

Electric Vehicle Charge Point Strategy

1. Travel in a local carbon world

- 1.1 UK legislation commits the country to becoming net zero carbon by 2050. In order to achieve this the way we travel will need to change. There will need to be an increase in journeys by walking, cycling and public transport. However, some journeys will still need to be made by cars and vans, particularly in rural areas. The Government has, therefore, set targets to move away from petrol and diesel cars to electric and low emission vehicles. One target is that no new conventional petrol or diesel cars will be sold after 2040¹. A recent Government announcement has suggested that this target could be moved forward to 2035 and that hybrid vehicles would be excluded from sale. Consultation will take place before this new target is confirmed. Another target towards achieving this ultimate aim is that a minimum of 50% and as many as 70% of new car sales should be ultra-low² emission by 2030³. Ultra-low emission vehicles (ULEV) includes pure electric vehicles, electric range extended vehicles and plug in hybrids.
- 1.2 The move to electric and ULEV's is gaining pace. In December 2019 plug-in models made up 6.3% of total UK new car registrations, with pure-electric models accounting for 3.3% of that figure – more than 4,900 in total⁴. This is a significant increase on 2018 when ULEV's accounted for 2.1% of all new vehicle registrations⁵. It is anticipated that the number of electric vehicle (EV) models available to European buyers will jump from fewer than 100 to 175 by the end of 2020⁶.
- 1.3 Despite this change the overall percentage of these cars for all licensed vehicles is still small. At the end of 2018 they accounted for 0.5% of all licensed vehicles⁷. To achieve 70% of all new cars being ULEV by 2030 is, therefore, a challenging target. Nevertheless, Horsham District Council is committed to supporting this transition which will contribute to the District moving to carbon neutrality. The Council can play a role by ensuring that there are charge points available across the District to encourage an increase in electric and ultra-low emission. It is not envisaged that the Council will provide all of this infrastructure, or have a longer term role, but it can help to kick start the market, particularly in a District where it is initially likely to be less commercially attractive to install charge points.

¹ Automated and Electric Vehicles Act 2019

² Ultra-Emissions Vehicle (ULEV) includes pure electric vehicles, electric range extended vehicles and plug in hybrids

³ The Road to Zero Strategy (July 2018)

⁴ The Society of Motor Manufacturers

⁵ Department of Transport (April 2019) Vehicle Licence Statistics 2018

⁶ Data firm IHS Markit

⁷ Department of Transport (April 2019) Vehicle Licence Statistics 2018

2. Vision and Aims

- 2.1 The approach set out in this Strategy will form part of the Councils response to the District becoming carbon neutral. The Corporate Plan⁸ commits the Council to *“work with partners towards becoming a carbon neutral District.”* The Plan also states that it will *“work with partners to increase the number of electric vehicle charging points across the District to promote the use of more environmentally friendly vehicles”*. Finally, it commits the Council to *“target improvement of our air quality management areas”*. The Strategy, therefore, forms part of the framework for achieving various aspects of the Corporate Plan.

Aim

Enable the provision of infrastructure that allows electric vehicles to form part of a low carbon transport solution for the District that reduces carbon emissions and improves air quality.

Objectives

To ensure that by 2030 there is a comprehensive and cohesive network of electric charge points across the District to serve residents, visitors, and businesses

Contribute to the national target of 70% of new vehicles being ultra-low emission by 2030

- 2.2 The main reason for producing this strategy is to ensure that there is sufficient charge point infrastructure available so that this is not a barrier to the take up of electric vehicles by residents and businesses. It will also ensure that visitors to the District are not discouraged from coming to the area due to a lack of charge point infrastructure.
- 2.3 An important part of the overall vision for charge points in the District is that they are part of a cohesive network using the same network provider. Ideally this network should also be form part of wider network beyond the District. This will make accessing charge points more straight-forward for users until the market has found a solution to the current issue of incompatibility between different network providers. The latter can be a barrier to EV take up as there are currently several providers in the market and users are faced with different methods for accessing the charge points

