

To: Cabinet
Date: 21 July 2021
Report of: Head of Corporate Strategy
Title of Report: Oxford City Council EV Strategy

Summary and recommendations	
Purpose of report:	To seek approval to commission an EV Strategy
Key decision:	Yes
Cabinet Member:	Councillor Tom Hayes, Deputy Leader and Cabinet Member for Green Transport and Zero Carbon Oxford
Corporate Priority:	Zero Carbon Oxford
Policy Framework:	Council Strategy 2020-24
Recommendations: That Cabinet resolves to:	
<ol style="list-style-type: none"> 1. Approve the commissioning of Oxford City Council’s EV Strategy, which will set out the strategic framework for the delivery of EV infrastructure in line with the city’s 2040 net zero carbon target; and 2. Note the update provided on Oxford City Council’s EV Programme 	

Appendices	
Appendix 1	Risk Register
Appendix 2	Equalities Impact Assessment

Introduction and background

1. In response to rising concern about the urgent need for action, on 28 January 2019 Oxford City Council unanimously declared a climate emergency and provided for a Citizens’ Assembly on Climate Change. Oxford became the first UK city to hold a Citizens’ Assembly on Climate Change in September and October 2019.
2. 90% of the randomly selected representative sample of 50 Oxford residents that made up the Citizens’ Assembly responded to the key question asked of them and felt that Oxford should aim to achieve ‘net zero’ sooner than 2050. There

was also widespread belief that Oxford should be a leader in tackling the climate crisis.

3. Transport was a climate change-related theme that the Assembly considered on the basis that the Council has some control and influence. Assembly members were presented with visions of possible futures for Oxford, each listing a series of co-benefits and trade-offs. The Assembly opted for the most ambitious transport vision which represented the greatest change to the way people live now.
4. This vision was of a citywide Zero Emission Zone; discouragement of petrol/diesel vehicles in the city; 100% of buses and cars being electric; car club vehicles for every ten households; universally accessible electric vehicle charging; and the completion of 60% of journeys of less than 2 miles by bike or foot.
5. Alongside the qualitative evidence base for developing a zero-carbon transport system rests the assessment of greenhouse gas emissions generated across key sectors of the city completed by Oxford-based environmental consultancy Anthesis and commissioned by the City Council in 2019. 16% of total citywide emissions are caused by surface transport, with the largest contribution from road transport—including cars, vans, motorcycles, buses, and taxis. Transport is the second largest source of greenhouse gas emissions. The number of journeys made by car increased from 27,700 to 30,600 since 2001¹.
6. In February 2021, the Council launched the Zero Carbon Oxford Partnership of the city's largest institutions and employers, which agreed to a target of net zero carbon emissions as a whole for Oxford by 2040 or earlier. On behalf of the partnership, the Council commissioned the Carbon Trust and worked with its own Scientific Advisor on five-yearly emissions reductions targets and the changes needed to achieve these in each sector. This route map identifies that 25% of cars need to be electric by 2025, 80% by 2030, and 100% by 2035 to achieve agreed targets².
7. Fossil fuel transportation also contributes to air pollution and the reduction in public health that it produces. Since 2013 Oxford has reduced levels of NO₂ (the main pollutant of concern) by 26% but, since 2017, air pollution levels have plateaued, until falling in 2020 as a result of the dramatic fall in vehicle movements during the COVID pandemic. Pre-pandemic data on air pollution shows that there tend to be exceedances of the NO₂ annual mean limit value at six locations.
8. The latest Source Apportionment Study by Ricardo Energy & Environment (data gathered in December 2019, report published in July 2020), commissioned by the Council, shows that the transport sector continues to be the largest contributor (68%) to total NO_x emissions in the city. The report identifies that diesel cars are the largest contributor to NO_x emissions (33%) in the city.

