/25 and any changes

in this report will be shown in the capital monitoring report as part of the quarterly financial position.

6.2 The revenue impact of this programme has been considered. The whole life cost of the new assets will be lower than the gas equivalent. The cost associated with buying gas is expected to increase by more than 25% by 2030 and the carbon tax is expected to more than double to over £100 per tonne. This is aimed at moving gas from a low-cost fuel to a higher cost fuel and comparable to electricity.

## 7. General Counsel comments

7.1 Under section 9 of the Policing and Crime Act 2017, the London Fire Commissioner (the "Commissioner") is established as a corporation sole with the Mayor appointing the occupant of that office. Under section 327D of the GLA Act 1999, as amended by the Policing and Crime Act 2017, the Mayor may issue to the Commissioner specific or general directions as to the manner in which the holder of that office is to exercise his or her functions.

7.2 By direction dated 1 April 2018, the Mayor set out those matters, for which the Commissioner would require the prior approval of either the Mayor or the Deputy Mayor for Fire and Resilience (the "Deputy Mayor").

7.3 Paragraph (b) of Part 2 of the said direction requires the Commissioner to seek the prior approval of the Deputy Mayor before "[a] commitment to expenditure (capital or revenue) of £150,000 or above as identified in accordance with normal accounting practices..." hence that prior approval is sought by this report

7.4 Under section 351A of the GLA Act 1999 the Mayor is required to prepare and publish a London Environment Strategy. Under s373 of the GLA Act 1999 the Commissioner must have regard to the London Environment Strategy while exercising any function.

7.5 One of the core principles of the London Environment Strategy is that the Mayor and the GLA Group, including LFC, should lead by example in tackling environmental challenges. This Report detailing the move towards net zero is one such challenge to be met.

### List of Appendices

Appendix	Title	Open or confidential
1.	LFC-0256	Open

**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 – YES/NO**

**ORIGINATING OFFICER DECLARATION:**

Drafting officer to confirm the following (✓)

**Drafting officer**

Paul Cook has drafted this report and confirms the following:

Assistant Director/Head of Service

Laura Birnbaum has reviewed the documentation and is satisfied for it to be referred to Board for consideration.

Advice

The Finance and Legal teams have commented on this proposal.