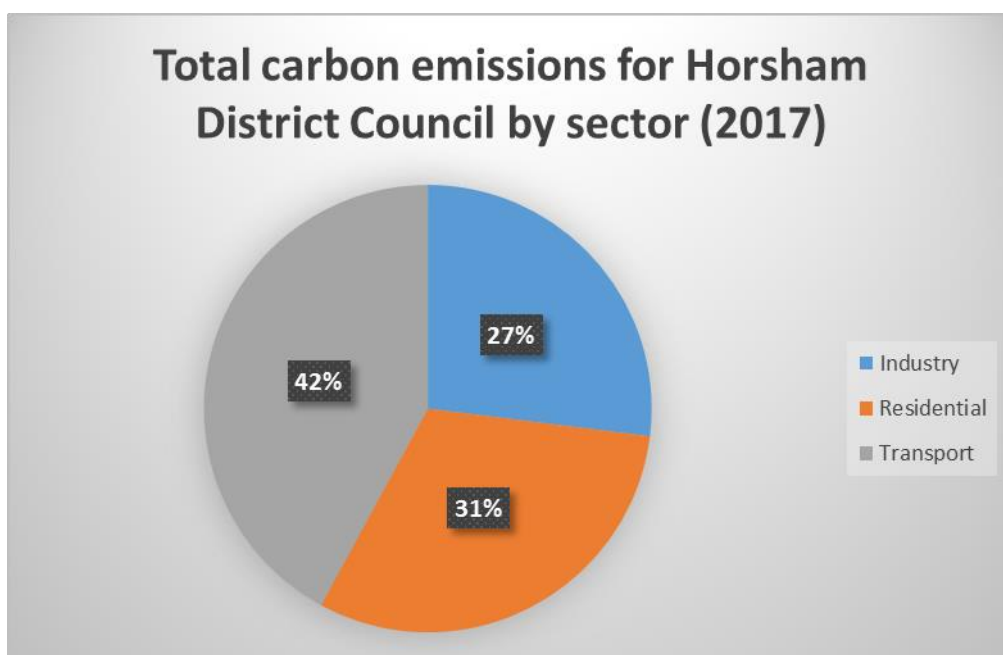
⁸ Horsham District Council Corporate Plan 2019-2023

3. Current position in the Horsham District

- 3.1 The overarching aim and objectives of the Strategy relate to increasing electric vehicle charging points to reduce barriers to the take up of EV and, therefore, contribute to reducing carbon emissions from cars and vans and to improve air quality. This section sets out the current position on these three issues.

Carbon dioxide emissions from transport

- 3.2 Carbon dioxide emissions for the District fell by 32% between 2005 and 2017 (which is the latest available data). However, during this period the contribution from transport has not shown a significant reduction which means that it now makes up a larger proportion of the overall total. Carbon emissions from transport now makes up 42% of total emissions compared to 36% in 2005. The largest proportion of transport emissions comes from road transport (aviation is not included in this data). This illustrates the importance of reducing carbon dioxide emissions from transport.



- 3.3 Encouraging the take up of EV forms part of the mix of solutions to reduce carbon emissions across the District from transport. However, it is still important to shift to sustainable forms of transport, such as walking, cycling and public transport. The Council is also bringing forward initiatives to support these forms of transport. For example, the Council is preparing a Local Cycling and Walking Infrastructure Plan that identifies improvements for future investment in the short, medium, and long term. This Plan will be reviewed every five years and will be linked to the delivery of the Local Plan.

Air quality

- 3.4 The main source of air pollution in Horsham District is from vehicle emissions. Two Air Quality Management Areas have been declared in the District, in Storrington and Cowfold, both due to the exceeding the annual mean objective for nitrogen dioxide. Due to the existing areas of poor air quality and the potential for traffic increases arising from new development the Council has taken the decision to declare the whole District an 'Emission Reduction Area'. This means all developments in the Horsham District must make reasonable endeavours to minimise emissions, and where necessary, offset the impact of that development on the environment.
- 3.5 Road transport is one of the main contributors to poor air quality in the District. Electric vehicles partly offer a solution to this problem as they operate with no tail pipe emissions. Installing electric vehicle charging points will support our aim of improving air quality, particularly in a rural District with limited public transport. However, this approach needs to be balanced with the fact that all cars emit pollutants from tyre and brake wear which reduces air quality. As such there needs to be a move away from car transport to other sustainable and active travel.