¹ Anthesis report for Oxford City Council 2019

https://www.oxford.gov.uk/news/article/1184/new_data_on_carbon_emissions_in_oxford

² Department for Transport statistics show 837 ultra-low emission vehicles (ULEVs) were licensed in Oxford at the end of last year – 211 more than at the end of 2019, when there were 626. The figures include battery electric, plug-in hybrid electric, and fuel cell electric vehicles. Of the additions, the vast majority were registered to private keepers, while nine were to the addresses of local firms.

9. Earlier this year, Oxford City Council agreed a new local annual mean NO₂ target of 30 µg/m³ by 2025 as part of its Air Quality Action Plan, 2021-25. Oxford is the first UK local authority to set out a city-wide air pollution reduction target, and this “30 by 25” target goes beyond the legal targets set out by the UK Government of 40 µg/m³.
10. Oxford City Council and Oxfordshire County Council will introduce a Pilot Zero Emissions Zone (ZEZ) in the city centre in August 2021 to address air pollution and help to reach this target. Plans have also been set out for a city centre wide ZEZ in 2022/23. These measures, combined with the Council’s Local Plan, will further stimulate demand for EVs, which will help to reduce transportation emissions and improve air quality and support the 2040 zero carbon target.
11. In response to the recommendations of the Citizens’ Assembly, the Council also set out a commitment to become net zero and agreed its 4th Carbon Management Plan. Published in February 2021, the Plan commits the City Council to becoming zero carbon by 2030 or earlier, including for its fleet vehicles. Oxford Direct Services have a current target of the electrification of 25% of its fleet by 2023.
12. Electric vehicles will play a key part in improving air quality in the city in future, as well as significantly reducing carbon emissions associated with motorised transport. Oxfordshire already has the highest proportion of electric plug in hybrid or fully electric car sales in the UK, comprising around a quarter of car sales over the past year. Following significant lobbying, Government has now acted to bring forward the final date for sale of new petrol and diesel cars and vans to 2030.
13. Oxford City Council is already investing in EV charging infrastructure through its Go Ultra Low Oxford on-street and taxi-charging installations. It is also supporting the creation of The Energy Superhub Oxford (ESO) rapid charging facility at Redbridge Park & Ride which will see the UK’s largest public EV charging hub of 38 fast and ultra-rapid chargers. Given the rapidly rising demand for additional charging capacity, the rapidly changing technology and the increasing number of delivery models for implementing charging infrastructure, Oxford needs a comprehensive EV Strategy to guide decision-making on charging infrastructure installation.
14. Inclusivity is one important factor. Electric vehicles are more expensive than fossil-fuel powered vehicles, and so initially densities of EV take up are likely lower in more deprived areas. However, as the transition to EVs will cover all citizens, everyone will need access to electric charging.
15. The introduction of new infrastructure must also work for disabled EV drivers. As the city recovers from the pandemic, the Council has been working with partners to ensure equal access to the city for disabled people through the Inclusive Transport and Movement Group. This will be an important stakeholder to engage over the introduction of new EV infrastructure.
16. While playing an important role in emissions reduction, the Council recognises that Electric Vehicles are not a panacea. Everyone has the right to move anywhere, anytime, yet traffic is an issue in the city and the Council is already committed to schemes to cut congestion, including Connecting Oxford and policies for car free developments in its Local Plan 2036. The private car has historically enjoyed a near-monopoly of the transportation network. The Council is committed to bringing about a balanced road network which is open, safe, and

accessible to all road users, so that all citizens can move around their own city in their own preferred modality as easily as possible. This will require the redistribution of Oxford's road space to users of other vehicle types than the private car, which can slow the growth in predicted car use and enable infrastructure to increase the numbers of citizens getting around by cycling, walking, and bus.

17. As such, the Council seeks a reduction of private car ownership and use wherever feasible, and this extends to electric vehicles as well as fossil fuel vehicles.
18. This EV strategy seeks to identify an optimal way for ensuring those who need to drive cars – where cycling, walking or the use of buses is not practicable - are supported to do so in zero emitting vehicles.
19. The full transition to electric vehicles (EVs), significant reduction in car ownership and private car use, and a greater shift to active and bus travel, will be among some of the actions to achieve Oxford's zero carbon transportation and air quality targets.

