



Low emission and electric vehicle strategy

Contents

1	Background and Context	4
2	Sevenoaks District Council Fleet	7
3	Electric Vehicle Charging Infrastructure	8
4	Role of Sevenoaks District Council in electric vehicle charging	11
5	Ambitions and Actions	15

1 Background and Context

- 1.1 In 2019, transport was the largest carbon emitting sector in the UK, responsible for 27% of the total carbon emissions . The main source of emissions from this sector is the use of petrol and diesel road transport. In Sevenoaks District, transport accounts for 63% of the District's total emissions².
- 1.2 The best way to reduce carbon emissions related to transport, is to look firstly at how to reduce the need to travel. It is then important to promote and improve transport modes that produce zero or little carbon emissions, such as cycling and walking. Finally, where vehicle transport is necessary, low or zero emissions vehicles and infrastructure should be considered. All three of these approaches are needed to significantly reduce the level of carbon emitted from the transport sector.
- 1.3 Investment and innovation are needed to promote and encourage more walking, cycling and use of public transport. However, 89% of the UK own a private vehicle³ . The car is the dominant mode of transport in England with 61% of trips taken by private vehicle in 2019⁴. For many trips the use of alternative modes of transport are not feasible or appropriate.
- 1.4 In March 2021 the Government confirmed 2030 as the phase out date for new petrol and diesel cars and vans, with all vehicles being required to have a “significant zero emissions capability” from 2030 and be 100% zero emissions from 2035⁵.
- 1.5 The Transport Secretary Grant Shapps stated that “The UK is going further and faster than any other major economy to decarbonise transport, harnessing the power of clean, green technology to end the UK's contribution to climate change by 2050. ⁶”
- 1.6 The number of electric vehicles sold in the UK continues to grow. In 2015 electric vehicles accounted for 1.1% of all new cars registered in the UK compared to the end of December 2020 where they made up 10.7% ⁷ . It is a growing sector and electric vehicles, as well as the accompanying charging infrastructure, are crucial to reducing carbon emissions and improving air quality.

¹ Source: Government - 2019 UK Greenhouse Gas Emissions, Final Figures

² Source: Government - UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2018

³ Source: Government - Vehicle Licensing Statistics

⁴ Government- National Travel Survey: England 2019

⁵ Source: Government consultation- Outcome and response to the ending the sale of new petrol, diesel and hybrid cars and vans

⁶ Source: Government news- Government takes historic step towards net-zero with end of sale of new petrol and diesel cars by 2030