Electric vehicles

Current ownership

- 3.5 The latest figures for ULEV vehicle registrations is September 2019. At that time there were 597 ULEV registered in the Horsham District⁹. As with the national picture registrations of these vehicles has increased rapidly over the last few years, with a 52% rise between December 2017 and September 2019. At the end of 2018 ULEV's represented 0.5% of the total number of cars registered in the District¹⁰.

Survey of EV users and non-users

- 3.6 In order to understand the potential take up of electric vehicles and the views of existing electric vehicle drivers the District Council carried out an online survey. The main findings are set out below: -

EV users

- The most common journey undertaken was between home and work (56%)
- Most charged at home once a week (92%)
- Some did not have a charge point at home (33%)
- Many had often/sometimes experienced problems charging due to another EV occupying the charge point (51%)

⁹ Department of Transport Statistics - Ultra low emission vehicles (ULEVs) 1 licensed at the end of quarter by upper and lower tier local authority, United Kingdom from 2011 Q4 The total number of ULEV's at the end of 2018 was 455. A total of 86,400 were registered for all fuel types.

¹⁰ Department of Transport Statistics - Licensed vehicles at the end of the year by body type and upper and lower tier local authority, including diesel cars and vans, United Kingdom, 2018

Non EV users

- Most were thinking of changing their vehicle in next three years (67%)
- Some would definitely opt for an EV for their next car (15%); some probably would (21%) and most were 50:50 (36%)
- The most common barrier was range anxiety and availability of charge points.

3.7 These findings indicate that most EV users charge at home; with the most common journeys being from home to work. However, there is still a significant minority that do not have access to a charge point at home. Range anxiety and availability of charge points is a barrier to the take up of EVs. Better enforcement of the charge points is required to ensure that cars do not block the points after their vehicles are fully charged. There appears to be interest from non-EV drivers to moving to an EV when changing vehicles over the next few years.

4. Future ambition

- 4.1 The national policy to installing EV charge points combined with the results of the local survey has helped inform the approach in this strategy. The vast majority of EV drivers will charge their vehicles at home. They may need to top up the vehicle on longer journeys either using rapid charge points or destination chargers (a brief description of the different types of charge points is included in Appendix One). The distances that EV can travel between charges is increasing and will continue to do so as battery technology improves.
- 4.2 Rapid charge points should generally be located adjacent to strategic routes, such as the A24, A29, A272 and A281. The private sector has started to install rapid chargers adjacent to these routes, for example, at petrol stations. Given this, there will be less emphasis on installing rapid charge points on council owned land. However, any new development adjacent to these routes (including that on Council owned land) should consider installing rapid charge points.
- 4.3 Destination charge points will be important to support the visitor economy; particularly in villages which are less well served by public transport. Some destination charge points will, therefore, be installed in Council owned car parks.
- 4.4 The main focus of the strategy will be to install charge points in car parks in locations where residents cannot charge at home because they do not have off-street parking. These will, therefore, form residential charge hubs for overnight charging but will also be available during the day for visitors to “top up” their vehicles. It is anticipated that most charge points (either for destination or residential) will be 7kW or 22kW chargers and increasingly incorporate smart technology. The charge points should also utilise renewable energy either on site or via a green/renewable tariff. As technology evolves the network should incorporate battery storage to assist with peaks in demand across the electricity network.

70% scenario		Year	2025	2030
Total EVs in Horsham District car stock			14,821	35,310
Number of EVs that will rely on public infrastructure			3,489	8,323
Number of publicly accessible charging points required	Residential Charging points		636	1,367
	Rapid Charging points		27	60

Table 1 – Electric vehicle and charge point projections for the Horsham District up to 2030 (scenario of 70% of new cars being EV).