Supporting the transition to EVs in Oxford

20. In addition to the imperative to clean up dirty air and reduce carbon emissions which contribute to climate change, and the need to create an inclusive transport network, the Council has reasons to develop an EV strategy:
21. To support the drive to reach net zero carbon emissions by 2050, the UK government has set out its ambitions for all new cars to be electric by 2030. Oxford is recognised as a city of early EV adopters and charging capacity will need to meet rising demand.
22. Oxford is a leading EV centre as home to the University of Oxford, which houses research centres with world-leading expertise in EV and battery production, energy and future mobilities systems at the School of Geography and the Environment and the Department of Engineering Science. The Energy and Power Group are experts in the impact of EVs on the grid. The Transport Studies Unit (TSU) has expertise in understanding EV driving and charging patterns. Oxford Brookes University has a Sustainable Vehicle Engineering Centre which is training the next generation of EV engineers, with strong links to the county's motorsports and vehicle industries.
23. Williams Advanced Engineering, based in Oxfordshire, creates high-performance batteries in the Formula E programme at the cutting edge of battery performance and management. Oxford is home to the BMW MINI plant, where the all-electric MINI is being built for UK and European markets.
24. Oxfordshire's Faraday Institution on Harwell Campus is the independent institute for electrochemical energy storage science, research, and technology. The Institute and Oxford University are leading projects which could revolutionise the way EV batteries are manufactured.
25. Oxford has been home to the global EV Summit for several years and the City Council is a hosting partner.
26. Oxfordshire is likely to have faster growth in EV sales than the national average, with University of Oxford research predicting EV sales as likely to reach approximately 90% of new vehicle sales by 2025 and 100% before 2030 (these

figures have yet to be updated to factor in the new end of ICE sales in 2030).³ In absolute numbers, by 2025 we could see up to 40,000 EVs on Oxfordshire's roads and 100,000 by 2035. At the end of August 2020, there were 4,381 ultra-low emissions vehicles (ULEVs) in Oxfordshire⁴, 2,200 of which were pure Battery Electric Vehicles.⁵

27. The availability of the most suitable charging infrastructure is essential to support the migration to EV use. Public EV charging infrastructure in Oxford cannot be allowed to fall behind and limit the forecast speed of change. Necessarily the public EV charging market is changing, entering a growth phase after completing the seeding and consolidation stages, and the City Council has to facilitate this growth locally.
28. Everyone has the right to move anywhere, anytime. Thousands of citizens and drivers will soon depend on electric car infrastructure to exercise that right. The City Council has been receiving regular requests for the installation of local EV chargers from householders and businesses, directly and via elected members.
29. To meet this rising demand, the city's public EV charging infrastructure has to be:
 - a. prolific and fairly distributed across Oxford
 - b. fully accessible
 - c. simple and easy to both pay for and use
 - d. competitively priced
 - e. reliable and fully maintained
 - f. capable of quickly charging a vehicle to the desired level, and
 - g. a vehicle for inclusivity and unobstructive to those making use of pavements.
 - h. systematically and inclusively introduced
30. Oxford City Council has been responding to this challenge:
 - a. The Energy Superhub Oxford (ESO) rapid charging facility at Redbridge Park & Ride (constructed by Pivot Power, FastNed, Tesla, and other operators in partnership with Oxford City Council) will result in the UK's largest public EV charging hub of 38 fast and ultra-rapid chargers. ESO will see the installation of 10 x FastNed chargers with up to 300kW of power, capable of adding 300 miles of range in 20 minutes for up to hundreds of EVs per day, 16 x Gamma Energy chargers with 7-22kW of power, and 12 x 250kW Tesla Superchargers available for Tesla owners. It will deliver 100% renewable energy to EV users when it comes online in 2021.
 - b. Gamma Energy will install 10 chargers, 9 (7-22kW) and 1 (50kW) at Seacourt Park & Ride in 2021.
 - c. Oxford is a centre for EV charging innovation and the City Council is an active partner in a number of EV projects, including Go Ultra Low Onstreet

³ <https://epg.eng.ox.ac.uk/our-research/park-and-charge/>

⁴ [DfT, 2020](#)

⁵ ULEVs emit less than 75g of carbon dioxide (CO₂) from the tailpipe per km travelled; typically refers to battery electric, plug-in hybrid electric and fuel cell EVs.

