Electric Vehicle Charging and Low Emissions Vehicle Strategy

April 2025-April 2028

This document is due for review by the date shown above, after which it may become invalid. Users of the strategy or policy should ensure that they are consulting the currently valid version of the document.

Contents

Background and context

The shift to electric vehicles (EV) is a key opportunity to reduce emissions. The UK government aims to phase out new petrol, diesel, and hybrid vehicle sales by 2035, accelerating EV adoption. Local authorities must facilitate the required charging infrastructure.

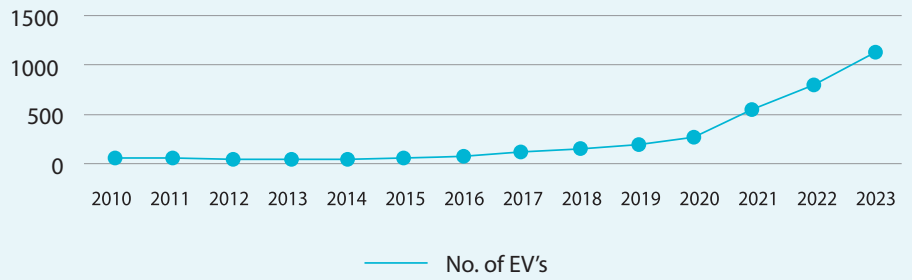
The Maldon District is particularly reliant on private vehicles due to its rural and semi-rural landscape, limited public transport options, and the necessity for residents to commute to larger towns and cities for work, education, and essential services. High car ownership levels, coupled with few viable transport alternatives, mean that private vehicles remain the dominant mode of travel. However, this reliance contributes significantly to carbon emissions and local air pollution, reinforcing the need for sustainable transport solutions. Expanding the electric vehicle charging infrastructure (EVCI) is key to encouraging the transition to EVs by ensuring convenient and accessible charging facilities. Strategic placementof charge points in residentialareas, town centres, and along key commuter routes will accelerate the transition to low-emission transport, supporting the Council's Net Zero ambitions while maintaining mobility for local communities.

Locally, the Maldon District has experienced a notable rise in EV registrations since 2017 (see Figure 1) . This reflects a broader shift in consumer behaviour, driven by improved technology, government incentives, and increased accessibility to EV infrastructure.

59%
of journeys were made by private vehicles in 2022.

In the East of England, transport accounts for 42% of carbon emissions, exceeding the national average of 28%.

Figure 1 Growth in EV registrations over time, highlighting year-on-year changes[1] .



[1] Source: Government Statistics- VEH0132: Licensed ultra low emission vehicles by local authority: United Kingdom. The annual statistics for EV registrations in the graph are only complete up until 2023. The published data for 2024 currently includes figures for Q1 and Q2 but not for the full year.

Key Actions

Expanding EV Infrastructure:
Develop a robust, future-proof network of public charge points that are reliable, fairly priced and accessible to all.

Adapting to Emerging Technologies:
Ensure charging infrastructure evolves with technological advancements to maintain long-term sustainability.

Transitioning the Council Fleet:
Where practicable and economically viable, replace fleet vehicles with ZEVs, contributing to the Council's target of achieving carbon net zero by 2050.

Improving Air Quality:
Support initiatives that reduce transport-related emissions and mitigate existing or potential air quality concerns.

Integrating with Broader Policies:
Ensure EV infrastructure and fleet strategies align with and enhance the Council's wider climate action and transport policies.

Zero Emission Vehicles (ZEVS)

ZEVs produce no tailpipe emissions, contributing to improved air quality and reduced carbon footprints. The primary types include:

- **Battery Electric Vehicles:** Fully powered by electricity stored in rechargeable batteries, BEVs produce no exhaust emissions. They rely on electric vehicle charging infrastructure for recharging.
- **Hydrogen Fuel Cell Electric Vehicles:** These vehicles generate electricity through a hydrogen fuel cell, emitting only water vapor as a by-product. While hydrogen fuel cell electric vehicles offer rapid refuelling and zero harmful air quality emissions, the technology and fuelling infrastructure remain in their infancy. The lower efficiency of hydrogen production for fuel cells results in higher costs, increased energy consumption, and potential diversion of renewable energy from the grid, making it currently a less viable option.
- **Emerging Technologies:** Future advancements may introduce additional ZEV technologies, particularly for specialised transport sectors, further expanding zero emission options.

