

## Interim Electric Vehicle Strategy 2022-2024

This strategy clearly sets out Council priorities and approach for encouraging the adoption of electric vehicles (EVs) and the installation of public EV charging infrastructure in the Derbyshire Dales.

This interim strategy is intended to be directional, a high level vision rather than setting out a plan for delivery. It covers the period 2022-2024 and will be reviewed at the end of this period to align with County wide strategy development.

### Relevant other policies:

#### **Derbyshire County Council (DCC)**

Low emission vehicle infrastructure (LEVI) Strategy (2019-2029)

Local Transport Plan 4 (2021-2033)

Air Quality Strategy (2020-2030)

Climate Change Strategy (2021-2025)

#### **Derbyshire Dales District Council**

Climate Change Strategy and Action Plan (2020-2030)

Corporate Plan (2021-2024)

Licensing Policy (from 2018)

Local Plan (2013-2033)

### Core objectives

Strategy objectives:

1. To lead by example by creating plan for the electrification of the Council fleet and depot
2. To support the development of a local publically accessible EV charging network
3. To grow resident and business awareness of EVs and encourage adoption
4. To encourage the local taxi fleet to switch to EVs

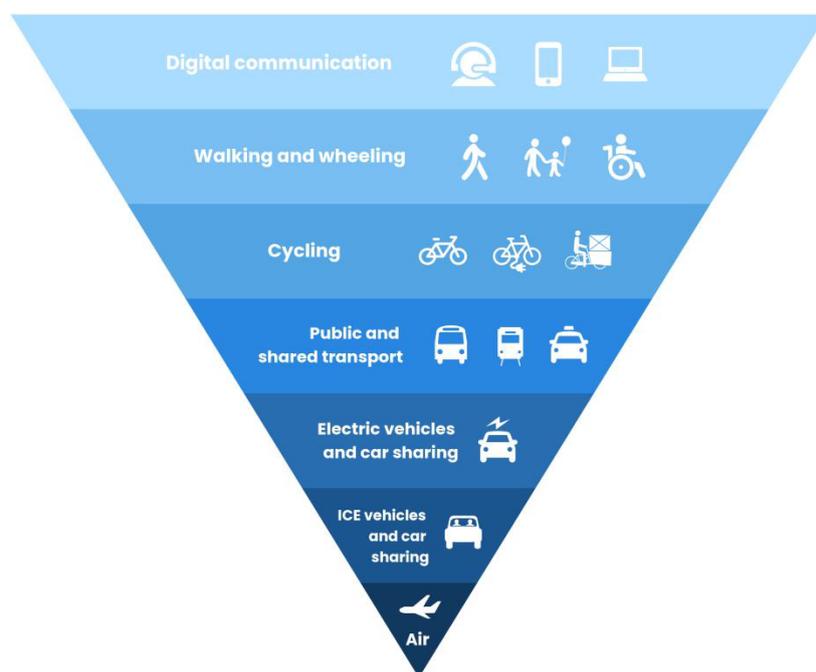
These objectives will be aligned with those in the DCC LEVI strategy.

### Context

The Climate Change Act 2008 sets up a framework for the UK to achieve its long-term goals of reducing greenhouse gas emissions. The Act set the target reducing emissions by at least 80% by 2050, compared to 1990 levels. This target was made more ambitious in 2019 when the UK became the first major economy to commit to a 'net zero' target. The new target requires the UK to reduce greenhouse gas emissions to net zero by 2050 and by 78% compared to 1990 levels by 2035.

Emissions from transport accounted for 27% of total UK emissions in 2019 (BEIS, 2019) due to the dependence on the combustion of fossil fuels. Emissions from transport have been broadly flat for the last 30 years while other sectors have fallen. Cars are by far the biggest contributor of transport emissions at 55%. Not only is transport a major contributor to carbon emissions it also has air quality and public health impacts.

Reducing car travel and a shift towards public transport and active travel will have a significant role in addressing these impacts. At the heart of this strategy is the sustainable travel hierarchy. The sustainable travel hierarchy is a useful visual tool to assist in the assessment of the impact of travel. The higher up the hierarchy, the fewer emissions associated with the travel option.



*Figure One: Sustainable Travel hierarchy (Energy Saving Trust)*

The Council commits to supporting the principles of the hierarchy, but for a rural area such as the Derbyshire Dales with limited public transport provision, acknowledges that cars and vans are often the most suitable means of transport. Replacing existing fossil fuel powered vehicles with EVs is one means by which these impacts can be lessened.