1.7 Sevenoaks District currently has the highest level of electric vehicle ownership in Kent.

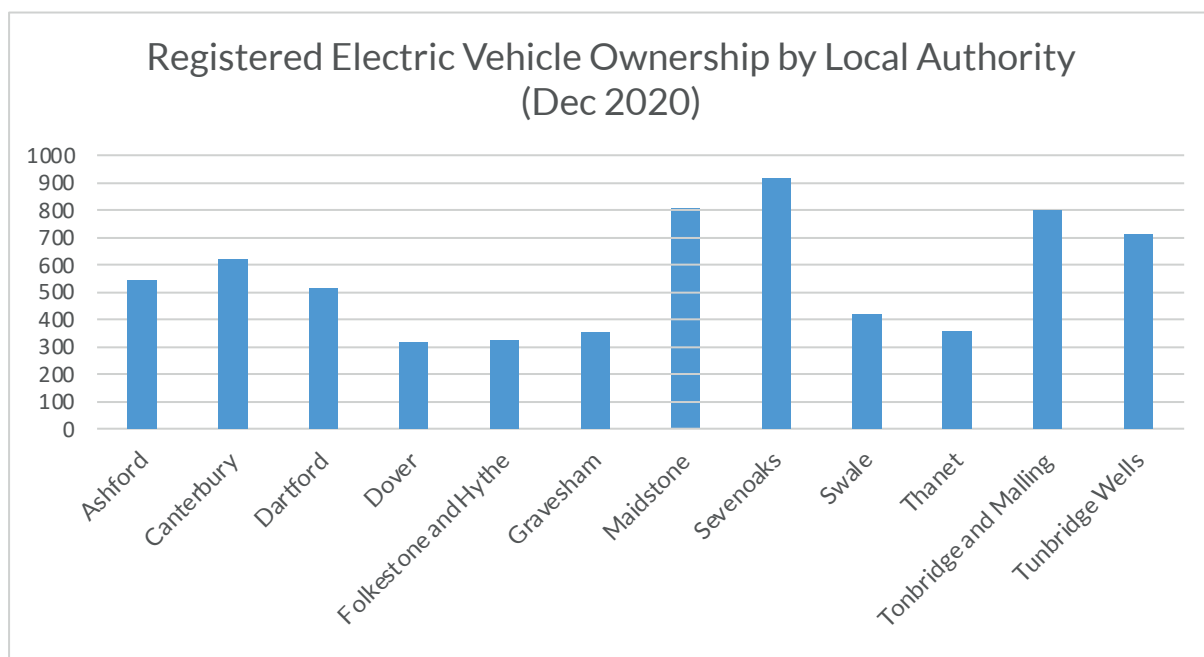


Figure 1: Registered Electric Vehicle Ownership by Local Authority - Dec 2020

1.8 The number of electric vehicles owned within Sevenoaks District has rapidly grown and continues to grow as shown in Figure 2.

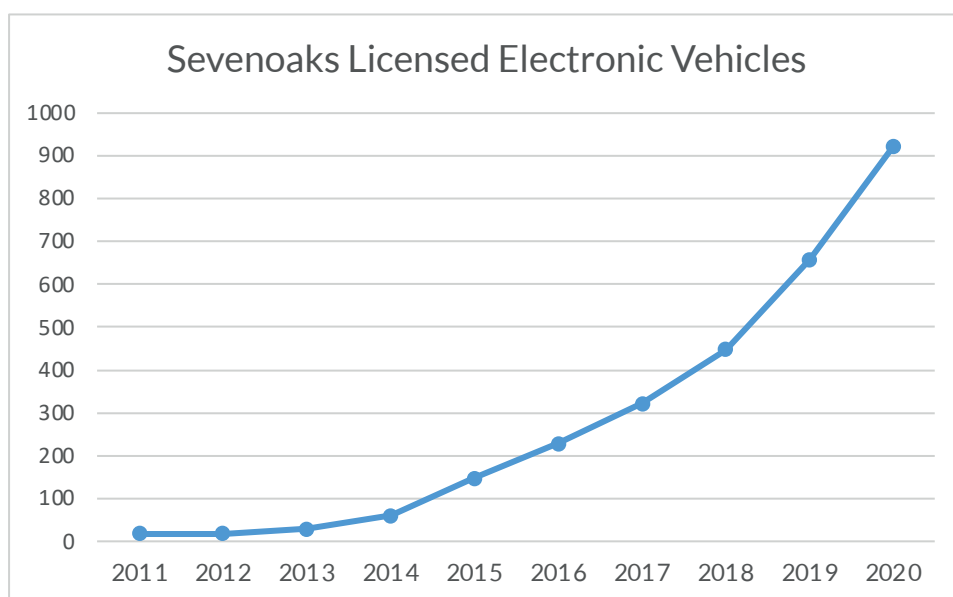


Figure 2: Sevenoaks Licensed Electronic Vehicles- December 2020 ⁹

⁷ Source: Next Green Car Statistics

⁸ Source: Government Statistics- VEH0132: Licensed ultra low emission vehicles by local authority: United Kingdom

- 1.9 The Kent and Medway Energy and Low Emissions Strategy¹⁰ (ELES) states that:
- “Limiting our contribution to global warming, and driving low carbon economic recovery, will undoubtedly be the most urgent issues of this decade.”***
- 1.10 The strategy identifies 10 priority actions for Kent, including a priority related to transport and travel. The ELES acknowledges the role that low emission and electric vehicles play in reducing carbon emissions across the county and commits to working with local authorities to improve the charging infrastructure.
- 1.11 Sevenoaks District Council (SDC) have committed to becoming Net Zero by 2030, for the council and its assets, whilst also taking a lead in helping residents, businesses and visitors in the District to reduce their own carbon emissions. As part of this Sevenoaks District Council has committed to support electric and low emission vehicles and promote the necessary infrastructure¹¹.
- 1.12 The Low Emission and Electric Vehicle Strategy will assist the Council in achieving the following Net Zero 2030 actions:
- Promote low carbon travel
 - Improve the electric vehicle charging network across the District
 - Continue our transition to a zero-carbon emissions vehicle fleet wherever practicable

