



Cumberland
Council

Cumberland Electric Vehicle Strategy

2024 -2026



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1. Introduction and context

- 1.1 Cumberland Councils strategy for Electric Vehicles (EV) involves infrastructure development, incentive programs, public awareness campaigns, fleet electrification, collaboration with businesses, policy support, research and development, and integration with renewable energy.
- 1.2 The take up of electric vehicles is increasing rapidly as the choice and performance of EVs improves, supporting people's desire to shift to cleaner, more sustainable travel options, reduce carbon emissions and improve local air quality. This is driven by changes in legislation that will see the sale of new petrol and diesel cars banned from 2035 in the UK. The recent volatility in the cost of petrol and diesel, has further accelerated the transition away from the internal combustion engine (ICE).
- 1.3 In 2019, the government launched the Road to Zero Strategy which set an ambition for the sale of new conventional petrol and diesel cars and vans to end by 2040 and included measures to achieve its ambition for the majority of new cars and vans to be 100 per cent zero emission by 2040. Proposals have been strengthened with the ban on sale of new petrol and diesel cars now planned by the end of 2030, and hybrids from 2035.
- 1.4 Sales of electric vehicles have been on a steeply rising curve for the past few years and growth is projected to continue on this upward trajectory.

2018 - 15,510

2019 - 37,850

2020 - 108,205

2021 - 190,727

2022 - 267,203

2023 - 500,000 (projection)

(Source: Society of Motor Manufacturers and Traders)

'There could be around 10 million electric cars and vans that are regularly parked overnight on-street in the UK by 2050. They will all need to access charging solutions that are as convenient and affordable as possible, and that minimise the impact on the UK's electricity system. This will almost certainly be provided by a mix of charging solutions including some local on-street charging, some destination charging, some workplace charging and some rapid charging. Although there is insufficient evidence in 2022 to suggest a definitive optimum mix, even in 2050 there will be a clear need to (a) shift as much charging activity as possible into the off-peak to minimise the burden on the electricity system, and (b) to offer access to the lowest cost charging tariffs to consumers.'

HM Government: 'Taking charge - the electric vehicle infrastructure strategy', 2022)

2. Local government in Cumbria - roles and opportunities

- 2.1 The UK government's Electric Vehicle Infrastructure Strategy was published in March 2022 and sets out how the government plans to support the UK market to reach 300,000 public EV charge points by 2030.
- 2.2 A £450 million Local Electric Vehicle Infrastructure (LEVI) Fund will see local authorities able to bid for funding to help accelerate the rollout of EV hubs and on-street charging.
- 2.3 Alongside these funding opportunities and to help ensure councils are delivering adequate charging infrastructure, the government are also considering imposing a statutory duty on local authorities to plan and deliver for electric vehicle infrastructure.

2.4 In Cumbria the One Public Estate (OPE) initiative provides an umbrella body where local authorities, NHS, Police, NDA, Cumbria Tourism and LEP can develop strategic solutions across Cumbria. This approach may be unique in the country and the involvement of a wider grouping of public sector bodies adds a huge amount of momentum. Cumberland wants to support the local economy, either by helping to ensure that workers have access to charging stations near home or workplace (or both); and to ensure that the hugely important visitor economy is supported by provision of charge points at destinations. In Cumberland this may mean a remote car park, heavily used by people visiting a natural feature or attraction.



- 2.5 Many local authorities have now recognised the threat from climate change. Cumberland council through our draft Climate and Nature strategy 2024-2027 will :

Proactively engage in making Cumbria carbon neutral by 2037 whilst embedding adaption and recovering biodiversity, creating an abundance of thriving plants and wildlife.

- 2.6 Cumberland Council has included the following statement in the Council Plan regarding the climate emergency and low carbon alternatives.

The climate and environmental emergency will be at the forefront of our decision making and policy development. We will encourage others to do the same and set an example in using resources sustainably, looking for low carbon or carbon neutral alternatives in what we buy and how we work. Making a fair and just transition to a more sustainable Council and Cumberland.'

(Cumberland Council Plan, 2023-2027)

3. Strategy development

3.1 These principles are in line with the ambitions of all parties to tackle the climate emergency, decarbonise Cumberland, support the tourism economy and help residents to make the transition to EVs.

