

London Fire Brigade (LFB) – Carbon Net Zero (CNZ) – Provision of Increased Electrical Power at 55 Fire Stations

Report to:
Investment & Finance Board
Commissioner's Board
Deputy Mayor's Fire and Resilience Board

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Report by:
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Report classification:

For decision

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PART ONE

Non-confidential facts and advice to the decision-maker

Executive Summary

The Greater London Authority (GLA) and London Mayor have set a target of becoming carbon net zero by 2030. An essential enabler to achieve this is providing sufficient electrical capacity at fire stations and support premises. The London Fire Brigade (LFB) currently operates from 103 fire stations located throughout greater London. This report seeks authority for the London Fire Commissioner (LFC) to commit capital expenditure to commence a project to increase the electrical power provision at London's fire stations by providing individual electrical sub stations at selected fire stations. This project forms Pillar One of LFB's carbon net zero plans and will put in place the building blocks for LFB to become carbon net zero. The report sets out options with the preferred option three being to increase electrical power provision at 30 fire stations in phase 1 and a further 25 fire stations in phase 2. The report also sets out the staffing costs associated with this project. This project will begin during April 2024 and complete in 2028/29.

The increased electrical capacity will also enable the LFC to open fire stations to the other emergency services and Functional Bodies of the GLA to charge their future electric fleets.

For the Deputy Mayor

That the Deputy Mayor for Fire and Resilience authorises the London Fire Commissioner (LFC) to commit:

1. Capital expenditure of up to the amount set out in the Part Two report for the purposes of providing increased electrical power provision at 55 fire stations, by installing a dedicated electrical sub-station at each fire station and the required infrastructure.
2. Revenue expenditure on additional staff costs associated with this project, up to the amount set out in part two of the report.

For the London Fire Commissioner (LFC)

The LFC has considered the attached report and agrees that:

1. The Carbon Net Zero (CNZ) strategy requires pillar one opening the infrastructure before moving towards low carbon technologies. This includes increasing the electrical capacity provision across the LFC estate and enable the electrification of the LFC fleet by providing additional electric vehicle (EV) chargers. LFB intends to make these available to the functional bodies of the GLA to open the LFB infrastructure for collaboration.
2. Authority is delegated to the Assistant Director of Property and Technical Support Services (TSS) that expenditure can be committed in accordance with Part Two of this report.

In agreeing this decision, the LFC recognises that:

- A. This approval is for the first phase of CNZ pillar one only. The phase one selected sites have been chosen during the consultation process, with operations, fleet, and property. The sites are based on 'The priority crewing guide' formerly the degradation list of stations.
- B. That key aspects of the project are as follows:
 - i. The GLA and London Mayor have set a target for LFC to be carbon net zero by 2030 and the required electrical capacity to achieve this transition is currently not in place. This paper seeks the approval to request and install the additional electrical capacity from the national grid and distribution Network operators (DNO).
 - ii. The options being progressed to the next stage include risks and costs as detailed in the Strategic Business Case.

1. Introduction and background

- 1.1 The London Fire Brigade (LFB) currently operates from 103 fire stations located throughout greater London. The incoming electrical capacity at each station is on average 140 amps and to meet the carbon net zero targets this will need to be increased to an average of 800 amps. This is required primarily to charge electrical vehicles in LFB's operational fleet, but also the increased usage of electricity at fire stations.

- 1.2 The existing electrical supply is aligned to the current daily requirement and very little further electrical load can be placed on stations until incoming capacity is increased. The level of electrical increase required to decarbonise is significant as the planned future requirements of LFB are based on removing fossil fuels from the entire property and fleet portfolio. The proposed solution to replace the current gas and oil-based fuels is electricity. LFB would be procuring an individual electrical sub-station at each LFB fire station to provide the required electrical load capacity, the sub-station will be solely for LFB fire stations and will increase the electrical capacity by six times. This is required by property to decarbonise and by fleet to charge future electric vehicles. The increased electrical capacity will also enable LFB to provide electric vehicle charging to functional bodies of the GLA, which would open the infrastructure to functional bodies. This is pillar one of LFC's carbon Net Zero strategy and is a fundamental requirement to enable further workstreams to progress.
- 1.3 The required increase will mean that an electrical sub-station will be required at every fire station, to provide the necessary electrical power.
- 1.4 The objective of this paper is to provide the Brigade with an insight into the risks currently posed to the Brigade by the existing electrical capacity and infrastructure. The LFB's intention to become carbon net zero is not possible without increasing the electrical capacity or implementing additional resourcing and is a fundamental step in achieving LFC requirements. This has been outlined in both fleet and property's strategy documents.
- 1.5 Under the LFB purpose 'representing you' LFC will work with other organisation to provide a safer future for everyone and opening the infrastructure and becoming CNZ meets this challenge. Preventing climate change provides a safer future for everyone.