The UK Government has committed to phasing out the sales of new petrol and diesel cars and vans by 2030, and that all new cars and vans will be fully zero emissions at the tailpipe from 2035. In the last two years the total number of battery electric vehicles on the UK roads has more than tripled. One in four new cars sold in December 2021 were electric.

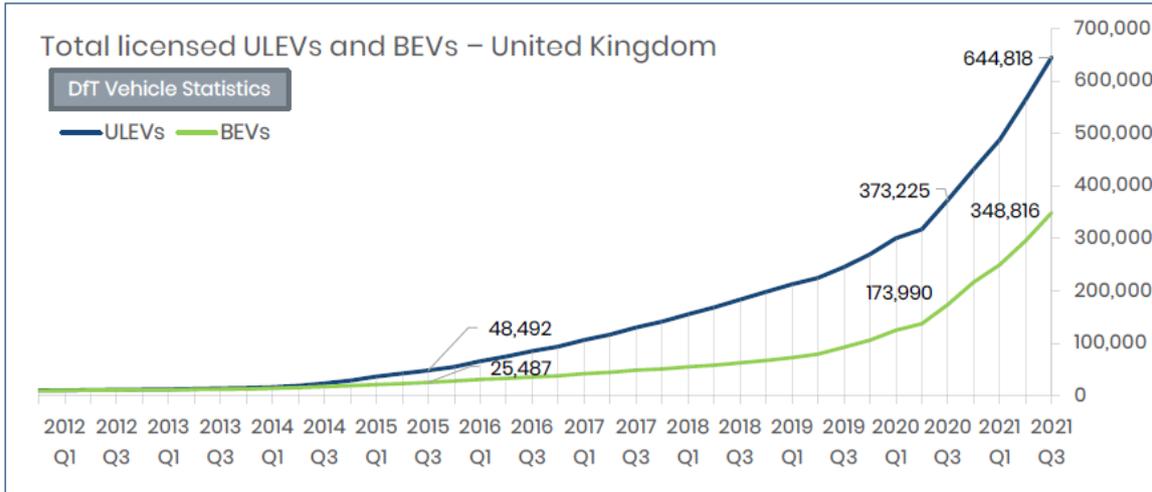


Figure Two: sales of new ULEVs and BEVs in the UK – to December 2021 (Department of Transport, 2021)

In March 2022 the Government set out their vision and action plan for the rollout of EV charging infrastructure in the UK, ahead of the phase out dates, through the Electric Vehicle Infrastructure Strategy. This recognised that ‘a world-class charging infrastructure is absolutely fundamental to delivering net zero road transport’. It identified that ‘the commercial landscape for charging infrastructure is also developing quickly. By 2030, we expect there to be around 300,000 public charge points as a minimum in the UK, but there could potentially be more than double that number’

The strategy also sets out the role of local authorities in delivering EV charging infrastructure ‘We expect the market to lead the majority of public chargepoint deployment. However, local government has a crucial role in ensuring that deployment reaches all areas, using sustainable commercial approaches (for example, procuring for expected high and low utilisation areas at the same time). Outside of combined authority areas, where there are two tiers of local government, we expect county councils to produce EV chargepoint strategies. They should do so in close collaboration with district level councils. Each chargepoint strategy should conform to wider plans for transport and energy for the local area. In England, chargepoint strategies should be aligned with the principles in existing Local Transport Plans, which local authorities have a statutory obligation to develop’

Through their Climate Change Strategy Derbyshire County Council has set a target to deliver 1000 EV charging points for public use by the end of 2025 in collaboration with partners. There are currently 249. And to support the installation of electric vehicle chargers at 144,000 properties across Derbyshire by 2035.

### The local picture

In 2021 there were 594 EVs registered in the Derbyshire Dales. By 2024 there could be nearly 6,000 and 30,000 by 2030 according to future forecasts.

Table one illustrates some of these projected scenarios as modelled by the local Distribution Network Operator – Western Power Distribution.