The strategy will primarily focus on the development of EV infrastructure, while keeping a watching brief on hydrogen advancements as the technology matures.

Electric Vehicle Charging Points

Electric vehicle charging points (EVCPs) are available in various forms and can be installed in both on-street and off-street locations. The most common type is a freestanding unit. The selection of EVCPs for a given location should be based on the needs of the intended users.

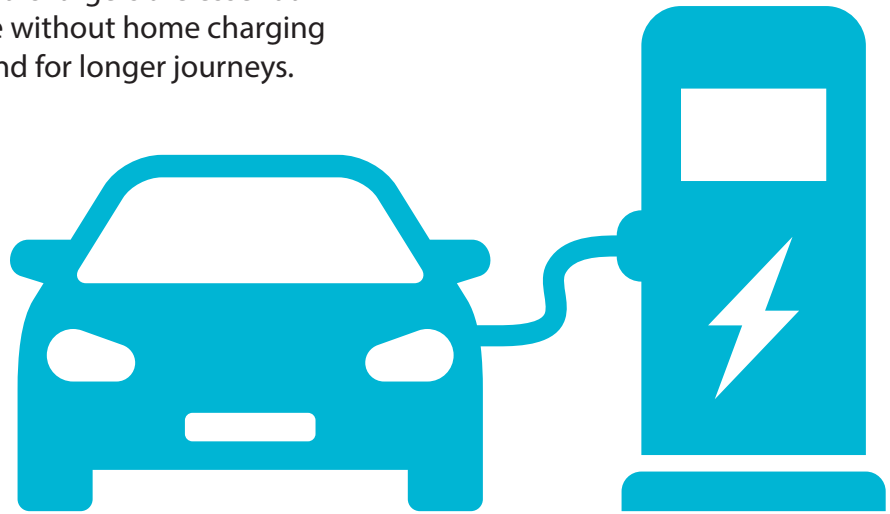
EVCPs are primarily classified by their power output and charging speed. The appropriate type of charger should be selected based on user demand and vehicle requirements. The most common categories are:

- **Slow (<3kW, 8-12 hrs):** Home overnight charging and long-term parking.
- **Fast (7-22kW, 1-4 hrs):** Public locations like shopping centres, medium term car parks and leisure sites.
- **Rapid (43-50kW, 30-60 min):** Service stations, short stay car parks and high-demand areas.
- **Ultra-rapid (>50kW, 20-40 min):** Hubs for quick top-ups.

Not all electric vehicle batteries are currently compatible with ultra-rapid chargers, and frequent use may impact battery capacity. However, as battery technology advances, newer models will improve compatibility.

Most EV owners charge at home using slow or fast chargers due to convenience and cost -effectiveness. However, public fast and rapid chargers are essential for those without home charging access and for longer journeys.

Additionally, not all vehicles require a full charge for every trip - many drivers only need to "top up" their range. A mix of charging options, including cost-effective fast chargers (7-22kW) are crucial for a practical and accessible EV charging network.