⁹ Source: Government - 2019 UK Greenhouse Gas Emissions, Final Figures

¹⁰ Source: Government - UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2018

¹¹ Source: Government - Vehicle Licensing Statistics

2 Sevenoaks District Council Fleet

- 2.1 The majority of the Council's carbon emissions arise from the Council's fleet of vehicles accounting for over 70% of the total emissions last year.
- 2.2 We have already begun reducing the carbon emissions from our existing fleet. The fleet consists of 93 vehicles, 4 of which are fully electric. Of the 89 diesel engines, 29 meet the ULEZ standard, the Euro 6 Standard, according to manufacturer testing. There has been an even stricter stance towards diesel engines, particularly in terms of NOx emissions, forcing down a vehicle's output by 55%. The NOx limit for Euro 5 diesel vehicles was 180mg/km which has been reduced to just 80mg/km for Euro 6 diesels. Further vehicles in the fleet will be replaced by Euro 6 standard vehicles in 2021/2022 and beyond.

Table 1: Sevenoaks District Council Fleet

Vehicle type	Engine	Number of vehicles
Car/Ranger	2x EV; 12x Diesel	14
Small van	10x Diesel	10
Large van	17x Diesel	17
LGV	2x Diesel	2
Small HGV	5x Diesel	5
HGV	34x Diesel	34
Other	2x EV; 9x Diesel	11
Total:		93

- 2.3 We are investigating the replacement of the vehicle fleet with low carbon alternatives. We will invest in electric cars and vehicles where feasible and also consider future fuel technologies such as hydrogen.
- 2.4 We are currently working in partnership with Kent County Council's waste management team to look at our fleet parking and storage options, as part of the new household and recycling centre being developed at Dunbrik in 2023. We are also looking at what infrastructure is required at this new location, and we are working in collaboration with Hitachi to establish the demand an electric fleet of HGVs would require. It is expected that a significant proportion of the electricity will be sourced via renewable energy production.
- 2.5 It is important to not only replace vehicles with low carbon alternatives but also consider how those vehicles will operate, ensuring that the need and distance to travel is reduced, thereby reducing emissions whilst ensuring an efficient and effective service. As part of this we are currently developing a new waste collection round review, which aims to decrease the mileage we cover in the vehicles by at least 5%, therefore reducing the carbon footprint.
- 2.6 We will continually review how our vehicles operate and seek to identify future savings. This will need to take account of changing legislation, work practices and technological advancements to ensure we are doing our best to reduce emissions.

3 Electric Vehicle Charging Infrastructure

- 3.1 There are many different types of electric vehicles with varying range and charging capacity. The average electric vehicle range in the UK is approx. 190 miles (or 170 miles excluding Tesla) compared with the average UK journey of 8 miles¹³.

Table 2: Types of Electric Vehicle Charging Infrastructure

Type of charger	Connector power (approx)	Approx charging time from empty to full*
Slow	3kW	6 - 12hrs
Fast	7kW (22kW)	4 - 6hrs (1 - 2hrs)
Rapid	50kW	30 - 60mins

* Charging times vary with vehicle battery capacity and type.

- 3.3 **Slow chargers** are usually rated up to 3kW and can include 3-pin plugs (2.3kW). These are often found at domestic premises where the vehicle will be parked for an extended length of time such as overnight. Charging times vary and, whilst a 3-pin plug can be used, it is recommended that regular charging be undertaken using a dedicated charging unit.
- 3.4 **Fast chargers** are typically rated at 7kW, however there are some 22kW chargers available. Fast chargers tend to be found at destinations where the user is likely to be parked for an hour or more such as car parks, supermarkets, commercial premises, or leisure centres. However, many users choose to install 7kW chargers at home to allow for more flexible and quicker charging.
- 3.5 **Rapid chargers** are the fastest way to charge an EV. They are often found at motorway service stations, town centres or close to main transport routes. This type of charger is most commonly used by those needing to charge in order to complete a journey.
- 3.6 **Ultra Rapid Chargers** provide power at 100kW or more and therefore significantly reduce the charge time. These are the next generation of rapid charge point and are not yet commonly found.
- 3.7 The majority of electric vehicles are charged at home via a slow or fast charger, as this is usually the most convenient and cheapest way to charge. However, public fast and rapid chargers are essential for those who do not have access to a home charger or those who need to charge to complete a longer journey.
- 3.8 It should be noted that not all vehicles will need a full charge for every journey, it may only be necessary for users to “top up” miles to complete a journey. Therefore, a range of charging options, including fast chargers (7-22kW) that are considerably less expensive to install, are essential for a viable and practical charging network.

