

VPACH Project Rationale: Appendix 1

Background

1. Electric Vehicles (EV) have no tailpipe emissions of CO₂ or the air pollutants which have a detrimental effect on human health. The London Mayor's Air Quality Strategy (MAQS) focuses specifically on improving air quality by setting tough new standards to put London on course to meet legal limits and drive long-term progress, and commits the Mayor to working with partners to put 100,000 electric vehicles on London's roads by 2020.
2. H&F Second Local Implementation Plan (2011-2031) commits to supporting the MAQS through Objective 4, which pledges 'To improve air quality in the borough'. H&F has announced a climate emergency and our business plan is committed to becoming the greenest borough in Britain. A key contributor to these targets is the promotion and support for EV ownership and use, supported by providing attractive charge point solutions for our residents that will directly benefit local air quality, reduce CO₂ and noise. By increasing the number of attractive on-street charge points in an efficient way will directly benefit many of our residents who do not have access to off-street parking.

Introduction to the VPACH Project

3. H&F is part of the exciting Virgin Media Park & Charge (VPACH) project to deliver residential EV charge points across the UK. The Project consortium is made up of key constituents of the residential charging value chain and includes a charge point operator Liberty Charge UK Sales Limited ("Liberty Charge").
4. VPACH will demonstrate at scale an innovative new approach to building on-street charging solutions for hard to address residential areas using the network assets of Virgin Media.
5. The Consortium collectively has secured over £3.5 million of funding from Innovate UK, of which £105,000 will cover all Council costs associated with the Project set-up over the 18-month duration of the Project.
6. H&F aims to build a fully scalable EV charging network to encourage greater EV uptake that will directly support the Council's aspirations to reduce the exposure of people to poor air quality, thereby supporting the Air Quality Action Plan. It is hoped VPACH can realise up to 50 charge points across the borough in 2021.
7. Work has already been carried out with Loughborough University's Transport Studies Institute undertaking geospatial planning and analysis to identify the most suitable locations in H&F and then overlaying forecast EV demand, grid constraints, infrastructure costs and network coverage data, to identify and predict areas of near-future charge point demand.

Project Rationale

8. The Project recognises that the economics for on-street residential charging are challenging. This Project is using Innovate UK grant funding to help de-risk early commercial deployment of infrastructure to encourage EV uptake.
9. In the short term VPACH will assist in growing our electric vehicle charge point network. In the longer term the project will provide a better understanding of latent demand and help plan future work, informing the application of a strategic, focused and cost-effective approach to delivery.
10. VPACH will use existing infrastructure to minimise street clutter, adding where necessary '*under the pavement*' infrastructure which is agnostic to '*above the pavement*' charge point hardware. This will enable the foundation for a variety of charge point operators to install their open source, fully integrated hardware systems that will minimise the installation of new street furniture. A further benefit of this will be to provide access to a high-speed data communication networks for charging apps, electric vehicle data offloading, and public Wi-Fi and IoT services such as pollution monitoring and parking management. It also futureproofs such deployments by re-using the same underlying infrastructure even if the '*above the pavement*' hardware evolves over time or H&F change their views on charge point operator selection.

11. The charge points to be installed will be a proxy for home charging for residents without access to off-street parking and will initially deploy around 50 charge points that wherever possible will be located close to existing EV owners.
12. Dedicated parking bays for electric vehicles only will be provided adjacent to all VPACH charge points and will operate 24/7 to maintain a good level of accessibility for EV. During the day they will be open to all users but with a maximum stay of 4 hours to ensure demand turnover. However, during evenings and overnight the charge points will be reserved for H&F parking permit holders only thereby protecting the charge points for H&F residents.