(GULO-O), Go Ultra Low Taxi (GULO-T), as well as Energy Superhub Oxford (ESO).

- d. The GULO-O project aims to trial electric vehicle charging solutions to provide a solution to 'at home' charging for residents who do not have access to private off-street parking. Phase 1 of GULO-O saw the delivery of 42 chargers. The expected completion date for the project is March 2022.
- e. The GULO-T project is enabling the EV transition of the taxi trade. Phase 1 saw two rapid chargers installed in Manzil Way Gardens. Phase 2 is underway and must deliver six additional chargers to meet OLEV's grant conditions. The project is currently due to complete by November 2021.
- f. ODS is a lead partner to the GUL-E project alongside Oxfordshire County Council with OCC providing client and SME support. GUL-E builds on phase 1 of GULO-O where five "cable gullies" were installed as part of a pilot project. The idea of the gully is to install a channel (similar to Oxford's drainage channels) to allow residents to feed cables from a home charger, with both the charger and the gully self-funded by residents. If successful, a wider roll out is expected in 2022/23.
- g. With input by Oxford City Council officers and the portfolio holder, the County Council has agreed an EV Infrastructure Strategy (OEVIS), which provides a baseline on which the City Council can develop a comprehensive, location-specific Oxford EV Strategy and Implementation Plan. This strategy will build upon the work of the Oxfordshire strategy and officers will continue their successful joint working in this area. In addition the County Council's evidence base will provide essential information required to produce a strategy for Oxford.

Oxford City Council's EV Strategy

31. To accelerate the City Council's reduction of citywide air pollution and elimination of Oxford's contribution to climate change, and to support the right of citizens and businesses to move anywhere, anytime, Oxford's charging infrastructure must be excellent. Zero emissions mobility must be open to everyone, regardless of income and post code. To enable this Oxford City Council will commission an EV strategy.
32. The strategy will seek to answer the following questions:
 - a. What will be Oxford's charging needs in the future, so that the City Council can facilitate the provision of the right number and types of chargers, and what changes will the Council need to make to provide sufficient charging capacity?
 - b. What does "fair access to charging" mean for Oxford, and how can the City Council maximise fairness and equity in public charging provision? How could the design and location of charging points provide equal access for physically impaired residents and not disable drivers when charging their EV?

- c. How can the council ensure that its interventions meet the needs of all current and potential EV users, in particular where the market cannot deliver all of the Council's social and economic goals alone?
 - d. How will the financial cost of any interventions by the Council be covered and what levels of risk will we afford to meet the needs of citizens at an early stage?
 - e. How do we keep pace with or de-risk rapid changes in EV charging to ensure the city will not be left stranded with the wrong or redundant technologies? What are the funding/income stream challenges of delivering EV chargers at a time when there are risks around delivery?
 - f. What is within the Council's control and influence in relation to EV charging, and what types of role should the Council adopt?
 - g. How can the Council help to determine this fledgling and rapidly developing market, so that it behaves with our preferred market and consume standards and innovates new business solutions based on our values?
 - h. What are the funding/income stream opportunities and possible gains for the Council working in partnership with others, including ODS, and could there be a direct application of the Oxford Model and Owned by Oxford community wealth building approaches to the development of Oxford's EV strategy?
33. The strategy will seek input from industry and subject matter experts, including on the accessibility of EV charging, and provide clear next steps for the next five years in the form of an implementation plan. Once completed the Council will seek wider public and business consultation. Given the rapid changes in technology and Government policy in this area, the strategy will be iterative and subject to annual review and, if necessary, update.
34. The strategy will assess the Council's vision and approach in relation to:
- a. On-street residential charging: An estimated 40% of Oxford's households park on-street, with limited or no access to home charging. The strategy will substantiate this figure and seek the optimum charging solutions for Oxford's residents.
 - b. Destination charging: This includes public car parks, shopping centres and leisure centres. It will include consideration of demand from visitors and overnight charging for residents without a driveway.
 - c. Charging on City Council land: This includes car parks, depots, offices, and other locations in the city.