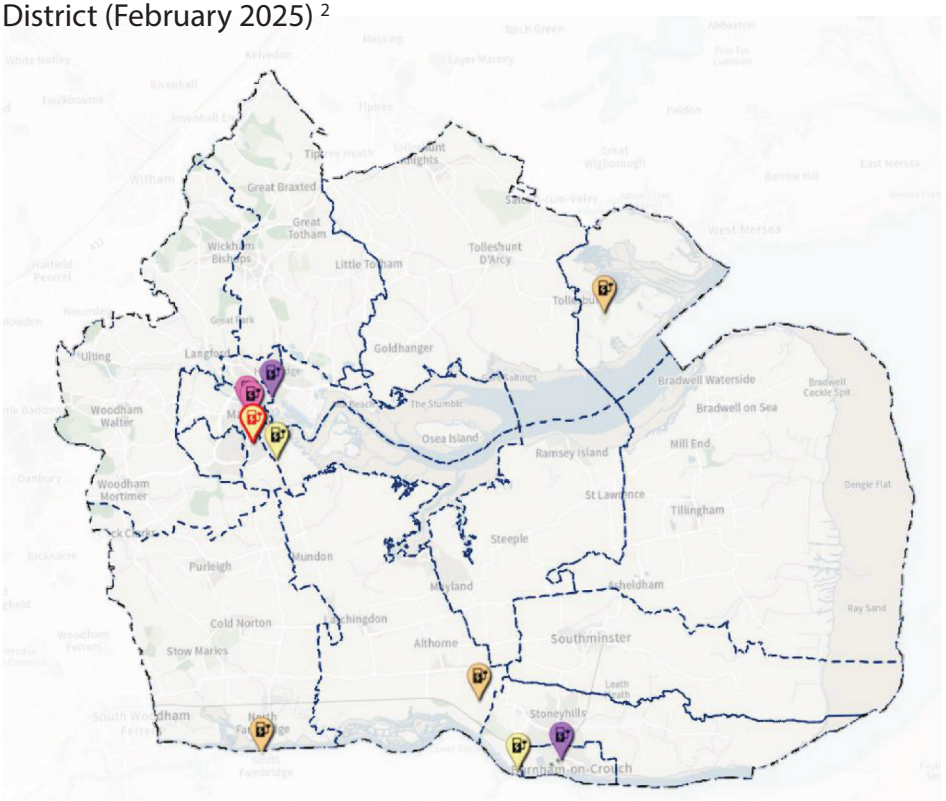


Existing Ev Charging Infrastructure and Growth Forecast

The rise in EV ownership is driving increased demand for charging facilities from both residents and visitors. However, the district currently has a limited number of publicly accessible EVCPs. Expanding this infrastructure is essential to support EV adoption and meet the needs of the local community and visitor economy.

The Maldon District has a growing number of EV registrations. However, public EVCP provision remains low. Currently the district has publicly available charging points in 9 locations, which is one of the lowest in Essex. Figure 2 shows the type and distribution of charging points within the district.

Figure 2 Distribution of Electric Vehicle Charging Points in Maldon District (February 2025) [2]



[2] Data source https://www.zap-map.com/

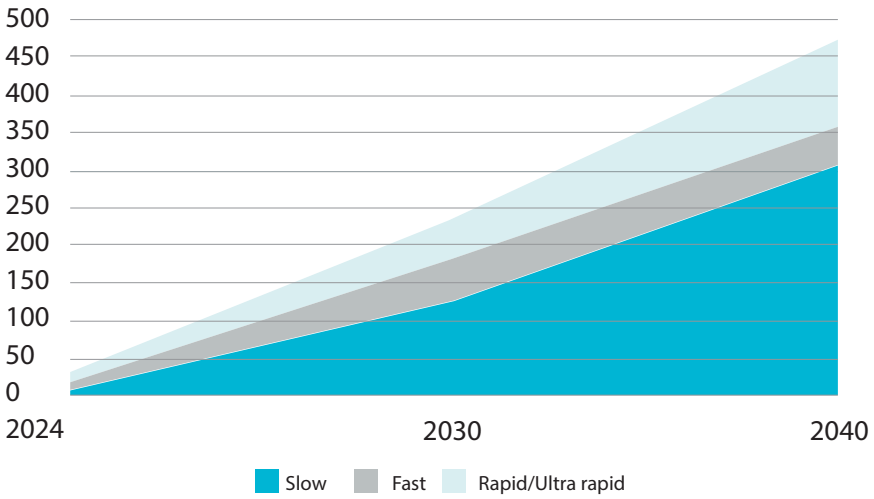
The demand for adequate EVCI will continue to grow as EVs become more affordable and efficient. This trend is expected to accelerate as more people transition from petrol or diesel vehicles ahead of the 2035 phase-out of new petrol and diesel car sales.

Projections for the Maldon District indicate that approximately 234 charge points will be required by 2030, increasing to 470 by 2040. This projected growth in EV charging infrastructure is based on modelling from the National EV Insight and Support Service (NEVIS) and is illustrated in Figure 3. These figures reflect a "balanced uptake" scenario, assuming steady growth in electric vehicle adoption driven by current trends and policy commitments. However, these projections may not yet fully reflect the potential dampening effect of the Government's decision to remove the Vehicle Excise Duty (VED) exemption for electric vehicles from April 2025, which could influence the pace of adoption—particularly among private buyers.

The majority of EV charging occurs at home, with an estimated 79% of households in Maldon District having access to off-street parking. These households are less reliant on public charging infrastructure.

However, 21% of households lack off-street parking, restricting their access to convenient charging options. To address this, the Council will work to close this gap through strategic planning and funding initiatives, including the Local Electric Vehicle Infrastructure (LEVI) fund.