Selection of Liberty Charge to be on Consortium

13. Fundamental to the delivery of the Project is the Charge Point Operator (CPO). Their role is essential, as they will provide the physical charge point that connects to EV and charges the vehicle, the back-office operation of the charge point unit and the customer service element to residents.
14. Liberty Charge were selected as the preferred CPO.
15. Liberty Charge demonstrated that their overall UK strategy aligned with that of the VPACH project of providing on-street charging infrastructure at scale for residents, supported open platforms that allow for roaming (no subscription, membership is required), and they understand the risks of operating within this marketplace.
16. EU regulations have been considered and complied with including the Concession Regulations 2016 for the award of the Framework/Call-off contracts (if over c£4.5m). It can be confirmed that the estimated value for the framework Agreement between H&F and Liberty Charge will be below £4.5m, for all the estimated 50 charge points, so CCR 2016 does not apply.

Costs and Charges

17. The associated costs and charges of the Project are:
 - a. officer fees to set up the Project up to £105k will be fully reimbursed through the Innovate UK grant funding;
 - b. costs associated with the infrastructure including installation, operation and maintenance will be provided by Liberty Charge;
 - c. Liberty Charge are permitted to charge an agreed amount to service users and residents as described in paragraph 23 of this report; and
 - d. the Council shall receive a peppercorn rent of £1 per annum per charge point space, which may be renegotiated after two years of operation if KPIs are met with regard to charge point demand.
18. VPACH customers are not required to subscribe to the project or pay a membership but will incur a one off access fee per charging event. The charge points will provide 7kWh output with an electricity cost of 30p per kWh paid directly to Liberty Charge; these charges are considered competitive and cheaper than many other suppliers, as benchmarked below in **Table 1**.

Table 1 – Network price comparison to charge a BMW iX3 with 80kW battery from 10% - 80% charge.

Network and tariff	Monthly fee	Charge fee	Cost per unit	Total cost
Source London Flexi 7.4kW*	na	na	7.3p/min	£40.66
Source London Flexi 22kW*	na	na	13.3p/min	£38.79
Ionity 350kW	na	na	69p/kWh	£35.74
Source London PAYG 7.4kW	na	na	8.4p/min	£35.28
Source London Full 7.4kW	£4.00	na	5p/min	£25.00
Source London PAYG 22kW	na	na	15.7p/min	£22.18
BP Pulse Subs 150kW	£7.85	na	27p/kWh	£21.84
BP Pulse PAYG 150kW	na	na	42p/kWh	£21.76
BP Pulse PAYG Contactless	na	na	42p/kWh	£21.76

150kW				
Shell Recharge 43kW, 50kW	na	na	39p/kWh	£20.20
ESB subs London 50kW	£4.99	na	28p/kWh	£19.49
Source London Full 22kW	£4.00	na	10.9p/min	£19.40
Osprey 22kW to 50kW	na	na	36p/kWh	£18.65
Liberty Charge 11 to 22kW		£1.5	30p/kWh	£18.30
Insatvolt 50kW	na	na	35p/kWh	£18.13
Geniepoint London 43kW, 50kW	na	na	35p/kWh	£18.13
Geniepoint Rapid 43kW, 50kW	na	na	35p/kWh	£18.13
Geniepoint 7kW, 22kW	na	na	35p/kWh	£18.13
Carr.gy PAYG 7kW	na		33p/kWh	£17.09
Ubitricity M'ship 7.4kW	£7.99	19p	16p/kWh	£16.57
ESB Contactless London 50kW	na	50p	30p/kWh	£16.04
BP Pulse subs 50kW	£7.85	na	15p/kWh	£15.62
BP Pulse Contactless 50kW	na	na	30p/kWh	£15.54
Ecotricity 43kW, 50kW	na	na	30p/kWh	£15.54
ESB PAYG London 50kW	na	na	30p/kWh	£15.54
BP Pulse subs 7kW	£7.85	na	12p/kWh	£14.07
BP Pulse PAYG 50kW	na	na	25p/kWh	£12.95
Ubitricity PAYG 7.4kW	na	na	24p/kWh	£12.43
Pod Point 43kW, 50kW	na	na	23p/kWh	£11.91
BP Pulse PAYG 7kW	na	na	18p/kWh	£9.32

19. The Project will be closely monitored through the analysis of usage data and it has been agreed for inclusion in the contract that after two years of operation, if KPIs are met with regard to charge point demand, an additional cheaper tariff for the exclusive use by H&F residents will be introduced.