- d. Workplace charging/ other landowners: This will consider demand from fleet, employees, and the public.
- e. New developments: This will consider the best approach to delivery of the Council's Local Plan policy M4 requirement that car parking spaces should be EV ready in residential and non-residential developments.
- f. En-route charging: Including rapid and ultra-rapid charging along the strategic road network, via projects such as Energy Superhub Oxford.
- g. Charging for car clubs: Oxford is a prime location for car clubs, which can reduce private car ownership and usage, and further Oxford's values in relation to the development of social enterprises and co-operatives.
- h. Taxi charging: Oxford is host to Go Ultra Low Taxi, providing EV charging for the taxi trade. Under the Zero Emission Zone plans, Hackney Carriage Taxis will have to phase to zero emissions vehicles between 2020 and 2025.
- i. Vulnerable drivers: Residents with specific needs in regard to safety (women using overnight hubs, drivers with mobility needs) and residents who use a vehicle parked at home for work care workers, small traders, delivery drivers, private hire taxi operators etc.

35. The strategy will provide an assessment of the following in order to inform Oxford City Council's approach:

- a. The national and regional policy context, and likely developments
- b. National and local research and evaluations about accessible EV charging
- c. Local policy commitments and constraints
- d. Financial opportunities, risks, and procurement options
- e. Technology development
- f. Market development
- g. Demand and supply projections, charging requirements and potential locations
- h. Fair access to charging infrastructure and potential solutions
- i. Distribution network availability

36. The strategy will be completed by March 2022.

Carbon and environmental considerations

37. This proposed strategy complies with Oxford City Council's policies and commitments relating to carbon reduction and safeguarding the environment. The strategy brings us closer to our commitment to becoming a Zero Carbon Council by 2030 or earlier and Zero Carbon Oxford by 2040 or earlier by supporting a strategy for EV charging. A coherent roll out of EV charging for citizens and businesses means that more people will be able to migrate to using EVs away from petrol and diesel vehicles. Air quality will be improved with an increased use of EVs within the city. However, it should be noted that particulate matter (PM) emanating from braking systems, tyres road surface wear and road dust suspension are also produced by EVs. Ambient PM exposure is associated with health harms and premature mortality.

38. Negative impacts will be mitigated by having a coherent strategy to ensure that we do not roll out EV infrastructure that is not fit for purpose or quickly becomes obsolete. A comprehensive strategy will build confidence for all residence and stakeholders across the city and help with the behaviour changes that are needed if the city is to achieve its carbon reduction targets.

39. The EV Strategy will support the delivery of the following plans and strategies:

- a. The 4th Carbon Management Plan 2021 – 2030: The Strategy will support the development of a plan to decarbonise the City Council’s fleet vehicles.
- b. The Net Zero Oxford Action Plan: Net Zero by 2040 requires decarbonisation of road transport.
- c. The Council Strategy 2020 – 2024: Includes the priority to pursue a zero carbon Oxford
- d. Oxford Local Plan 2036: Includes commitments to provide EV infrastructure with new developments.
- e. Air Quality Action Plan 2021 – 2025: Requires the reduction in usage of fossil fuel cars in the city.

Financial implications

40. The City Council has submitted a funding bid for £50,000 from Project ESO. This has been approved by the Monitoring Officer’s at Innovate (waiting for final confirmation in writing from finance). This can cover the following costs: project management resource, officer input and external consultancy where needed. An oral update will be given at the meeting.

Legal issues

41. There are no legal implications.

Level of risk

42. Please refer to Appendix 1

Equalities impact

43. Refer to Appendix 2

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Background Papers: None