- 4.5 Table 1 illustrates the scale of the challenge for the high scenario of 70% of new cars being EV. This does not include data for the number of destination charge points that might be required. The data is taken from modelling completed by a consultant for West Sussex County Council. This used national modelling for the projected uptake of EV which includes factors such as price and battery range, as well as local information on the availability of off-street residential parking and travel patterns, including commuting.
- 4.6 The potential infrastructure requirements are based on the initial calculation of the potential increase in the number of EV cars in the Horsham District for 2025 and 2030. From this an estimate was made of the number of EV's that would rely on public charging. These are residents that do not have access to off-street parking for charging at home. This was then used as a basis for calculating the number of charge points required for these residents. These will need to be provided by residential hubs in car parks or on-street. The projected figures in Table 1 and Table 2 will not all be provided on land owned by the District Council. If the District Council enters into a partnership with West Sussex County Council some of this infrastructure provision would be on land in its ownership, such as highway land. Furthermore, there will be sites that do not have sufficient electricity network capacity to install EV charge points or where the installation costs are prohibitive.

50% scenario		Year	2025	2030
Total EVs in Horsham District car stock			6,844	20,174
Number of EVs that will rely on public infrastructure			1,602	4,740
Number of publicly accessible charging points required	Residential Charging points		381	956
	Rapid Charging points		8	27

Table 2 – Electric vehicle and charge point projections for the Horsham District up to 2030 (scenario of 50% of new cars being EV).

- 4.7 Table 2 gives the same data but with a lower take up of EV of 50% of new registrations being EV by 2030. Both scenarios demonstrate the scale of the challenge for the provision of infrastructure that will be required to support the take up of EV. To put this in context there are currently no charge points for residents to use at a competitive rate to charge overnight and in total there is only a limited number of charge points across the District (including those on private land and petrol stations).
- 4.8 As the main focus of the Councils charge point's installations will be for residential charging in areas without off-street parking, the distribution of the charge points will not be evenly spread across the District. The provision of these residential charge points will be through a combination of on street charge points and those on high. Appendix two contains maps that give indicative information on where the focus for installing charge points will be. This is based on the potential take up of EV's and areas where there is a lack of residential off-street parking. It also includes information on commuting patterns and potential take up of EV. This does not mean that the areas that the projections suggest require less public charging infrastructure will not receive charge points, but some areas will be a priority. Furthermore, over time the private sector is likely to install points at other locations, such as petrol stations, hotels etc. with rapid and destination chargers.

5. Achieving the ambition

Use of council land

- 5.1 The most significant contribution that the Council can make to encouraging the transition to electric vehicles is to use Council owned land to install charge points. The Council retains ownership of many of the car parks in Horsham town centre and rural areas, as well as car parks serving some leisure offers, such as country parks and leisure centres. The Council's approach is that it wants to secure a low/no cost solution to installing electric vehicle charge points in these locations. It has no ambition to own or manage the points. Nevertheless, it would want to retain ownership of the underground services which connect to the charge points. These will have commercial value for install charge points beyond the end of the contract with the potential supplier/installer.
- 5.2 The advantage of this approach is that it reduces the risk to the Council. Although some sites are likely to realise a return in the medium to longer term it is possible that some will not. Working in partnership with a supplier/installer would allow a portfolio approach with a mix of commercial sites with those that are likely to take longer to make a return. The latter will be important to communities in rural areas and for residents that do not have access to off-street parking which prevents them from charging their vehicle at home. Another advantage of this approach is that the Council will not be left without outdated charge points. The technology in this market is fast moving for both the vehicles and charge points.
- 5.3 The Council intends to use a model where car owners pay for parking as well as the use of the charge points. This will ensure that the revenue to the Council is unaffected. This is particularly important given the potential increase in the number of charge points that will need to be installed over the next decade. A different approach will be taken in car parks with

charge points for residents to charge overnight. There will not be a charge for them to park overnight in the short term but there will be a fee for charging the vehicle. The aim is to encourage residents without off-street parking to be able to charge overnight at a competitive rate; therefore, encouraging take up of electric vehicles in these areas.