¹² Source: Nimblefins- average electric car range

¹³ Source: Nimblefins- average car journey

Sevenoaks Context

- 3.1 Sevenoaks has a high level of electric car ownership, the highest registered car ownership in Kent. However, the District has a relatively low number of publicly accessible electric vehicle charging points (EVCPs)

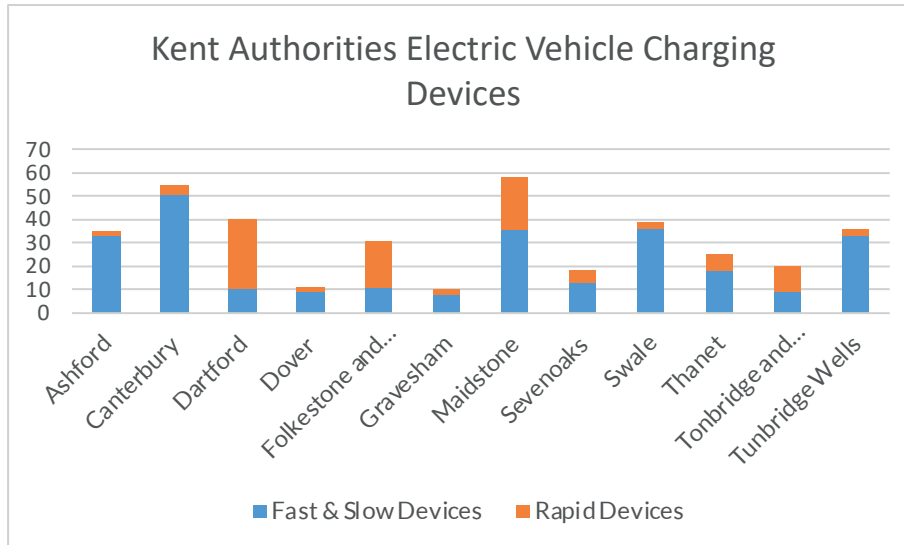


Table 2: Types of Electric Vehicle Charging Infrastructure¹⁵

- 3.10 The above graph shows the charging points registered with the Department for Transport. In reality there are more available charging points across the county that have not been formally registered.
- 3.11 Figure 4 shows the distribution of charging points across Sevenoaks District.
- 3.12 Figure 4 shows the limited number, and uneven distribution, of existing charging points in the District, with most in the northern half and particularly around Sevenoaks Urban Area. However, there are no rapid points within Sevenoaks Town centre, no charging points in Edenbridge or Westerham and very limited charging facilities within Swanley.
- 3.13 The majority of electric vehicle charging occurs privately by owners at home. Within Sevenoaks District it is estimated that 67% of households have access to off-street parking. Therefore, most households are likely to have the capacity to charge safely at home.
- 3.14 However, of the remaining 33% of households without access to off-street parking, many do not currently have easy access to a public charging point near their home. The exact number and location of these households, as well as the potential solutions, will need further investigation.
- 3.15 The majority of car journeys are within a single charge for electric vehicles and therefore home charging will remain the preferred options for most users. However, for longer journeys, it may be necessary for drivers to charge en route or at their destination. Well placed publicly accessible charging points are essential for these users. These could be at workplaces, along key transport routes or within Town Centres. Charging points can also have a positive impact on a local economy, by bringing users into an area, as drivers can make use of services and facilities whilst their vehicle charges.