Figure 3 Predicted growth in EVCI required for Maldon District[3]



21%
of households in Maldon District
without access to off-street parking

[3] Data Source National EV Insight & Support https://nevis.cenex.co.uk/

The LEVI Fund supports Tier 1 authorities (unitary, county councils, and combined authorities) in England in planning and delivering charging infrastructure for residents without off-street parking .
On 17 January 2025, the Department for Transport announced £37 .8 million in resource funding and £343 million in capital funding over the next two financial years through LEVI allocations to Tier 1 local authorities.

As a Tier 1 authority, ECC is leading the LEVI funding bid to secure funding for expanding onstreet, low-powered EV charge points in residential areas across Essex, including Maldon, improving accessibility for residents and communities reliant on public charging.

While home charging remains the preferred option, many longer journeys require enroute or destination charging . Public charging points located at workplaces, transport hubs, visitor destinations including hospitality venues and key commercial areas are essential to supporting these trips and ensuring driver confidence in EV adoption.

In addition to their practical benefits, public EV charge points can stimulate local economic activity by encouraging drivers to shop, dine, or use services while charging.

Top-up charging plays a vital role in enabling EV users to extend their journeys without requiring a full charge cycle . This type of charging typically occurs in high-traffic locations such as:

- Retail parks and shopping centres, where drivers can charge their vehicles while shopping.
- Leisure and hospitality venues, allowing visitors to add charge while engaging in activities.
- Public transport hubs, enabling commuters to charge while using other modes of transport.
- Town centres, where strategically placed fast chargers can accommodate short duration visits.

As EV adoption continues to grow, ensuring a balanced mix of home, workplace, and public charging solutions will be key to meeting the needs of residents, businesses, and visitors . The Council will continue to monitor trends, explore funding opportunities, and engage with stakeholders to support the development of a practical and accessible charging network across the district.

Role of Maldon District Council in electric vehicle charging

The Council plays a key role in expanding and supporting EV charging infrastructure across the district. The Maldon District Corporate Plan 2025-2028 prioritises enhancing the EV charging network, ensuring that residents, businesses, and visitors can make greener and more sustainable transport choices. By encouraging the adoption of EVs and ZEVs, the Council aims to contribute to a cleaner, more sustainable future.

EV Charging in Maldon District Council owned Car Parks

Public car parks are ideal locations for destination and top-up charging, as vehicles are often parked for extended periods. Medium and large public car parks are particularly well-suited for EVCP installations, as they minimise parking conflicts and increase visibility for future EV adopters.

The Council's emerging Car Park Strategy (CPS) includes a commitment to installing EVCPs in Council-owned public car parks as part of the Net Zero 2050 workstream. Currently, two 3kW slow chargers are installed at the Maldon District Council offices.

As part of the Council's strategy, consideration will be given to different charging models to support residents and visitors without home charging access. These models are particularly beneficial for high-density residential areas and maximise the use of Council-owned car parks during off-peak hours.

Potential charging models could include:

- **Subscription-based or pay-as-you-go access** for overnight charging .
- **Dynamic pricing models** to encourage efficient usage at different times of the day .
- **Partnerships with private operators** to deliver cost effective, scalable solutions .

These initiatives align with the Council's broader sustainability goals, ensuring EV accessibility while supporting carbon reduction efforts. Future updates to the Car Park Strategy will further explore the implementation feasibility of these models.

The Council is committed to expanding EVCPs across its car parks, depots, and offices to support growing demand .
The proposed provision of EVCPs in Council-owned off-street public car parks is outlined in Table 1 overleaf.

The charging network will include a mix of slow (3kW), fast (7-22kW), and rapid (50kW) chargers to meet various user needs. (Refer to Table 1 for details on charger speeds and their suitable applications).

When installing EVCPs in Council-owned assets, the following key factors will be considered:

- **Demand-Led Siting:**
  Prioritising locations where demand is highest and aggregating usage across different user groups, including e-taxis and car clubs, to support longterm modal shift ambitions.

- **Minimising Parking Pressure:**
  Ensuring installations do not significantly reduce general parking availability in high-demand areas.

- **Economic Viability:**
  Selecting sites with sufficient demand to make EVCPs self-financing over time.

- **Logistical Feasibility:**
  Assessing space availability, optimal positioning, and access to electricity supply for practical and efficient installation.

The transition to electric vehicles is still in its early stages, making it essential to develop a strong network of public EVCPs in off-street public car parks. A well-placed and accessible public charging infrastructure will encourage greater EV uptake and support the Council's broader sustainability and Net Zero goals.