- 5.4 There is likely to be a need to provide some on street charge points. The Council is not the Highway Authority and does not have a direct control of site selection and installation in these locations. However, the Council would wish to work with West Sussex County Council to ensure that these are not charge points are not installed in locations with narrow pavements or where they negatively impact cyclists.
- 5.5 The Council will work with the supplier/installer to ensure that mechanisms are in place to prevent EV users staying in charge point bays after they have finished charging. This will be required as the Council does not have any enforcement powers that it can use to control the use of the charge points.
- 5.6 Although the Council wishes to achieve the aims of the Strategy with a low/no cost solution it will access any relevant Government grants in order to make a financial contribution to installing charge points on its own land. For example, the On-street Residential Chargepoint Scheme provides grant funding for local authorities towards the cost of installing on-street residential charge points for plug-in electric vehicles.

New Buildings

Planning policies

- 5.7 West Sussex County Council adopted updated Parking Guidance in August 2019. This includes guiding principles for EV charge points in new residential development schemes with an increase in the percentage that should be installed over time. Horsham District Council will use its planning powers to ensure that EV infrastructure is provided in new development. The Horsham District Local Plan (Regulation 18) which has been published for public consultation includes three policies that seek to ensure that EV charge points are provided. These are Policy 39 on sustainable, design and construction, Policy 26 on air quality and Policy 43 on parking. The wording in these policies are likely to change before the final version of the Plan is approved. As the approach in this Strategy is that most households will charge their vehicles at home it is important that new development include charge points where possible. There will, therefore, be an expectation that new single occupancy dwellings should incorporate an EV charge point. Suitable locations for EV charge points should be incorporated into the design of new developments.

Council development

- 5.8 All new development on Council owned land will incorporate charge points appropriate to their location. They will also include spaces that are EV ready for development in multiple occupation (such as flats) or businesses. This means that cabling will be installed to reduce the costs of installing charge points in the future.

Partnerships

- 5.9 The Council will work in partnership with other public sector organisations, such as West Sussex County Council, Parish Councils and other District and Borough Councils in the area to install charge points. West Sussex County Council adopted an EV Strategy in 2019 and its overarching aims complement the approach that the District Council wishes to take. Working in partnership with other public sector organisations will contribute to the aim of a comprehensive and cohesive network of charge points across the area which will make charging EV's simpler for residents and visitors.
- 5.10 At this stage the Council has not worked with taxi and private hire owners over their requirements for electric charge points as their fleets move to all electric. However, this will form part of the Councils partnership approach.

Incentives and Promotion

- 5.11 The Council currently offers a large discount on new taxi or private hire licences for an EV. Options for further incentives to encourage EV taxis and private hire will be investigated by the Council.
- 5.12 The Council will use its own media channels and work with partners to explain the advantages of EV and low emission vehicles. It will also keep residents, businesses and visitors updated as the charge point network in the area develops.
- 5.13 The Government currently offers several grants to incentivise the uptake of EVs. The Council will promote these and also work with the public and private sector and with community groups to highlight the availability of these grants.

6. Implementation, Monitoring and Review

- 6.1 It is anticipated that the Strategy will be implemented by securing a supplier that will install, own, and operate the charge points on a concession basis. However, the Council will retain ownership of the ground works associated with the charge points. There will be an expectation of some income from the more commercial sites. However, there is a recognition that this income maybe lower given the ambition of installing charge points at a mixture of commercial and less commercial sites. Securing a supplier is likely to be in partnership with other public sector organisations to achieve the aim of a cohesive network.
- 6.2 The implementation will be overseen by a cross Council group of officers. It will be reviewed annually with a focus on the number and type of charge points that have been installed on Council owned land with the data provided by the commercial partner. An update report will be produced with a focus on the number of installations and any other relevant information, for example, on promotions that took place over the course of the year.

APPENDIX ONE

Types of charge points

The following are the main levels associated with EV charging. In all cases the length of time it takes to charge a vehicle depends on the size of the vehicle's battery.