- The roll-out of new EV charging infrastructure would be spread across the whole of Cumberland
- Locations would be chosen to address specific needs, e.g. rural locations; dense residential; tourist hot-spots.
- As much external funding as possible would be drawn down to support the roll-out
- The public sector would minimise its exposure to risks from the expansion of infrastructure by entering into agreements with private sector suppliers..
- The roll-out would happen as rapidly as possible.

3.2 This strategy is intended to guide Cumberland Council's approach for the immediate/ medium term. It provides flexibility to increase the scope over time, pending changes arising from local government reorganisation. The phased approach also mitigates risk of investing in technology that can quickly become out of date when demand, although growing at pace, remains relatively low. Where it represents best value, the partners may work in partnership with private providers for mutual gain and to reduce any risk exposure.

4. Rationale

4.1 Cumberland is a large, sparsely populated area with a small number of urban centres and only one city, Carlisle. The geography of the area presents problems for anyone considering buying an electric car and to make that choice more realistic the Council is interested in four market sectors:

- Densely urban streets where residents have no access to private driveways for parking and recharging.
- Rural locations where the volume of demand is likely to be relatively low and therefore unattractive to commercial suppliers.
- Popular visitor destinations which may be located in remote countryside, but which see parking durations of several hours at a time (allowing good opportunities to recharge).
- Larger city and town centre car parks where commercial opportunities may be available.

- 4.2 The initial target was to provide a charge point within 5 minutes' walk of every home; however, there is some recognition that this may not be relevant in every case. Where this is not possible we will install charging points at public carparks / locations to enable residents to charge their vehicles at these locations as an alternative to their homes. In isolated situations where the installation of a charging point is not feasible alternative methods will be considered to allow residents to charge their vehicles.
- 4.3 The Council wishes to support the local tourism industry and recognise that many of Cumbria's 20 million annual visitors will soon be driving an electric vehicle and will require accessible charge points in all areas of the county, including Hadrian's Wall, national park and National Trust car parks, country parks and nature reserves, popular villages and attractions and the plethora of local provision (village hall car parks; 'beauty spot' car parks and the like).
- 4.4 Technology is changing and advancing rapidly and there is a need to make sure that public infrastructure has the ability to evolve and adapt in response to externally driven changes without burdening local taxpayers with additional costs in future years. This strategy will therefore be flexible and responsive to the rapidly changing external environment and will be reviewed annually.
- 4.5 The strategy will adopt a multi-strand approach:
- one will look at areas of dense housing where residents would be less likely to have private driveways in order to re-charge their vehicle;
 - another will concentrate on publicly accessible car parks in locations spread across the county and including places popular with visitors;
 - the third strand will look at the larger car parks which are likely to be of interest to commercial operators.
- 4.6 The strategy is intended to produce the following outcomes:
- Assist residents to make the switch to electric vehicles by provision of easily accessible charge points close to where they live
 - Increase the proportion of electric vehicles in the county as we approach the 2035 deadline for the phase-out of new ICE vehicles
 - A reduction in carbon dioxide emissions to help address the climate emergency
 - Better air quality and improved conditions in Cumberland's Air Quality Action Zones which are concentrated around major roads.
 - Support for the tourism industry which will need to show visitors that there is the infrastructure in place for them to recharge their EV while in the area.
 - Futureproofing for the county as a whole as the economy moves to decarbonise.

5. Forecasting ev uptake

- 5.1 In order to understand the latent demand for EV charge points across the county it is necessary to make forecasts of where that demand is likely to come from. Recent market trends are described earlier in this document but forecasting the future is less certain.
- 5.2 Some headline analysis was carried out by Cumbria Action for Sustainability (CAfS) in 2021 based on the population of the county; known rates of car ownership; projected EV registrations, and projected ratio of EVs to public charge points. CAfS projection suggested that there would need to be 6,400 public charge points in the county by 2030. Data from the national Climate Change Committee put the figure at a more conservative 2,100. At the time of the CAfS report there were 251, according to Zap-Map (May 2021). While this number is rising gradually, the rate of change is not fast enough to meet the level of projected demand.
- 5.3 Whichever projection is preferred, the stark fact is that we need to significantly accelerate the installation of public charge points across Cumberland if we are to meet our objectives above.

