

**To:** City Executive Board  
**Date:** 10 April 2019  
**Report of:** Transition Director  
**Title of Report:** Implementation of an Electric Vehicle Strategy with Associated Infrastructure to support Targeted Improvement of Air Quality

<b>Summary and recommendations</b>	
<b>Purpose of report:</b>	To propose entering into a collaboration agreement, in respect of an Innovate UK funded project that supports the City Council's plans for Electric Vehicle charging and associated infrastructure.
<b>Key decision:</b>	Yes
<b>Executive Board Member:</b>	Councillor Tom Hayes, Executive Board Member for Safer and Greener City.
<b>Corporate Priority:</b>	Vibrant and Sustainable Economy, Clean and Green Oxford
<b>Policy Framework:</b>	Corporate Plan and Budget. Low Emissions Strategy
<b>Recommendations:</b> That the City Executive Board resolves to:	
<ol style="list-style-type: none"> <li>1 <b>Grant</b> project approval for the Energy Superhub Oxford project and authorise officers to take appropriate steps to deliver the scheme;</li> <li>2 <b>Delegate</b> authority to the Transition Director, in consultation with the Heads of Finance and Law and Governance, to enter into a collaboration agreement with the Council's bid partners to secure the grant funding for the scheme from Innovate UK, to appoint the Council as the Accountable Body for the Scheme, and under which the Council would itself receive grant funding for the scheme; and</li> <li>3 <b>Delegate</b> authority to the Transition Director, in consultation with the Heads of Finance and Law and Governance, to negotiate and award any further contracts that are necessary for the successful delivery of the project</li> </ol>	

<b>Appendices</b>	
Appendix	Risk Register

## Introduction

1. As part of Oxford City Council's (OCC) journey to zero emissions and zero Carbon, OCC is a bid partner of a multi-million pound prototype project called the Energy Superhub Oxford, which has successfully secured £10.26m R&D funding from Innovate UK. OCC is to receive £1.62m, the total value of the project is circa £40m. The remaining funding is provided by Private Equity funding.
2. The Energy Superhub Oxford (ESO) is a multi-million pound prototype project. It is a collaboration of partners, providing installation of a large battery directly connected to a National Grid substation. The battery will use specific software to store and re-supply electricity back to the grid (the battery works by storing electricity at low demand and re-supplying at peak demand). This methodology will also be utilised to provide cheaper electricity for heat pump use. Direct cabling connection to the substation will bypass usual electric distribution network constraints, allowing provision of high electrical capacity for ultra-fast & rapid electric vehicle (EV) charging.

## Background

3. There is no safe level of air pollution. A 2016 report from the Royal College of Physicians and the Royal College of Paediatrics and Child Health found that outside air pollution – of which about 75% comes from road transportation – cuts short 40,000 lives a year in the UK.
4. Oxford has seen a large reduction in air pollution levels following the introduction of ultra-low emission buses, however there is further action to take on air pollution. Following 15 months of extensive consultation OCC and Oxfordshire County Council have set a journey to zero transport emissions in Oxford by publishing updated proposals for a Zero Emission Zone (ZEZ).
5. OCC has secured £3.25m in grant funding to enable practical implementation of the ZEZ: £1.7m to upgrade buses to be ultra-low emission or fully electric; £800,000 to install electric vehicle charging points for residents with on-street parking; £500,000 to install charging points for taxi owners and operators. Oxford has also received £474,000 of Government funding to introduce the world's first pop-up electric vehicle charging points.
6. In parallel, OCC should continue to lead on reducing carbon dioxide emissions. Scientific consensus has set out that globally there are fewer than 12 years to deliver the changes required according to the International Panel on Climate Change. Oxford aspires to be a less congested city with fewer vehicles on its roads, and more sustainable forms of getting around. With this project, we have strategically identified fleets that we seek to electrify including the council fleet, private vehicles, taxis and buses.
7. The project is due to start on April 1st 2019 for a period of 36 months (until end March 2022); the timing being subject to the lifting of a Government embargo on announcing the funding and completion of the project start-up process by Innovate UK.