Year	Scenario			
	Steady Progression	System Transformation	Consumer Transformation	Leading the Way
Baseline	863	863	863	863
2020	1153	1144	1311	1313
2021	1551	1544	2055	2016
2022	2081	2077	3128	2997
2023	2684	2741	4366	4333
2024	3444	3562	6030	5974
2025	4384	4604	8176	8123
2026	5506	5933	10845	10855
2027	6846	7565	14079	14267
2028	8448	9612	17941	18591
2029	10372	12126	22462	23835
2030	12607	15209	27564	29965
2040	53902	65863	74773	73818
2050	74588	71285	71140	56858

*Table One: future EV ownership scenarios to 2050 (Western Power Distribution, 2022)*

The right EV charging infrastructure in the right place is essential to meet this growing demand, encouraging local EV ownership and matching the needs of visitors to the district. It is projected, using the same modelling, that over 4,200 publically accessible charging points could be required in the Derbyshire Dales by 2024 with over 21,000 required by 2030 – see table two.

Year	Scenario			
	Steady Progression	System Transformation	Consumer Transformation	Leading the Way
Baseline	468	468	468	468
2020	553	556	853	786
2021	750	767	1466	1276
2022	1027	1068	2375	2002
2023	1298	1412	3404	3015
2024	1670	1849	4795	4255
2025	2136	2431	6566	5876
2026	2716	3190	8712	7928
2027	3428	4125	11237	10450
2028	4269	5309	14179	13651
2029	5297	6770	17520	17439
2030	6489	8521	21118	21683
2040	33193	44279	52146	52022
2050	48845	49981	52661	52263

*Table Two: future publically accessible EV charging point scenarios to 2050 (Western Power Distribution, 2022)*

The current picture in the Derbyshire Dales is mixed. As of May 2022 there were 38 publically accessible charging points in the Derbyshire Dales, 39 per 100,000 people putting the district in the top 20% nationally – Figure three (a) below. However, only two of these offered rapid charging, putting the district in the bottom 20% nationally – Figure three (b) below.



*Figure Three: current publically accessible EV charging point provision (a – overall) (b – rapid) in the Derbyshire Dales (Department of Transport, 2022)*

The Council currently provides 13 of these charging points across 26 spaces at 4 car park sites through a concessionary model– details provided on our website: <https://www.derbyshiredales.gov.uk/community-a-living/parking/ev-charging-points>

The Charge Point Operator (CPO) is BP Pulse and the contract is managed by Nottingham City Council - <https://network.bppulse.co.uk/d2n2/>. Derbyshire Dales District Council is one of several authorities across the D2N2 region providing ‘host sites’ through lease agreements for the infrastructure. Local drivers qualify for a discount on charging. All charge points operated by BP Pulse are powered by renewable energy from Utilita.

These 4 sites are:

Ashbourne – Shawcroft car park (4 x 7kw)

Bakewell – New Street car park (4 x 7kw)

Matlock – Edgefold Road (4 x 7kw)

Wirksworth – Market Place (1 x 22kW)

Current usage of these charging points is variable. The highest usage is consistently at the Edgefold Road site in Matlock (58% between August – October 2021), which likely reflects the high destination charging demand for the wider town and employees based at nearby offices. Utilisation rates across the current sites are modest, indicating that the number of charging points in existing locations are likely to be sufficient for the near term.

In the UK a third of households do not have access to off street parking compared to 27% in the Derbyshire Dales (Energy Saving Trust, 2022). The 73% of households with off street parking could, in theory, install their own charging point. If they can, it

is believed that most people will charge at home because it is cheaper and more convenient than using public charging infrastructure.

Latest data shows that since 2014/15 476 home charging points have been installed in the Derbyshire Dales, funded through the Electric Vehicle Homecharge Scheme (EVHS) which, until March 2022, encouraged homeowners to install charge points at their properties by offering up to £350 towards the cost. The scheme is now only open to those in rented properties and flats or apartments.

Table three illustrates how installations more than doubled between 2020 and 2021.

ONS LA Code	Local Authority	2014/15	2016	2017	2018	2019	2020	2021	2022	Grand Total
E07000035	Derbyshire Dales	34	25	30	32	52	80	178	45	476

*Table Three: EVHS grant statistics (Department of Transport, June 2022)*

Despite relatively low demand for public charging infrastructure from residents when compared to national averages consideration should be given to how the Council can ensure that residents dependent on this infrastructure are not left behind in the transition to EVs. They may be disadvantaged by higher charges when compared to lower residential electricity rates and unable to access charging close to home.