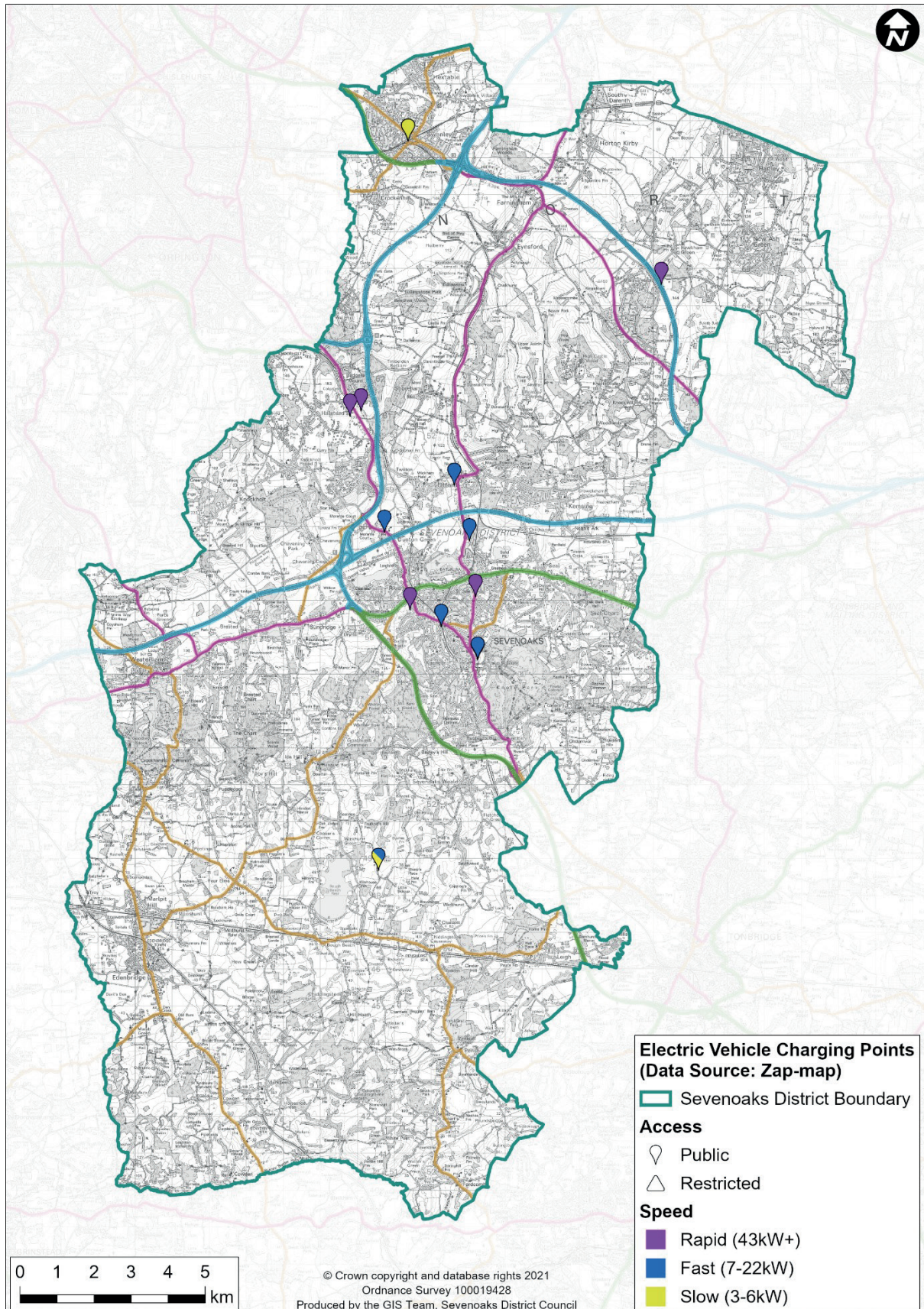


Figure 4: Distribution of Electric Vehicle Charging Points in Sevenoaks District (May 2021)

¹⁴ Source: Government Statistics- VEH0132: Licensed ultra low emission vehicles by local authority: United Kingdom (VEH0132)

¹⁵ Government Statistics - Electric vehicle charging device statistics: April 2021

4 Role of Sevenoaks District Council in electric vehicle charging

4.1 The Council have committed to improving the electric vehicle charging network within the District.

Sevenoaks District Council owned car parks

4.2 Car parks provide convenient and suitable locations for destination and top-up charging and will be prioritised as good locations to support EV demand, as these are locations where vehicles are already left for some time. Medium and large car parks are easier for installing ECVPs as there is less conflict in regard to loss of parking spaces from other road users and the presence of EVCPs raises awareness of the facilities for future EV adopters.

4.3 The Council have committed to installing electric vehicle charging points in Sevenoaks District Council owned car parks. This is included as an action for the Net Zero 2030 work. Currently the Council has installed 10 charging points within Sevenoaks District Council owned car parks. This is detailed in Table 3.