8. Benefits from the project for OCC:

- a. Brings £1.15m capital funding to OCC for electric fleet replacement and associated chargers and will offer earlier opportunities for the council to trial and move to electrical fleet.
- b. Funding will also be used to work with a partner organisation to offer a 'Trial before you Buy' programme to support the local hackney carriage fleet for the move from fuel to electric (with the changes to emissions for electric taxis starting from 2020).
- c. Direct high capacity electrical cabling or upgraded electrical infrastructure will be provided to Council Depots (partner funded) to allow electric fleet to be charged.
- d. Funds the creation of the first Electric Vehicle 'Superhub' in Oxford, at Redbridge P&R, providing 20+ ultra-rapid EV chargers (c.10-30 min charge) for the public with low affordable tariffs for local residents, visitors, businesses and passers-by.
- e. Provision of dedicated charging services to the council and key businesses such as the bus companies.
- f. Use of a Battery and Optimal Trading Engine (OTE) to maximise local electrical supply (especially at peak demand) and the ability to store and re-supply local green energy being generated.
- g. It will build early capability at the Council and Oxford Direct Services (ODS) to be at the forefront of opportunities from the electric future and changes to our transport system. In the next five years OCC plans to upgrade a minimum of 60 vehicles to electric. Assuming an average battery size of 50kWh\*60, charging 20% of the vehicles at one time would require 600kW of electric supply. The supply we have at our depots currently ranges from around 69kW to 130 kW. These electrical supplies also need to provide for all the other building and operational requirements on site. The fleet could not therefore be charged without upgrading the existing supply.

9. The major role and challenges for OCC will include:

- a. Strategic engagement to meet project requirements for locations of chargers & cabling, with project partners, stakeholders and council colleagues.
- b. Project management of ESO funding: internal governance; partnership governance; collaborative support; reporting and evidencing claims.
- c. Purchase of electric vehicles as part of the fleet replacement programme and the associated charging infrastructure.
- d. Agreements for land use for the Superhub and cabling to be delivered to Depots.
- e. Contracts for infrastructure associated with the project (such as charging infrastructure, taxi trial etc.)
- f. Provision of Redbridge P&R as the location of the Electric Vehicle 'Superhub', alongside a number of other projects and constraints on the site.

- g. Purchase or other appropriate procurement of services to provide Hackney Carriage Drivers with the opportunity to trial electric taxis and support the move of all Hackney Taxi's in Oxford to ULEV by 2025.
  - h. Delivery of one stakeholder engagement event each year for three years.
  - i. Travel and presentation to dissemination events in the UK.
10. This report asks for confirmation that OCC will grant project approval, for OCC to enter into a Collaboration Agreement with project partners, enabling draw down of £1.62M of Innovate Funding and thereby delivering associated project outcomes itemised in this report.

### **Environmental & Sustainable Implications**

#### 11. De-carbonising ODS Fleet

The funding will co-fund investment in electric vehicles in our fleet-replacement programme, allow trial of new fleet entering the market and provide the associated charging infrastructure needed (and electrical capacity for charging).

#### 12. De-carbonising Taxi travel

The funding will help support the introduction of ultra-low emissions taxis to Oxford's hackney carriage fleet.

#### 13. Increase electric vehicle (EV) uptake

The 'Superhub' offers the first charging hub in Oxford with rapid electric vehicle charging for Oxford's residents, visitors and businesses. Part of the project strategy and a fundamental for grant approval is that the price points for charging from the ultra-rapid charging hub are low, thereby providing assurance for those wishing to invest in electric vehicles but concerned with charging infrastructure availability and the speed of payback from lower running costs

### **Human Resources Implications**

14. The project secures circa £200k of funding for OCC staffing to deliver the project outcomes. This project also offers the opportunity to increase the skills and capacity of officers to design future EV projects due to an increased understanding of current attitudes towards EVs and EV charging.

### **Developing commercial offer at ODS**

15. The project provides support for ODS (both financial and practical) to increase skills and expertise with servicing, testing and maintaining electric vehicles and charging infrastructure. There is also the opportunity for ODS Highways and Engineering and Building teams to tender for other elements of this project including heat pump installation, cable laying and maintenance of chargers (worth up to £10m).

## **Cost Reduction**

16. The provision of 10MWH electricity cabling supply infrastructure will help to reduce the future costs to upgrade existing networks to match capacity needed to charge fleet.