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HM Government: 'Taking charge - the electric vehicle infrastructure strategy', 2022)

6. Operating models

6.1 There are a number of different funding models and it is important that the most appropriate option for funding the scheme is used, taking into account grant funding opportunities available and looking long term to forecast potential returns on investment. Typical funding models include:

6.2 Own and operate: 100% investment from the Council, securing an income stream going forward.

The advantages of the 'own and operate' model above are that the council's fully in control of the project and keeps the income generated from the charge-points. Management and maintenance responsibilities mean that the liabilities remain with the owning body. There are no grey areas or opportunity for dispute over liabilities, revenue shares or any other matter.

Disadvantages include high initial investment costs for infrastructure setup, ongoing maintenance expenses, potential challenges for finding suitable locations. Additionally rapid technological advancements may render existing equipment obsolete

Risk of inadequate demand leading to underutilisation; most optimistic forecasts suggest that the pay-back period on the capital will be significant, anything from 8-15 years.

6.3 **Concession framework:** Shared investment model with shared revenue return for the partner.

Upfront costs, running costs and revenues are shared between the Council and a commercial supplier on the basis of a contract.

Advantages of this model include the sharing of upfront costs and maintenance liabilities. Local authorities especially are under financial pressure to control running costs so anything that can help in this regard will be welcomed.

- Private suppliers will usually have greater expertise
- find the most cost-effective solutions to any problems arising.
- knowledge of technical improvements and developments in the marketplace and will be well-placed to respond to change.
- Future-proofing of any installations.
- Responsive to the market

The disadvantages to the public sector partner are mainly in the area of financial returns, which will be reduced due to the maintenance burden falling to the private partner which has to be funded from charging revenues.

The council will regard the placing of EV infrastructure on their property as a non-cash contribution to the project. They will want assurances (in the terms of any contract) about the on-going liabilities and how these will be shared with the private partner. They will want clarity on the division of responsibilities between public and private partners and will want a clear exit strategy at the end of the contract. This may be a simple roll-forward if all parties are agreeable but it needs to be understood from the outset to avoid later problems.

Asset management is another 'heads of terms' matter that needs to be agreed - who owns the infrastructure including the software and therefore who is responsible for faults, breakages, equipment failure and customer support.

Finally, the concessionary approach needs openness in accounting for the revenue generated by the charge points and how it is distributed

6.4 Alternative model: Nil/low cost options providing small or no returns for the local authority partner.

If the objectives of the project are deemed to be social rather than economic an alternative model may be considered. The public body, as landowner, could choose to forego the revenue potential of EV infrastructure entirely, in favour of ensuring that access to charge points is spread evenly throughout the community.

This may be especially attractive in areas of high-density housing where EV owners do not have access to a private drive to allow recharging, or in rural areas where there is insufficient volume to stimulate private sector investment.

The landowner would typically pay the upfront costs of installation and enter into a contract with a private supplier to carry out all back-office and maintenance functions in return for being able to keep most or all of the receipts. Again the contract would need to be carefully drawn up to allow the owner to have some control over the cost of charging and for the supplier to have some security of tenure.

An agreement of this nature was the basis of the Charge My Street project in Cumbria and Durham which happened in 2019-2022. Charge My Street is a non-profit, community enterprise seeking to expand the availability of EV infrastructure in exactly those localities (high-density housing; scattered rural communities) described above.

6.5 Cumberland's Choice of operating model

We have considered the above options and the Council will progress with a concession model via a framework where the upfront costs, running costs and revenues are shared between the Council and a commercial supplier on the basis of a contract.

This has the advantages that the private suppliers have great expertise but they will also be responsible for the future maintenance costs. The disadvantage is that the financial returns will be reduced to the Council but this will be offset by the maintenance burden falling to the private partner. The concession model has been used by the majority of highway authorities and it is the preferred model from the Energy saving Trust who have been consulted on the draft strategy.