Table 3: Electric Vehicle Charging Points in Sevenoaks District Council owned car parks

Car park	Location	Capacity	Disabled dual use bays	Single use disabled bays	Other bays	EVCP
Sevenoaks Town car park	Sevenoaks	449	19	4	0	8 (BP pulse)
Bradbourne car park	Sevenoaks	420 + 20 Premium	8	2	0	2 (Charge-Master)



Electric vehicle charging bays and charger point in Bradbourne car park

4.4 We will continue to install accessible charging points across other car parks under Sevenoaks District Council control and at the Council depot and offices. In general terms our provision of EVCPs in off-street car parks will be:

Table 4: Sevenoaks District Council Provision of EVCP in Sevenoaks District Council car parks

Off-street capacity (spaces)	Number of EVCPs
25+	1
50+	2
100+	4

4.5 Our off-street charging network will be varied and include different types of charging infrastructure, operating at different speeds (residential 3kW, trip-destination 7-22kW, and rapid charging 50kW), to provide for a range of needs.

We are at a relatively early stage in the adoption of electric vehicles and it is particularly important that a network of public chargers in off-street car parks is introduced to help drive uptake.

4.6 We will also take into account the following:

- Identification of suitable off-street car park locations for the installation of EVCPs
- Minimising the impact on existing parking pressures in the immediate area

- Generate a sufficient level of usage demand to ensure the EVCP will become self-financing, i.e. economically viable
 - Are logistically practical for installation, in terms of space, positioning and accessing electricity supply
- 4.7 A Kent multi-council (including KCC, Sevenoaks, Medway, Tonbridge and Malling, Tunbridge Wells, Dartford, Swale, Maidstone and Thanet) tendering exercise has been undertaken to EV Suppliers on the Framework. The tender is for detailed costings for an Electrical Vehicle Charging Points and Associated Services on the Kent and Medway District EV Charger Network. The results of this tendering exercise are being analysed and will be used to install additional EVCPs.

Sevenoaks District Council Strategy and Policy

- 4.8 This Low Emission and Electric Vehicle Strategy directly relates to the Council's upcoming Movement Strategy. The Movement Strategy will set out the key priorities for sustainable travel, transport and movement within the District, bringing together different solutions and making the most of opportunities. The improvement of the electric vehicle charging network will be a key component in encouraging sustainable movement within and through the District.
- 4.9 Local Planning Policy can play an important role in ensuring the provision for electric vehicle charging is included in new developments. The Allocations and Development Management Plan includes an adopted policy on the installation of electric vehicle chargers in new development. The Policy states that:

“For all major non-residential development proposals the applicant should set out within their Transport Assessment a scheme for the inclusion of electric vehicle charging infrastructure.”

Within new residential developments all new houses with a garage or vehicular accesses should include an electrical socket with suitable voltage and wiring for the safe charging of electric vehicles. Schemes for new apartments and houses with separate parking areas should include a scheme for at least one communal charging point.”

- 4.10 The emerging Local Plan also includes requirements for all new housing with off street parking to include a plug suitable for charging, and for communal charging points in residential developments with separate parking areas. In addition, all non-residential developments with car parking must also include charging points.
- 4.11 Sevenoaks District Council is currently developing its new Air Quality Action Plan. This strategic document will seek to improve air quality across the District and within our designated Air Quality Management Areas (AQMA), through the implementation of measures and actions which will reduce pollution or human exposure to pollution.
- 4.12 All of Sevenoaks District Council's 9 AQMAs are declared for potential exceedances of Nitrogen Dioxide (NO₂). 1 AQMA is also declared for an exceedance of small particulates (PM₁₀). Both of these pollutants are associated with emissions from road vehicles.