3kW (slow chargers)

This is the oldest standard and can typically be supplied by a standard household 3-pin plug or type 2 socket. These are most suited for overnight charging as it can take 6 – 12 hours to fully charge a pure EV or 2 – 4 hours for a plug in hybrid. Generally, these types of charge points are not recommended due to more EV's having larger capacity batteries and, therefore, requiring higher capacity charge points.

7 – 22kW (fast chargers)

These require a dedicated power source and connecting cable type. A typical full charge on an electric vehicle takes 3-4 hours, meaning that 3 or 4 users a day could fully charge.

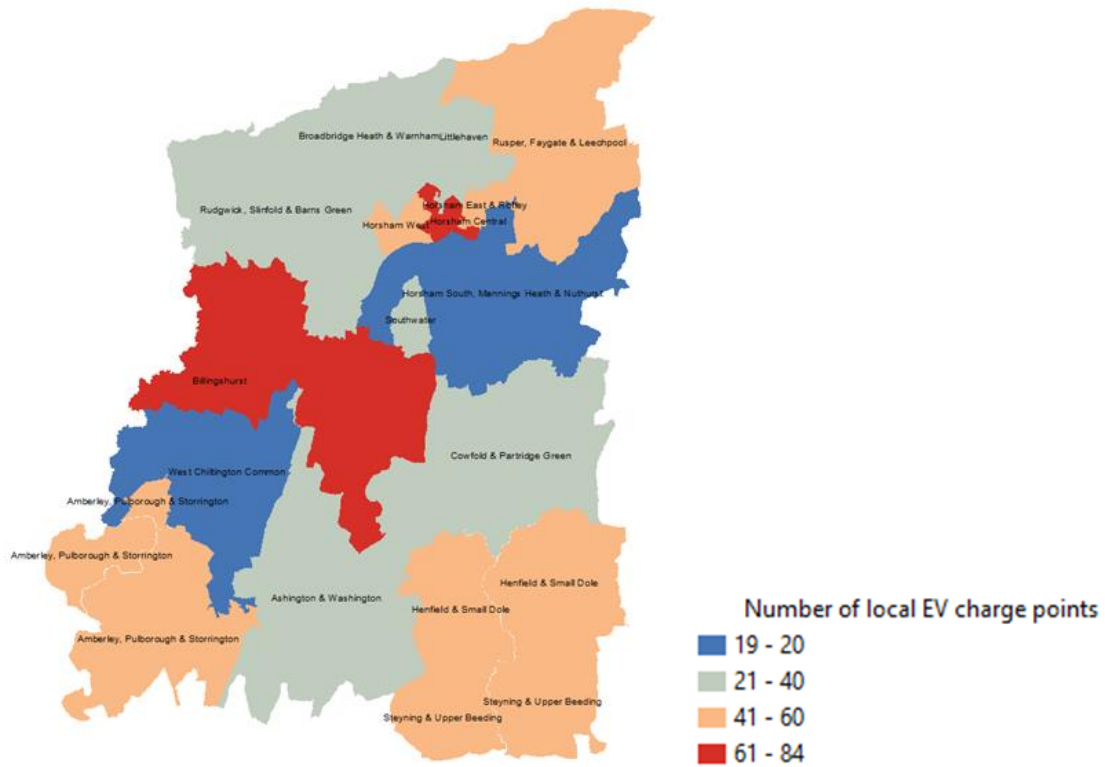
50kW (rapid chargers)

These are high power rapid charging option to suit users who need to charge their electric vehicle quickly, such as taxis, commercial vehicles, or company cars and those doing longer journeys. A full charge typically takes 30-40 minutes, allowing for a high number of charges per day. The units are relatively large compared to lower power units and require significant local power network capacity.

Ultra-rapid chargers are also now available that are between 150kw and 300kw. Only a few types of vehicles can currently use these chargers.

APPENDIX TWO

Total number of local EVCP charge points required for high ambition in 2025
(70% of new registered vehicles being EV)



Total number of local EVCP charge points required for high ambition in 2030
(70% of new registered vehicles being EV)