2. Objectives and Expected outcomes

- 2.1 A detailed Strategic Business case for the project is attached to this report and includes information on objectives, selection of options, costs, risks and plans for delivery.
- 2.2 The overall objective is to provide LFC with the electrical capacity to implement the Carbon Net Zero strategy and pillar one of the strategy includes this objective and opening the infrastructure to functional bodies and to provide electric vehicle charging capacity.
- 2.3 The objectives set out for the project in the business case are as follows:
- **Estate objectives:** The objective of the opening infrastructure project would be to resolve the challenges highlighted by the shortage of available electrical power. Increasing the electrical capacity at stations will enable the Brigade to remove the dependency on greenhouse gas (GHG) burning equipment (boilers and cookers) and will provide additional Electric vehicle charge points (EVCP) this is required to achieve carbon net zero.
 - **Fleet Objectives:** Increasing the number of EVCP would provide robust operational readiness to respond to incidents. It would also permit other functional bodies to utilize the LFC electric vehicle charging infrastructure, as the requirement to implement an electric fleet becomes greater. The fleet de-

carbonisation strategy requires fleet to become fully electric and this will require LFB to have a suitably sized electrical infrastructure to support the charging requirements of heavy battery powered electric vehicles.

- **GLA objectives:** For London fire Brigade as a functional body to lead by example and adopt carbon net zero by 2030. Opening the infrastructure will also meet the GLA requirement:
 - The need for further electric vehicle charging infrastructure throughout London. As set out in the Mayor's Electric Vehicle Infrastructure Strategy (EVIS), Transport for London (TfL) estimates that London will need between 40,000 and 60,000 public charge points by 2030, with up to 4,000 of these being rapid. TfL estimates that a quarter of these rapid points could be located on GLA Group owned land, including land owned by all functional bodies.
 - The additional requirement for Metropolitan Police Service vehicles, London Ambulance Service (LAS) and TfL to access EV charging infrastructure.
 - GLA have a commitment to provide a network of electric vehicle charging points in London. The LFB additional electric vehicle charge points would meet the requirements of 'London's 2030 electric vehicle infrastructure strategy (appendix 3).
 - The Mayor's transport strategy 2022 revision includes the requirement for additional electric vehicle charging and infrastructure.
- **Delivery objectives:** Being deliverable by end 2030, being affordable for LFB, providing acceptable value for money overall.

2.4 The options for provision of LFC opening the infrastructure and increasing electrical capacity are a key requirement by 2030 to achieve carbon net zero and they are set out in the business case and fall into the following main categories:

Options: further detail of each option is contained in the attached business case.

- Base case - Do nothing and continue reduce carbon emissions using biofuel for the fleet and electrification of station heating only where possible. Does very little to mitigate the risks currently posed to the Brigade and have therefore been discounted as an unacceptable way to continue. Fleet investment currently the underspend from the Zero emissions pumping appliance 1 (ZEPA) project would not be unlocked by this option.
- Option two - Increase the power capacity at fire stations to accommodate the needs to de-carbonise the buildings. This option will meet the needs of property and removes the dependency on burning gas. This option will cost an estimated £4,000,000, however, it will not provide any electrical capacity for electric vehicle charging including the Zero Emission Pumping Appliance (ZEPA) and operational vehicles. Electric response cars and private cars are expected to increase in number and this option does not allow for this. Therefore, the LFC will need to continue with a fossil fuel powered fleet which may not be possible in the long term due to the phasing out of combustion engines. If this is adopted and then in later years option three is required, this would require the road is again excavated with further disruption.
- Option three (preferred option) - Electrical capacity is increased at 30 LFC premises to meet the needs of the zero-emission fleet and property requirements (phase

one). Following completion of this project the LFC would increase the electrical capacity at a further 25 stations (phase two). The Carbon Reduction team will then pause for evaluation for the remainder of the LFC estate and re-apply for approval for further expenditure based on the present market and environmental requirements. This preferred and recommended option is costed in part two.