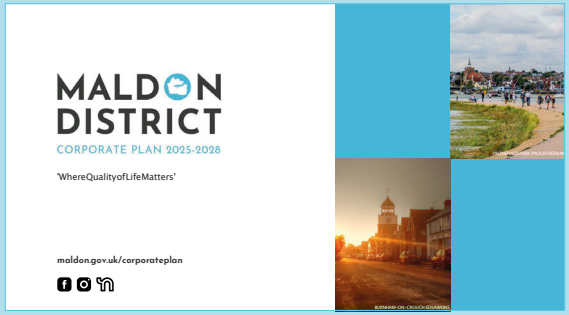
Table 1: Maldon District Council Provision of EVCP in Maldon District Council car parks

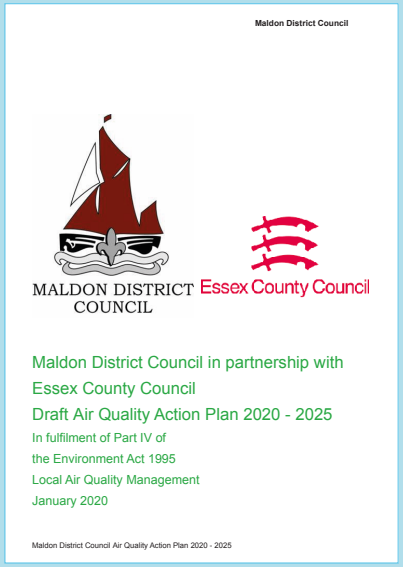
Off-street capacity (car park spaces)	**Number of EVCPs** (approximately 4% car parking spaces)
25+	1
50+	2
100+	4

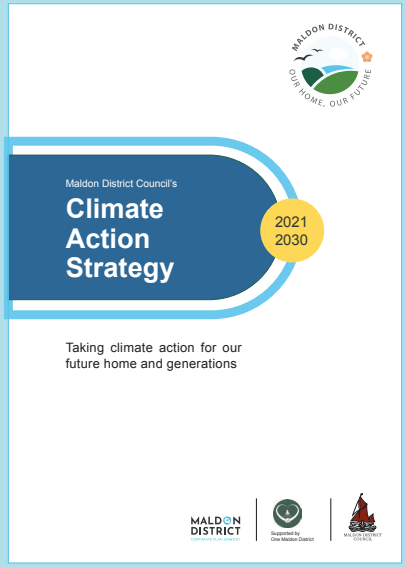
EV And ZEV Transition in Council Strategy and Policy

This strategy supports the Council's Corporate Plan 2025-2028, Climate Action Strategy 2021-2030, Air Quality Action Plan 2020-2025, and Car Parking Strategy. It also aligns with Essex's EV Charge Point Strategy and the Maldon District Future Transport Strategy.

The Council will integrate EV policies with sustainable transport initiatives to enhance accessibility, air quality, and climate resilience.







Maldon District Council Fleet

The Council directly owns 61 vehicles, comprising one EV and 60 diesel-powered vehicles. Additionally, 18 outsourced diesel-powered street cleansing vehicles contribute to fleet operations. In total, these 79 vehicles account for approximately one-third of the Council's total emissions.

The Council's directly owned fleet includes a mix of light commercial vehicles (LCVs), heavy goods vehicles (HGVs), refuse collection vehicles (RCVs), special purpose vehicles (SPVs), and pool cars (as shown in Table 2 opposite - this does not include outsourced vehicles).

Maldon District Council is committed to reducing fleet emissions while maintaining cost effectiveness. In 2024/2025 the Council carried out a Fleet Decarbonisation Review, which identified opportunities to transition to low-emission vehicles, with at least 70 of the Council's 79 fleet vehicles (including outsourced refuse and street cleansing vehicles) being suitable for EV replacement. However, significant challenges such as high capital costs, infrastructure constraints, and long-term cost uncertainties mean that a phased and pragmatic approach is required.