#### Ensuring the 'right charging point in the right place'

The public charging infrastructure not only needs to be fit for purpose for residents without off street parking but also needs to be compatible with the charging requirements of employees, visitors, fleet drivers and taxis.

Tourism is a significant part of the local economy. As yet it is not known whether the Peak District National Park will follow the Lake District National Park as predominantly car free, provide EV hubs, or become somewhere in-between. Promotion of EV uptake through the installation of infrastructure must not take away from public transport, however this needs balancing against disincentivising visitors.

Different user types will have different requirements and it is important that this be considered when locations for installation of public accessible charging infrastructure are evaluated.

Different charging points are suitable for different locations. As Figure four illustrates dwell time is key, and the charging must match the needs of the user.

Slow (10-12hr)	Fast (4-6hr)	Rapid (<1hr)	Ultra Rapid (15 mins)
2.3 – 3.7 kW	7 - 22 kW	Up to 50 kW	120-350 kW

 <p>Home charging</p>	 <p>Destination</p>	 <p>En route</p>	 <p>Charging hub 150 kW</p>
 <p>Lamp-column</p>	 <p>On-street residential</p>	 <p>Destination</p>	 <p>'Electric forecourt' 350 kW</p>

Figure Four: type of EV charging point (Energy Saving Trust, 2022)

Slow and fast chargers suit destination charging patterns, whereby the driver will be leaving the car for a considerable period of time e.g. overnight or while working. Rapid chargers are important for on route charging or quick recharging at convenient destinations e.g. taxis and delivery/service vehicles which need to top up mid journey.

On-street residential charging is out of scope for this interim strategy, with the expectation that provision for this type of charging will be included in developing Derbyshire County Council strategies as the local highways authority.

As per strategy objective two, within this strategy period, the Council intends to focus its approach on installations in Council car parks.

The car parks currently being considered for this second phase of installations are:

Artists Corner – Matlock/Matlock Bath

Town Hall (front) – Matlock

Market Place – Cromford

Canterbury Road – Wirksworth

Oddfellows Road – Hathersage

Nether End – Baslow

Granby Road – Bakewell

Cattle Market – Ashbourne

Full details of the locations of these car parks can be found on the Councils website: <https://www.derbyshiredales.gov.uk/community-a-living/parking/car-park-locations>

These car parks have been selected based on improving geographical spread across the district area, and matching the application criteria of the OZEV On-Street Residential Charge Point scheme grant fund which requires charge points to be located in residential areas lacking off-street parking and accessible to local residents. To ensure accessibility and equity, the Council may need to consider funding additional works required e.g. changes to car park layouts.

Current locations of publically accessible charging points can be found on Zap Map <https://www.zap-map.com/live/>

The installation of charging points is dependent on viable grid connections, and there are clear limitations associated with the existing electrical infrastructure in many of our more rural car park locations. Infrastructure upgrades can be costly and put installations at risk.

The kind of infrastructure development required for the installation of ultra-rapid charging hubs is not covered by this interim strategy as this is determined to be a wider strategic regional/national rather than serving the local community. This need will likely be met by national or private organisations, such as Gridserve who operate larger scale EV forecourts. However, it is noted that there are lack of potential commercial sites in smaller towns and the wider rural district. It is likely that installations of charge points at forecourts will be focussed along key traffic routes which may lead to a deficit of ultra-rapid charging points in the district.

There are a number of delivery models available for delivering charge point infrastructure. A concessionary model is conventionally thought of as ‘middle ground’ as it limits risk and allow for flexibility. However, there is the option for greater public sector involvement using a public ownership delivery model and conversely fully funded options where all costs are borne by the charge point operator.

The risks and benefits of each model are set out below in table four:

<b>Model</b>	<b>Benefits</b>	<b>Risks</b>
<p><b>Concessionary model –</b> charge points part funded by the public sector with a CPO also investing capital costs. The CPO operates and maintains the charge points.</p>	<p>Some income shared (higher levels of potential public sector income from higher initial public sector investment)</p> <p>CPO incentivised and responsible for maintenance of the network, leading to better end user experience</p> <p>Reduced risk for public sector</p>	<p>Reduced income share compared to full ownership</p> <p>Requires a greater understanding of what the market can offer, and tender process may be more complex than public ownership</p> <p>Risk that CPOs will not accept the agreement terms, leading to negotiation or a failed tender</p>