## **Financial implications**

17. OCC will receive £1,615,169 of funding from Innovate UK, this is 100% of the total cost of the project and broken down as per Table 1.
18. OCC will be appointed as the Accountable Body to Innovate UK for the £1.62M and as such will receive, and will be accountable for, the whole of the funding payable.
19. OCC is only accountable for the funding it receives from Innovate UK. It is not liable for any partner funding, whether sourced from Innovate or via Private Equity Funding.
20. Overall project costs will be controlled to be within the funding envelope provided by the grant and any contributions from partners or sub-contractors.
21. Grant costs are claimed in arrears at the end of each quarter. As the grant funding is claimed retrospectively, cash flow support and the setup of reserve budget accounts to receipt the funding will be required. The City Council's capital programme allows for purchases of electric vehicles used in the operation of building services, highways and engineering, streets and refuse and recycling in the sum of £1.6 million over the next four year period. The purchase of these vehicles by the Council will be part funded by this grant based on depreciation costs, over the lifetime of the vehicles (maximum 3 years).
22. Assets purchased by the grant funding must have a useable life of at least one year.
23. There will be a loss of an estimated £10k pa car parking revenue at Redbridge P&R for 20 spaces to be used for ultra-rapid charging.
24. Mitigations to the loss of car parking income and other factors to be taken into account include :
  - a. Rapid charging facilities are essential to support the Zero Emissions Zone and support OCC to meet its Air Quality and Carbon Reduction targets.
  - b. Short stop (10-30 minute charging) could drive income generating opportunities such as a café or other short stay retail opportunities.
  - c. There is also opportunity for income generation via marketing on chargers.
  - d. The 10MWH electric cabling required for the Superhub will negate costs for upgrading electric capacity in the future. Redbridge currently only has a 69KWH supply. (For example, at Seacourt P&R a recent estimate for upgrading capacity was over £50k).

Grant Breakdown (Table 1)

<b>Funding Type</b>	<b>Total to claim</b>	<b>Description</b>	<b>Financial Notes</b>
<b>Revenue Funding</b>	£ 455,931	Other Costs covered by Grant funding	Project management staff costs, Consultancy fees for Energy Systems Catapult, depot cabling works, travel, events and support measures to encourage EV uptake for Taxi drivers.
<b>Capital Funding (Fleet &amp; Taxi Trial Fleet)</b>	£ 1,159,688	For OCC electric fleet (such as refuse vehicle, sweeper, tippers, vans etc) and installation of associated chargers. Electric Taxi's for Taxi trial.	Grant will provide depreciation costs to be claimed (over 3 years).
<b>TOTAL</b>	<b>£ 1,615,168.80</b>		

**Governance**

25. The project has an Oxford-based Project Management Office (led by Pivot Power) to lead the overarching project management across all the partners. The OCC resource is solely to liaise with that PMO and coordinate/deliver the OCC parts of the project.

26. The project is a consortium of the following partners:

Consortium Partner	Position	Role in ESO
Pivot Power LLP	Project Lead	Cabling, EV hub, overall Project Management, Raising of Private Equity, Planning, Lithium Ion battery
Habitat Energy Ltd	Partner	Software & battery trading methodology
University of Oxford	Partner	Software
Oxford City Council	Partner	Fleet & Taxis
Kensa Contracting Ltd	Partner	Heat Pumps
RedT Energy (UK) Ltd	Partner	Pulse Battery

The overall collaboration for the project is a third-party led partnership, as a partner OCC will claim all payments directly from Innovate UK, it has no financial liability to other partners in the project.

27. As part of the permissions for the grant funding award. Innovate UK have stipulated the use of Energy Systems Catapult (ESC) to provide a Full System and Local Impact Assessment. The value of this contract is £159,852 and falls within the OCC grant funding remit. A procurement exemption from the Council's procurement rules will be sought to appoint ESC to this value.

28. Governance for the project will be via Prince 2 Methodology. The ESO Partnership will be governed via a Project Management Board led by Pivot Power. There is also a Project Management Group for Operational Delivery. Each partner (including OCC ) will have one representative for Board and Group.

**Legal issues**

29. Partners within the ESO organisation must sign up to a standard Collaboration Agreement to receive funding.

30. Contract documentation will need to ensure that any works that partners carry out on OCC land (i.e installing cabling etc), provide assurances to cover certification and proof that any infrastructure installed is safe and fully compliant with legislation.

31. Consideration of the State Aid position will be required, and the project will need to be structured in a way that ensures that the grant funding will not constitute unlawful State Aid. It is likely that the funding will fall within an operative General Block Exemption Regulation (GBER), but further consideration will be given to this point.

**Level of risk**

32. See Risk Register (Appendix)

**Equalities impact**

33. The scheme supports ultra-low emissions vehicle uptake by Hackney carriages operating in Oxford. The Council's current Hackney Carriage requirements have ensured that all such vehicles in operation are wheelchair accessible.

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**Background Papers: None**