Table 2: Maldon Council Fleet 2024/2025[4]

Vehicle type	Fuel type	No. of vehicles
Small van	Diesel	3
Medium van	Diesel	3
Large van	Diesel	4
Tipper / Dropside	Diesel	5
4x4 pick up	Diesel	2
Special purpose vehicles**	Diesel	10
Medium Van (Suez)	Diesel	2
Heavy goods vehicles (HGVs) up to 7 .5tonnes (operated by Suez)	Diesel	12
RCV (operated by Suez)	Diesel	20
	Total	61

**this consists of mowing machines, Gators and agricultural tractors

[4] Data source MDC Fleet review 2025/2026

Fleet optimisation priorities

The Council will focus on targeted fleet optimisation, strategic vehicle replacement, and low cost interventions, ensuring that emissions reduction efforts align with operational and financial priorities. The strategy prioritises:

- **Retain and maintain vehicles** where replacement is not essential to avoid unnecessary spending.
- **Replace vehicles with Euro 6-compliant models** where full electrification is not yet viable, ensuring lower emissions in the short term.
- **Encourage outsourced contractors** to adopt lower-emission solutions, including the use of Euro 6 or low-carbon fuel vehicles, to align with the Council's overall emissions reduction objectives.
- **Transition cost-effective fleet segments** to vehicles (EVs) first, such as light commercial vehicles (LCVs), where viable alternatives exist, while ensuring replacements meet the highest available emissions standards.
- **Investigate alternative fuel types,** such as hydrogen and hydrotreated vegetable oil, as potential interim or long-term solutions to reduce fleet emissions where full electrification is not yet practical.
- **Exploring lower-cost alternatives**, such as hybrid retrofits to reduce emissions without significant capital investment.

Optimising fleet operation

Transitioning to low-carbon vehicles is only part of the solution optimising fleet operations is equally important . Reducing unnecessary travel and improving route efficiency can significantly cut emissions while maintaining an effective and efficient service.

As part of this approach, a waste collection round review was conducted in 2024, aiming to reduce fleet mileage by at least 5%, thereby lowering emissions and the Council's overall carbon footprint.

The Council will continuously assess fleet operations to identify opportunities for further emissions reductions and cost savings. Future improvements will take into account:

- Evolving legislation impacting vehicle emissions and fleet management .
- New work practices that support sustainability and efficiency .
- Technological advancements in electric and low-emission vehicles .

This proactive approach will ensure the Council remains at the forefront of sustainable fleet management.

Workplace EV charging infrastructure

Workplace EV charge points are essential for supporting the transition to EVs by providing convenient and reliable charging for both operational and staff vehicles. This strategy acknowledges the critical role of workplace charging in facilitating EV adoption within business operations.

By ensuring fleet vehicles have access to workplace charging, organisations can:

- Enhance operational efficiency by reducing vehicle downtime.
- Support sustainability goals through cleaner transport solutions.
- Encourage a wider shift towards low-emission mobility.

Workplace charging infrastructure will play a key role in creating a resilient, future-proof transport system, helping the Council and local businesses accelerate the transition to sustainable transport solutions.

The Council will explore shared charging infrastructure models, allowing multiple stakeholders to access EV chargers, maximising efficiency and cost-effectiveness.

Ambitions and Actions

The Council has committed to the following Net Zero 2050 Actions:

- Promote low carbon travel.
- Improve the electric vehicle charging network across the district.
- Reduce the emission from our fleet and transition to a zero-carbon emissions vehicle wherever practicable.

To facilitate the transition to a low-emission transport system, the Council will implement the following key actions:

- **Expand the Electric Vehicle (EV) Network:** Increase the number of charging points in Maldon District Council-owned public car parks and on Council-owned land.
- **Support Installation Projects:** Back suitable schemes and projects to install charging points throughout the district.
- **EV Charging in New Developments:** Ensure new developments include provisions for EV charging as required by Building Regulations Part S.
- **Collaborate for New Charging Options:** Continue working with ECC, as the Tier 1 Authority for the LEVI fund allocations and other partners to explore new charging options.
- **Reduce Fleet Carbon Emissions:** Implement strategies to reduce carbon emissions from the fleet, including reducing fleet mileage.
- **Assist with Charging Point Installation:** Support residents, businesses, and communities in installing suitable charging points by providing information on available grants and funding opportunities.
- **Fleet Transition:** Gradually replace the Council's fleet with electric or low-emission alternatives, in line with the Council's vehicle renewal strategy, to reduce emissions.
- **Officers will provide regular project updates** to the Net Zero Working Group and the Car Park Task and Finish Working Group.