		Needs to be a relatively large number of sites
<b>Public model -</b> All charge point costs are paid for by the public sector, with capital and maintenance costs recouped from usage charges. Charge points are owned by the public sector, with back office and operation of charge points typically contracted to a private sector CPO for a fixed fee	Highest potential income  Local authority can determine locations, irrespective of commercial viability ensuring equity of access	Requires significant grant funding which may not be available or may require local match funding  Highest risk in terms of ongoing liability, stranded assets, and maintenance costs
<b>Fully funded options -</b> All costs are borne by the CPO, with a long-term lease/licence over which the CPO can recover their costs.	Lowest risk  Rental agreements can provide guaranteed income over a number of years  CPO heavily incentivised to provide good end user experience	Lowest potential income  Least control and ability to incorporate wider goals  Likely to involve long agreement periods or exclusion areas  Many areas (e.g.rural) currently unlikely to be commercially viable without public investment

*Table Four: Funding and delivery models (Midlands Connect, 2022)*

The Council intends to continue to use a concessionary model for installations covered by this strategy to reduce risks and up-front costs and ensure that current limited resource can be used effectively. Pursuit of a public model requires significant resource and funding and is considered high risk in terms of ongoing liability, stranded assets, and maintenance costs. A fully funded model is likely to exclude many of the districts rural areas which would be unlikely to be commercially unviable without public investment thus leading to inequity. During this strategy period pursuing a concessionary model is considered a proportionate approach.

It is also worth noting that the current national EV Infrastructure Strategy highlights the benefits of having more than one charge point operator in an area to drive competitive pricing.

### Ensuring accessibility and equity

All charging point installations planned through this or future strategies need to consider:

## *Safety*

- Adequate lighting where necessary to create safe user access at all times of day
- Cables should not be run in such a way to cause an obstruction
- Equipment installation should be in accordance with the latest industry standards

## *Reliability*

- 24-hour access to charging points
- Efficient maintenance and repair of the infrastructure to reduce downtime through effective contract specification and management

## *Equity*

- Easy to use for disabled users – access to charging point as well as car park design layout (accessibility standards for EV charging point infrastructure due to be released Summer 2022)
- Easy to use interfaces and payment methods
- Access and size of bays for fleet/van drivers with no off-street parking
- Clear signage and direction
- Clear signage for length of stay/marked parking bays – may require review of enforcement procedures
- Ensuring interoperability – so that charging points can be used by all vehicle makes and models
- Ensuring drivers do not need to sign up to a specific network for membership in order to charge
- Supporting competitive pricing

## Education and engagement

### *Resident survey*

To inform the development of this strategy the Council undertook a resident's survey in early 2022.

The survey had almost 250 responses. 61% of respondents currently own a diesel or petrol vehicle, with nearly 60% of these planning to purchase an EV within the next 5 years.

The biggest barriers to EV purchasing were identified as:

1. Vehicles are expensive new
2. Not enough publically accessible charging points
3. Concerns about range

56% of respondents would prefer to charge an EV at home, with 30% preferring a mix of locations to include destinations (such as supermarkets) and rapid charging hubs. 4% of respondents would prefer to use Council car parks.

61% of respondents were aware of the location of current public charging infrastructure.

When asked for suggestions of suitable locations for charging infrastructure, most respondents focussed on on-street provision close to their own homes where off street parking was not an option.

### Taxi driver survey

We also undertook a survey of local taxi (hackney carriage) and private hire drivers in September 2021.

15 responses were received, representing an estimated 14% of Derbyshire Dales' licensed taxi and private hire drivers.

Nearly nine in ten (87%) vehicles currently licensed with the council are either diesel or petrol. Diesel is by far the most common fuel type among taxis (93%), while for private hire vehicles, the split between diesel and petrol is more even (43% and 33% respectively). Across both licence types combined, hybrid vehicles represent just 12% of all vehicles. There are currently no pure EVs licensed in the district, indicating the scale of change required.