- 2.5 The project order for option three identifies how stations will be selected based on the following criteria:
- Stations identified as critical from the target resourcing model briefing note and the priority crewing guide (previously degradation list),
 - Fleet and Operational Support Centre (OSC) for vehicle re-charging during operational readiness,
 - Privacy for all (PFA) completion,
 - Strategic sites including satellite HQ locations,
 - Availability of electrical power from the Distribution Network Operator (DNO).
- 2.6 **Benefits:** The delivery of Option three includes the requirement to increase electrical capacity at individual LFC premises by 600%. Providing the electrical infrastructure and staffing resource now allows the LFC to work towards gaining the additional funding that achieving carbon net zero requires. It also creates a stable operating platform for the ZEPA project as it expands and the on-going fleet de-carbonisation programme. LFB may be able to offer EV charging to the LAS and GLA functional bodies. We recommend this is phased into two phases with an environmental, technology and market conditions 'look to the future'. The second part will require further governance as this is not included in this paper. The stations with Diesel engine run vehicles (DERV) tanks will be held back until part two and the DERV tanks will be filled with HVO fuel. The phasing model will keep the electrification project moving at pace as funding is agreed.

3.0 Resourcing and expenditure

- 3.1 Resourcing costs and expenditure: The recommended option will need a multi-disciplinary team including location (surveyor) services, electrical engineering, and civil engineering works.
- 3.2 Delivery of these options will require incur internal staff-related costs of an additional E and G Grade posts, which will be permanent, as well as potential impact to resourcing levels of supporting functions such as Procurement who will be required to support specific carbon net zero projects. Progression through the next stage of the project will involve three main areas of expenditure and cost avoidance:
- Professional fees: the Carbon Reduction team would manage the entire project in house and therefore professional fees would be minimal.
 - LFB Project team: This would require the extra resourcing for the LFB Carbon Reduction team and the creation of a carbon reduction team function.
 - With additional resource LFB could identify the contestable elements of each Distribution Network Operator (DNO) project installation and identify cost avoidance measures for contestable works (civils and planning requirements) which can be procured independently to realise cost avoidance. This does require additional project

management and therefore staffing resource.

3.3 The preferred option three would require the following team:

FRS G role - one officer

FRS F role – one officer (already in the structure)

FRS E role – one officer

FRS D role – one officer (already in the structure)

3.4 A breakdown of the estimated cost for this work is provided in the Part two report.

3.5 The work to upgrade the 55 fire stations is expected to begin in 2024 and be completed by 2028/29. The project is in two parts with part one starting in 2024/25 and part two starting in 2028/29.

4. Equality comments

4.1 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 taking 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.

4.2 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.

4.3 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.

4.4 The Public Sector Equality Duty requires decision-takers in the exercise of all their functions, to have due regard to the need to:

- 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.

4.5 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.

- 4.6 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.
- 4.7 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.
- 4.8 An early-stage Equalities Impact Assessment has been undertaken indicating that the project will have a Low impact on equalities because there are no adverse impacts predicted at this stage. The EIA will continue to be developed during the next phase the project which will put staff consultation and equalities at the centre of the design process to ensure alignment with the provisions of the Equality Act 2010.

5. Other considerations

Workforce

- 5.1 Outside of the Carbon Reduction team resourcing this project will affect station staff whilst the electrical upgrade building works are taking place and some disruption may be experienced as the DNO dig extra trenches for electrical cabling that would be required. The management of this disruption will be under the control of LFB project team and to keep to a minimum with operational resilience being prioritised to ensure readiness. No stations will be required to close temporarily during the project.

Sustainability

- 5.2 One of the project's objectives is to deliver environmental sustainability – capital build options will be aiming for at least a Building Research Establishment Environmental Assessment Method (BREEAM) Excellent rating and sustainability will be built into consideration during the process of design and / or selection of buildings. The project team are working with LFB Sustainable Development team and will carry out the necessary Sustainability Impact Assessment during the next stage of the project.

Procurement

- 5.3 The current project team are working with Procurement and Commercial Department (Assets and Estates) on the development of a procurement strategy which is fully compliant with LFB Scheme of Governance and Standing Orders relating to procurement to ensure timely procurement of necessary services whilst providing sustainable and value for money solution.

Communications

- 5.4 The next phase of the project will involve the production of a developed design (RIBA Stage 3) and planning application.
- 5.5 The main focus of communications for this stage of the project will be with the future users and defining LFB corporate and individual department requirements of a new HQ. It is intended that a comprehensive workplace survey will be undertaken allowing all staff to contribute. In addition, focus groups will be formed to seek further information on user requirements. Equalities Support Groups will be engaged with.