7. Proposed interventions

7.1 The Cumberland EV strategy envisages the following interventions, subject to funding being available:

a) **On-street charge points installed in dense, urban streets.**

May use streetlight columns or stand-alone EV charging bollards, depending on the street layout. Individual locations will be decided after consultation with residents and criteria will include highway and residents' parking considerations as well as suitability of available power supply.

The Highway Authority retains responsibility for all infrastructure on the highway and could make quick progress with this programme of work.

b) **Off-street locations including public car parks, private car parks to which the public have access and informal parking spaces on public or private land.**

Comprehensive lists of potential locations have been produced and will be evaluated according to a number of criteria, including:

- Ownership and tenure
- Location in relation to project objectives
- Availability of suitable electricity supply or the potential to connect to a suitable supply

c) **Larger public car parks**

In larger public car parks there may be commercial opportunities to partner with a private operator. Local authorities and public bodies such as the NHS are best placed to progress this programme of work.

d) **Destination car parks - visitor sites**

Places that attract car-parking by visitors predominantly. These may be in towns and villages and therefore well-supplied by existing services or, for example in the Lake District NP or along the Hadrian's Wall World Heritage Site corridor, may be in remote locations where power supply is inadequate



Charge point bollards at Portland Place, Carlisle

8. Overall considerations

- 8.1 Locations need to fit the overall objectives of the strategy, making the choice of transitioning to EV ownership less anxious for our residents and visitors. A simple desk assessment can help identify the most promising locations and a site-based exercise will confirm their viability.
- 8.2 The District Network Operator, Electricity North West Limited will determine suitability of the power supply and whether new connections need to be made. They will be aware of the need to demonstrate value-for-money and principles of cost-benefit analysis will be used to judge the competing attributes of sites in the allocation of funds.

9. Procurement options

- 9.1 Procurement of a commercial partner to support installation and operation of charge points will be carried out under an existing Framework Agreement where suppliers have already been registered and vetted.
- 9.2 An alternative framework model is provided by Oxford City Council and is available to all UK Local Authorities to use. The Oxford Dynamic Purchasing System (DPS) includes a stratified register where potential CPOs can indicate the range of services they are able to offer, including:

- Network operation
- Maintenance and servicing
- Installation, construction and commissioning
- Supply only

or for a complete package:

- End-to-end/Turnkey* services (*designed, supplied, built, installed fully complete and ready to operate)

This saves time and cost in conducting an extensive procurement exercise and the likely candidates will already be on the register. Given the partnership's diverse and extensive membership, this approach should provide reassurances for all sides.



10. Partnership working - principles.

- 10.1 a) With multiple players involved in delivering each charge point (ie landowner, site manager, Electricity North West Limited, statutory undertakers), the importance of good communication and pre-planning is paramount and a project manager is a good investment. Funding via LEVI has been made available for the appointment of project staff.
- b) Technical assessment of each proposed location is vital if later wastage (time and resources) is to be avoided.
- c) Supply chain issues involving materials and components is a real constraint and can delay implementation significantly.
- d) Property and legal details are important and with several different local authorities involved there may be differences in approach and requirements from place to place which could complicate procurement.
- e) Electricity North West Limited, the network operator, will be involved from the earliest possible stage so that appropriate evaluation of the capacity of electrical supply at each location can be carried out.
- f) Technical assessment of sites should include consideration of the needs of disabled drivers and any that would present difficulties should be eliminated at an early stage. * BSI Standards 1899 Accessible electric vehicle charging: Launching PAS 1899 | BSI (bsigroup.com)
- g) Consideration should be given to timing and manner of the introduction of changes to traffic regulations at each site and whether there is scope to make transitional arrangements to avoid perceived disadvantages for drivers of non-EVs.
- 10.2 The first public EV charge point installations in Cumberland were carried out under the SOSCI project (Scaling of On Street Charging Infrastructure), funded by Innovate UK. This project was led by a community benefit society, Charge My Street, and as such crossed administrative boundaries. SOSCI charge points were installed in numerous locations across Cumbria, including both Cumberland and Westmorland & Furness Councils. The SOSCI project commenced in 2019 and with an interruption due to the pandemic, initial uptake was slow. However, in 2022-23 the usage of the original charge points has grown exponentially, increasing by more than 10-fold within the year. The customer-focused approach to EV charging was continued with work done by One Public Estate in 2022 and 2023 and is intended to make the transition to electric vehicles easier for our residents and visitors alike. One way of achieving that aim is to synchronise the 'customer experience' so that all charge points in the county have a distinct brand, are easy to use and have common features such as payment methods, tariffs etc. In the west of England, 4 local authorities have created a joint enterprise, Revive, to deliver EV infrastructure:

11. Risks and opportunities

11.1 A risk analysis is included as Appendix 1.

12. Other considerations

- 12.1 Parking policy: As mentioned above there will be a need to review the overall approach to parking enforcement and fees and charges. EV charging bays will be dedicated for EV vehicles only when recharging. Any vehicle parked in an EV bay that is not recharging may be liable for a penalty charge notice. This will require a review of the Traffic Regulation Order applicable to the individual car parks.
- 12.2 Review of Fees and Charges: Charges may also have to be reviewed in relation to electric vehicles. Normal charges may apply for those parked in standard parking bays, but whilst re-charging in the dedicated bays there may be scope to reflect the parking charge within the charge for the electricity drawn. Charges for the electricity can be set for example to ramp up a certain time period to encourage people not to occupy the bays for longer than necessary and prevent access for others. Any vehicle that was parked in a charging bay but not charging may also be liable for a penalty notice. The right charger needs to be chosen for the right location.
- 12.3 Incentives: There may be a desire to incentivise the shift to electric through a review of:
- car parking fees for electric vehicles
 - recharging rates for charging taxi drivers
 - recharging rates for staff and/or elected members charging their own private electric vehicles in designated staff parking bays.
- 12.4 Consideration also needs to be given to any supporting technology to support customers accessing the charge points and checking their location and availability, as well as how this may be 'integrated' into existing council systems for monitoring and reporting purposes, key to understand trends and predict future demands.

13. Monitoring and evaluation

- 13.1 It will be key to monitor the success of each project and to carry any learning into the next scheme as well as maintaining a watching brief on other developments elsewhere in the UK. The charge points themselves will also provide a wealth of data on usage to support the future expansion and to identify trends and patterns, potential for future income growth etc.
- 13.2 Feedback from customers via the community panels within Cumberland will be important to monitor usage of the existing infrastructure and suggest future improvements.

14. Clean energy commitment

14.1 Private sector charge point operators interviewed by the OPE partnership group were keen to highlight their commitment to providing clean, renewable energy including how they could evidence this to contribute to the Council's carbon reduction targets. This clean energy commitment, where practical and where it can be evidenced, should be central to the Council's commitment to this project.

15. External funding opportunities

15.1 At this stage in the process of transition to a national fleet of EVs, Government continues to make grants available to the sector to encourage development of infrastructure and the partnership came pooled its combined local knowledge and resources in terms of assets to bid for some of these grants. The funding schemes are co-ordinated by the Office for Zero Emissions Vehicles (OZEV) and now is only available under Local Electric Vehicle Infrastructure (LEVI)

The aims of LEVI are to:

- help enable strategic local provision of public EV infrastructure ahead of need and promote an equitable EV charging experience for those without off-street parking
- leverage additional private sector investment and promote sustainable and innovative business models to enable the delivery of local charge point projects that would not occur in the near-term without public support
- increase consumer confidence in transitioning to EVs across England, ensuring increased uptake across regions

As the rollout of EV charging infrastructure accelerates, we are particularly interested in funding projects where there is scaled commercial innovation, such as new business models where multiple local authorities work together, or new charging technology. (OZEV)



Appendix 1

Risk

There is a risk that the public/private partnership will not be viable in the longer term leading to the cessation of EV infrastructure roll-out.

Impacts

Infrastructure breaks down; public in the technology confidence is lost; funds are put at risk; credibility of partners is lost.

Mitigation

Binding contractual arrangements within the partnership;
Robust contractual arrangements with chosen supplier;
Exit strategy in case of dissolution of the partnership.
Project continues in a fragmentary format.