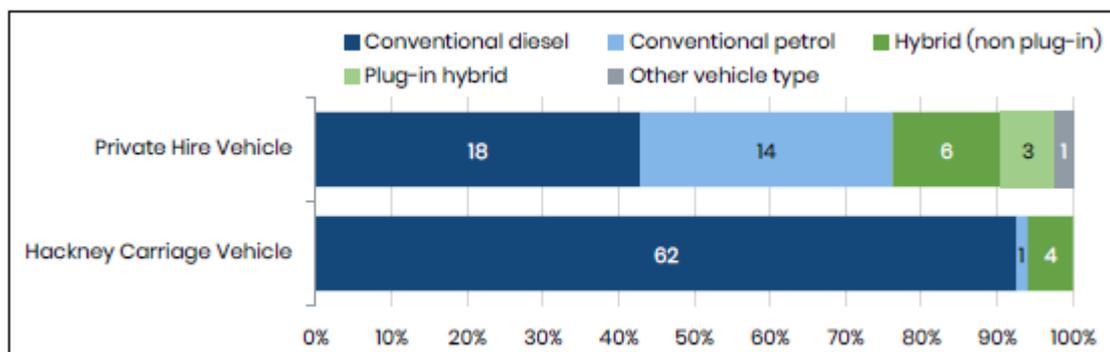


Figure Five - Breakdown of fuel type by licence type for all vehicles licensed with Derbyshire Dales District (Energy Saving Trust, 2021)

Most drivers who responded have access to off-street parking at home. 60% of drivers who responded to the survey park their vehicle overnight in a private location, either on a driveway or in a garage, which would allow many of them to use a dedicated home charging point. The remaining 40% park their vehicle in public on-street locations and would benefit from access to on-street residential charging points and other public charging point provision.

The majority of drivers are unlikely to need to charge an EV during their shift. Nearly nine in ten (86%) drivers who responded to the survey travelled 200 miles or less on a typical day (prior to the COVID pandemic).

Half the drivers (53%) said they take a fare of 50 miles (one-way) or more at least once a week. This would suggest that longer journeys are common in Derbyshire Dales, which may present a barrier to EV uptake, depending on the frequency, length and location of their breaks and state of charge of battery) mid-shift.

The most popular locations drivers suggested for charging points were fuels stations or garages, car parks, and airports. Charging points close to the two most popular ranks, the Bus Station and Olde English Road (both in Matlock) may benefit taxi drivers.

Two in five drivers are considering switching to an EV within 1–10 years. Of these, most are planning to make the switch within the next 2 years. Nearly nine in ten drivers felt that suitable EVs being too expensive was a major concern. More than half of drivers felt that a lack of range was the biggest barrier to switching to an EV. The belief that EVs cannot drive far enough on a single charge was selected as the biggest barrier by all drivers who previously stated they were unsure whether they would switch to an EV.

As part of the survey work, drivers were given an opportunity to attend a ‘try before you buy’ course with EV experts from the Energy Saving Trust in order to dispel some of the identified concerns around range and charging requirements.

### Key actions and alignment with DCC LEVI Strategy

Objective	Actions
<p>1. To lead by example by creating plan for the electrification of the Council fleet and depot</p>	<p>Review the current fleet, developing a programme for the decarbonisation of LGVs to 2030 in line with the approved Climate Change Strategy and Action Plan. Set interim targets for % replacement by end 2023.</p> <p>Review opportunities to decarbonise the HGVs including consideration of alternative fuels</p> <p>To put in place the required infrastructure to ensure that EVs can be safely charged and maintained at the Council depot (and other sites as appropriate)</p> <p>Participate in the Public Sector Charging Network scheme, allowing wider public sector access to charging infrastructure at the Council’s depot</p>
<p><i>LEVI 7 DCC will deploy LEV's within its pool fleet</i>  <i>LEVI 8 DCC will work with partners to support private industry and public sector organisations to deploy LEV's within fleets</i></p>	
<p>2. To support the development of a local publically accessible charging network</p>	<p>Promotion of existing publically accessible EV charging infrastructure to residents and businesses</p> <p>Monitor and report on current Council charge point usage and performance</p> <p>Assess the technical and financial feasibility of installing publically accessible EV charging points on Council owned land including exploring opportunities</p>