- 4.13 In February 2020, the District Council commissioned the specialist company, Bureau Veritas (BV), to undertake a technical review of our AQMA. BV used air quality modelling, validated by our own monitoring data and the latest road traffic data for the district, to predict relevant human exposure within each of our existing AQMA. They were also able to undertake a pollution source apportionment exercise to help us identify the constituent parts of pollution in our AQMA. In effect, they are able to accurately predict the percentage of pollution at any monitored location from each vehicle type.
- 4.14 These modelling assessments have identified that Diesel Light Goods Vehicles and Diesel Cars are the two principal sources of roadside nitrogen dioxide pollution in all of our AQMAs. In Sevenoaks Town Centre, for example, more than 60% of the measured NO₂ is derived from these sources and in almost all AQMAs they make up more than 50% of the measured NO₂ emission.
- 4.15 By comparison, within Sevenoaks Town Centre, Heavy Goods Vehicles account for approximately 4.6% of the NO₂ emission and across all AQMAs account for a much smaller percentage of the total emissions.
- 4.16 As a result of this analysis, it is likely that measures which reduce the use of traditional Internal Combustion Engine vehicles, and which promote alternate green or sustainable forms of travel, will have the greatest impact on improving local air quality and consequently will be a focus of the new Air Quality Action Plan.
- 4.17 It is clear, therefore, that the current priorities to address poor local air quality align with the District Council's Net Zero Agenda and are supported by this strategy.
- 4.18 The Council is currently revising the Staff Travel Plan to encourage sustainable travel for all staff. Measures within the new Travel Plan will include encouraging the use of technology to reduce mileage, support for cycling and walking and increasing the use of electric vehicles. This includes installing charging points at the Argyle Road offices and Dunbrik depot and increasing the number of electric vehicles within the Council's fleet. We have also recently introduced

Working with Partners, Communities and Businesses

- 4.19 We are committed to helping residents and businesses install charging points for themselves. We are currently developing a webpage to provide information and links to assist this, including details of the current government funding available for both business and residents.
- 4.20 The Government currently offer grants towards the costs of purchasing and installing charging points for homes and work places. These schemes support the uptake of electric vehicles by making it easier for individuals to have the necessary infrastructure in place.
- 4.21 The Electric Vehicle Homecharge Scheme provides a 75% contribution up to £350 (including VAT) towards the cost of one charge point and its installation. Applicants must own, lease or have ordered an eligible vehicle and have private off-street parking. Further information on the scheme can be found on the Government's website: [Government- Overview of the Electric Vehicle Homecharge Scheme](#)
- 4.22 The Workplace Charging Scheme offers vouchers that support the up-front costs of the purchase and installation of electric vehicle charge-points, for eligible businesses, charities and public sector organisations. This scheme offers a grant of up to 75% of the

purchase and installation costs of EV charge points with a cap of £350 for each socket and maximum of 40 sockets. Further information on the scheme can be found on the Government's website: [Electric Vehicle Homecharge Scheme: guidance for customers](#)

- 4.23 We continue to look at how we can best identify the level of need, for both residents and visitors, for electric vehicle charging and how we can deliver the appropriate type of chargers, in the most suitable and feasible locations. We will continue to work with the KCC Transport Innovations Team, including the Transport Innovations Programme Manager, to identify opportunities and deliver improvements to the charging network within the District.
- 4.24 Kent County Council have a Local Electric Vehicle Charge-point scheme for Parish and Town Councils and Village Hall Associations. The aim of the scheme is to provide publicly accessible charge-points in local communities across Kent and to improve the charging network across the county. This is especially important for rural areas or where there is currently very little provision. We have encouraged the Town and Parish Councils within the District to participate in the scheme and a number of charge-points should be installed within 2021-22. More information about the scheme can be found on the Kent Connected website at: [Kent Connected - Electric Vehicle Charge-points](#)
- 4.25 We have recently secured agreement with KCC for a new EVCP on Sevenoaks High Street exclusively for use by taxis. This will encourage the uptake of electric taxis within the District and especially in an area of poorer air quality. We will continue to work with KCC for other similar projects in the future.

5 Ambitions and Actions

- 5.1 The Council have committed to the following Net Zero 2030 Actions:
- Promote low carbon travel
 - Improve the electric vehicle charging network across the District
 - Continue our transition to a zero-carbon emissions vehicle fleet wherever practicable
- 5.2 In order to achieve these actions, the Council will:
- Improve the District's electric vehicle network by increasing the number of charging points within Sevenoaks District Council owned car parks and on Sevenoaks District Council owned land.
 - Support suitable schemes and projects to install charging points throughout the District.
 - Ensure new developments make provision for electric vehicle charging through Local Planning Policy.
 - Continue to work with Kent County Council, and other partners, to explore new charging options.
 - Implement ways to reduce the carbon emissions from the fleet including through reducing fleet mileage and replacing the existing fleet with electric and low carbon alternatives, where feasible and as soon as possible.
 - Support residents, businesses and communities to install suitable charging points including through providing information on available grants and funding opportunities.
 - Encourage the replacement of traditional combustion engines and low emission vehicles with fully electric vehicles within the District.

To find out more,
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