Residual risks

Economies of scale may be lost, progress may be slower, scope reduced and some communities lose out.

Status

Amber ●

Risk

There is a risk that technology may move faster than currently anticipated and that the infrastructure therefore becomes obsolete.

Impacts

Public confidence in the infrastructure is lost; host sites are blighted by out-of-date hardware.

Mitigation

Contract with supplier includes provision for updating of hardware.

Residual risks

Commercial opportunity may be devalued

Status

Green ●

Risk

There is a risk that the commercial partner ceases to trade and cannot fulfil the contract.

Impacts

Maintenance and renewal is discontinued.

Mitigation

Contract with supplier provides arrangements for the contract to be taken over by alternative supplier.

Residual risks.

Further administrative effort required.

Status

Amber ●

Risk

Revenue stream does not meet projections and the project budget therefore produces a shortfall.

Impacts

Adverse financial out-turns are reported by the partners.

Mitigation

The project is founded on realistic expectations of financial returns for the partners; there is wide understanding that the project is intended to address a market breakdown and is not driven by the need to generate large revenues. Advice received from suppliers suggest that long term contracts will enable initial funding outlay to be recovered.

Residual risks

Some partners withdraw and leave the burden of liabilities to the others.

Status

Green ●

Risk

There is a risk that the ambitions of the project are unsustainable or undeliverable due to the complex nature of the partnership and conflicting expectations of partners.

Impacts

The benefits to potential EV owners are lost or downgraded.

Mitigation

Partnership members to be realistic in their expectations of the scope of the project.

Residual risks

The project may be reduced in scale and scope.

Status

Green ●

Risk

There is a risk that the public sector partners do not maximise the financial benefits and opportunities.

Impacts

Elected members become disenchanted with EV technology and political support diminishes.

Mitigation

A robust contractual arrangement with the commercial supplier should include clear and realistic expectations in terms of revenues, including pay-back timetable.

Residual risks

Revenues may be lower than expected but still within acceptable limits.

Status

Amber ●

Risk

There is a risk that procurement becomes a protracted process due to the different demands and expectations of partners.

Impacts

Funding is threatened by delays to the timetable and financial deadlines are missed.

Mitigation

Clear and realistic goal-setting and timetables for delivery;
Single-supplier contracted to carry out installations.

Residual risks

Delays occur but within acceptable limits.

Status

Green ●

Risk

Partners are unable or unwilling to contribute financially to the project leading to the grant funding being un-matched.

Impacts

The project is undeliverable and the grant funding is returned to OZEV;
The credibility of the partners is damaged.

Mitigation

Project proceeds only when all partners are signed up to a contract; any that does not wish to proceed are removed from the delivery phase.

Residual risks

The project continues but at a reduced scale.

Status

Amber ●

Risk

The project fails to have the anticipated impact on public perception and the take-up of EVs remains low.

Impacts

Partners credibility is brought into question; political support may be lost.

Mitigation

Each individual installation is modest in scale so any perception of wasted effort/resources is minimal.

Residual risks

Some public dissatisfaction but some movement in EV uptake.

Status

Green ●

Appendix 2

How to charge an EV?

An EV can be charged either by plugging it into a socket or by plugging into a charging unit. There are three types of charging cables:

- Three-pin plug - a standard three-pin plug that you can connect to any 13-amp socket.
- Socketed - a charge point where you can connect a Type 2 cable.
- Tethered - a charge point with a cable attached with a Type 2 connector.

How long does it take to charge an electric car?

At present there are four categories of EV charging speeds¹²:

- Low speed - less than 3.7kW. Often used to charge overnight. Charging time: 12-17 hours.
- Standard - 3.7kW to 8kW
- Fast - typically rated at either 8kW or 50kW. Tend to be installed in car parks, supermarkets, leisure centres and houses with off-street parking. Charging time: 6-8 hours.
- Rapid - typically rated from 50 kW to 150kW. Only compatible with EVs that have rapid charging capability. Charging time: 30-60 minutes.
- Ultra-rapid - above 150kW. These are increasingly being installed in charging hubs. Charging time 10-20mins. At present the number of EVs that can charge at this speed are limited but technology is expected to catch up fast