- 5.6 Feedback from the staff engagement process will be used to directly inform the design process which will support new ways of working.
- 5.7 In the run-up to a planning application the correct levels of engagement with the local community will be considered very carefully based on advice from architects and planning consultants and engagement with the local planning authority.

6. Financial comments

- 5.1 Under part two of this report, commercially sensitive information is disclosed. This report recommends that capital expenditure for providing increased electrical power provision at 55 fire stations, as well as associated revenue expenditure, are agreed for the amounts set out in Part Two of this report.
- 6.1 As part of this the requirement for both feasibility funding and potential capital funding is set out in respect of option 3, the funding of increased electrical provision at 55 fire stations.
- 6.2 The budget as part of the feasibility will be contained as part of existing capital budgets.
- 6.3 In terms of longer-term capital costs, these will need to be incorporated into the future capital plan along with the associated financing of any such project once given approval and this will be developed throughout the budget setting process.
- 6.4 DNO organisations make a standing charge based on agreed supply capacity per KVA (kilovolt amp) and therefore upgrading from 69 KVA to 430 KVA will carry an extra cost per month. It is the intention however to hold the agreed supply capacity at current levels until it is required for use. The decision requested at this time refers to capital investment in the infrastructure. Further business case(s) will require to be submitted through appropriate governance for schemes that will ultimately use that infrastructure. Increased costs associated with higher electricity usage will need to be considered, along with any potential savings, as part of that process.
- 6.5 This will also have a significant impact on the revenue budget. Again, this will need to be incorporated into the budget setting process in terms of potential savings and investments required in order to deliver the preferred option. This is identified in table 5.2.4 of appendix two.
- 6.6 An application will be made to GLA green finance initiatives borrowing for the following. These schemes are designed to allow functional bodies to borrow funding at a lower rate than PWLB by at least 1%.
- The Green Finance Fund will initially be up to £500m and is loan finance provided by the GLA to the GLA Group and London boroughs at an interest rate that is cheaper than PWLB. The £90m of GLA grant funding has been split: £75m to subsidise the costs of finance offered by the Green Finance Fund and the £15m will be used to provide funding to develop the pipeline of projects, mainly through the Accelerators. So, the £75m will be used, internally by the GLA, to reduce the cost of finance from the GFF so that it is more competitive than PWLB, in a similar way to how the UKIB is setting up the cost of its finance.
 - The GLA has established a **Green Finance Fund** to support the GLA Group, London boroughs and the NHS Trusts by providing competitive, flexible finance to help accelerate the delivery of a range of environmental projects that are being delivered in pursuit of getting to net zero. This Green Finance Fund can provide a loan to the LFB to support the delivery of a project or a portfolio of projects that have been developed to support the LFB in getting to net zero. This finance, at below Public Works Loan Board (PWLB) rates, is available to the LFB as an organisation and will

need to be paid back by the LFB. Therefore, it will be for the LFB to decide from which of their budget streams it will be paid back from; for example, from the savings/revenues generated by the projects and/or another existing or new budget stream within the LFB and/or (least preferred) by the GLA top-slicing future budget that is being provided to the LFB. The finance being provided by the green finance Fund will be cheaper than borrowing from the PWLB.

7. Legal 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...".
- 7.4 The statutory basis for the actions proposed in this report is provided by sections 7 and 5A of the Fire and Rescue Services Act 2004 ("FRSA 2004"). Section 7 (2)(a) FRSA 2004 the Commissioner has the power to secure the provision of personnel, services and equipment necessary to efficiently meet all normal requirements for firefighting and section 5A allows the Commissioner to procure personnel, services and equipment they consider appropriate for purposes incidental or indirectly incidental to their functional purposes.

List of appendices

Appendix	Title	Open or confidential*
1	EIA	Open
2	London 2030 electric vehicle (EV) infrastructure strategy	Open
3	SIA	Open
4	List of 30 Fire Stations	Open

Part two confidentiality

Only the facts or advice considered to be exempt from disclosure under the FOI Act should be in the separate Part Two form, together with the legal rationale for non-publication.

Is there a Part Two form: YES

Originating officer declaration

Reporting officer to
confirm the following
by using 'x' in the box:

Reporting officer

Paul Cook has drafted this report and confirms the following:

1. Assistant Director/Head of Service

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

2. Advice

The Finance and Legal teams have commented on this proposal:

Karen Boother, on behalf of General Counsel (Head of Law and Monitoring Officer).

[Name] Financial Advisor, on behalf of the Chief Finance Officer.