	<p>to bid for third-party funding – focussing on the right charge point in the right location (in line with the Corporate Plan objective to implement a programme of EV charging points in our car parks)</p> <p>Review internal resource to</p> <ul style="list-style-type: none"> <li>- enable access to current and future funding opportunities</li> <li>- ensure efficient monitoring of any new contract</li> </ul> <p>Engage with partners to apply for available funding to expand EV charging point provision, including the lead Highway Authority where on-street charging is considered</p>
<p><i>LEVI 1 DCC will work with partners on the provision and delivery of low emission vehicle infrastructure across the county</i></p>	
<p>3. To grow resident and business awareness of EVs and encourage adoption</p>	<p>Through the Local Plan review, consider how relevant policies ensure EV charging infrastructure can be integrated into revised policy (considering alignment with the sustainable travel hierarchy) - providing minimum future standards for installations, including flats and non-allocated parking. Consider active vs passive provision and providing clear technical specifications</p> <p>In line with current Building Regulations work with private developers and landowners to provide charging infrastructure in accordance with the requirements of the current local plan</p> <p>Share information around EVs and available grant schemes with residents and businesses in the District including the EV charge point grant scheme and Workplace Charging Scheme</p>
<p><i>LEVI 3 DCC will work through the planning system and with private developers and landowners to provide LEVI</i> <i>LEVI 5 DCC will work with partners to raise awareness of low emission travel</i></p>	
<p>4. To encourage the local taxi fleet to switch to EVs</p>	<p>Support the installation of EV charging points for drivers at key sites as identified through the recent survey</p> <p>Review of the current Licencing Policy to encourage the transition EVs</p> <p>Provide support to local taxi drivers through appropriate courses and information</p> <p>Install the necessary testing infrastructure at the depot so that EV taxis can be tested</p>

	Ensure that Council staff have the relevant training to enable them to undertake MOTs on EV taxis
<i>LEVI 9 DCC will work in partnership to support public transport and taxi operators embrace alternative fuel technologies and infrastructure</i>	

### Future work

This strategy is designed to be a stepping stone to a more detailed piece of wider future strategy work, developed in collaboration with partner local authorities following the outcome of the DCC commissioned county wide assessment of demand for electric vehicle charging infrastructure.

Historically Councils have been focussed on encouraging ‘early adopters’ of EVs, by installing charging infrastructure ahead of demand and commercial viability. The Council continues to progress this approach through a planned applications to the OZEV On-Street Residential Charge Point scheme grant fund in 2022/23. We are currently shortlisting locations for installation to bid for funding. We hope to use the funding to ensure charging points are installed in our car parks increasing the geographical coverage of charging beyond the four market towns. At the time of publication, we anticipate this being four - eight additional car parks. The development of this strategy is a key component of the application for funding.

The future focus will be on increasing private sector investment and addressing market gaps/failures e.g. improved rural provision, on-street charging. This shift in focus requires partnership working. It could bring the opportunity to develop a more attractive commercial offer which would be of interest to CPOs considering working in the district. This would ensure more complete geographical coverage and that rural areas are not left behind in the transition to EVs.

While recognising the need for an ambitious approach the Council has limited internal resource and expertise to develop a more comprehensive approach at this time. The Governments EV Infrastructure Strategy recognises the importance of local authorities’ leadership and action to meet these ambitions. It acknowledges that *‘it is likely that putting in place charge point provision in a local area will...involve strong collaboration between the different layers of local government in that area. In addition, there will be occurrences where combining delivery approaches across different local government bodies would increase the commercial attractiveness of a proposition’*

A £450m LEVI Fund will be launched later in 2022/23 including £50m of multi-year resource funding for local authorities, to enable them to have dedicated resource for the planning and delivery of local EV charging infrastructure in their areas. The funding will help provide the staff needed to deliver these projects, in all parts of the country. Details of the fund are not yet available but it is likely that a fully assessed and costed scheme, including investment from the private sector, would need to be

developed prior to any application. The demands and needs assessment currently being undertaken by DCC is the first part of this scheme development.

Through this strategy the Council sets out its strategic intent, closely aligned with the current DCC strategy, to ensure that strong collaboration is possible in the future.

## Appendix One

### Glossary of terms

**BEV** - Battery Electric Vehicle – 100% electric battery

**CPO** – Charge Point Operator – entities that manage, maintain, and operate charge points and the wider charging stations (both technical and administrative)

**PHEV** – Plug-in Electric Vehicle – it has a small electric battery that can do 30-60 miles on an electric battery but has an ICE petrol or diesel engine

**ICE** – Internal Combustion Engine – fuelled by fossil fuels

**OZEV** - Office Zero Emission Vehicles

**ULEV** - Ultra Low Emission Vehicle – A vehicle that produces less than 75g/km of CO<sub>2</sub>. For most Plug-in vehicle grants (manly vans or heavy vehicles) the definition is 50g/km of CO<sub>2</sub>.