Evaluation and Review

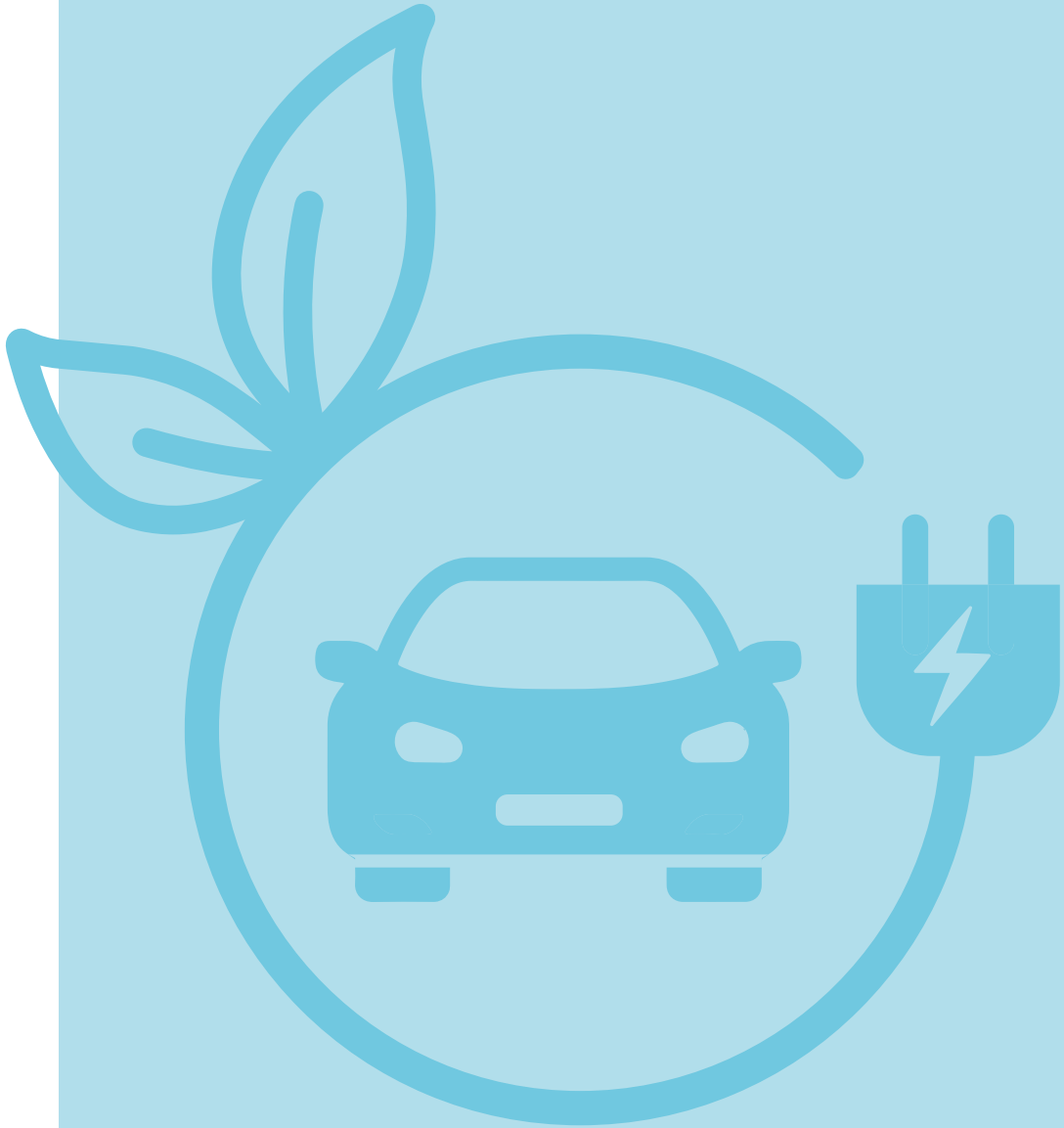
To ensure the effective delivery of this Strategy, the Council will monitor EVCP deployment by tracking the number of installed and operational charge points, review fleet transition progress by assessing vehicle composition and emissions reductions, engage with the community and businesses to encourage wider EV adoption, and conduct an annual review to assess progress and inform future actions.

- **EVCP Deployment** – Number of installed and operational EVCPs acros the District.

- **Fleet Transition** - Composition of the Council's fleet and associated emissions reductions.

- **Community Engagement** - Levels of public and business participation in EV adoption initiatives.

By integrating best practices and aligning with regional and national policies, the Council aims to achieve an effective, scalable, and sustainable transition to a low-emission transport system by 2050.



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