



Electric Vehicle Strategy

2022 - 2030



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1. Foreword



Vice Chair of the
Environment Committee

One of the first actions the new administration took when elected in 2019 was to declare a climate and ecological emergency. The declaration sets very ambitious targets, including net-zero across the borough by 2030. The Climate and Ecological Emergency Action Plan, which was published in April 2020, sets out the requirement to install charge points across Swale guided by an Electric Vehicle (EV) Strategy. The switch from diesel and petrol to electric vehicles is an important part of the strategy to reduce our carbon emissions from transport and to improve the air quality in Swale. However, EVs are only part of the strategy: steps to encourage walking and cycling and for more journeys to be made by public transport have an essential role to play. Furthermore, the Council will support car clubs to reduce the need for residents to run their own car or a second car.

In keeping with the action plan, the Council are leading from the front, showing what can be done, while supporting organisations, businesses and local residents on their low carbon pathway. To that end, Swale Borough Council has already made the switch to EVs for most of our own fleet, including the mayor's car. Leasing and running EVs saves the Council money compared to diesel vehicles.

The EV charging infrastructure can only be delivered in partnership with others. It requires grant funding from central government, liaison with Kent County Council as the Highways Authority, businesses to install workplace chargers and to switch their fleets, and for residents to switch to EVs.

Delivering the EV charging infrastructure will be a dynamic process; matching the availability of chargers to demand from EV drivers and exploiting the rapidly changing technology available. This is a new area for all local authorities. It is an exciting journey and is one we are enthusiastic to take in Swale. Electric vehicles will deliver long-term financial savings for car owners, cleaner and healthier air for all, as well as significant reduction of carbon emissions. Swale Borough Council will lead on this journey, but we cannot reach the destination alone. We need everyone to travel along with us, share ideas and to support each other.

July 2022

2. Executive Summary

Our overall transport vision for Swale remains one based on identifying the transport improvements and solutions that are required to accommodate the anticipated changes in travel demand and promote a shift towards sustainable travel. Swale Borough Council recognises the benefits of sustainable transport, both to individuals, places and the environment more widely, and wish to reduce car use in favour of public transport and active travel.

However, we recognise that for certain activities and individuals, cars and vans remain an appropriate mode of transport. Moving these vehicles from petrol and diesel to ultra-low emission vehicles is critical, to reduce the impact of those journeys, and help us achieve our climate change and air quality ambitions. This includes the commitment to reaching net-zero carbon emissions across the borough by 2030.

Our vision for the Borough is that when residents travel by car and small van they choose ultra-low emission vehicles, and travel in a carbon neutral way. With the ban on the sale of new petrol and diesel cars and vans being brought forward to 2030, this is now becoming more crucial.

This strategy focuses on the role of electric vehicles across the Borough to deliver this vision, and the interventions we will be taking to support residents to a transition to electric. It looks forward to 2030, but as electric vehicles, and electric vehicle charging, is very much an emerging technology it is important for us to be able to adapt to changes and ensure a flexible approach to delivery of the strategy.

This strategy forms one part of the overall transport strategy for the Borough and should be considered alongside and read in conjunction with other relevant strategy documents, such as the Local Plan, Swale Transport Strategy, the Air Quality Action Plan and the Walking and Cycling Guidance.

Objective 1	Creating and facilitating a network of EVCPs that meets the needs of residents, businesses, and visitors, with sufficient coverage by 2030
Objective 2	Designing sites that take into consideration accessibility concerns and other road users/pedestrians
Objective 3	Ensure the charging network has capacity for further expansion and is futureproofed
Objective 4	Encourage the uptake of EVs through education using campaigns, supporting trials, initiatives, and public engagement
Objective 5	Lead by example through use of electric vehicles wherever possible for delivering council service and promoting the benefits.

3. Introduction

Electric vehicles (EVs) have the potential to offer great benefits to Swale residents, businesses and visitors in terms of health, the environment and reduced running costs over the lifetime of the vehicle. Electric vehicles are part of the tool kit for decarbonising transport emissions and are an important component of improving local air quality and reducing premature deaths and health risks associated with exposure to toxic air.

The Swale Electric Vehicle strategy aims to create awareness of the challenge posed by the transition to electric vehicles and how Swale Borough Council can look to face this. Department for Transport data shows that demand for electric vehicles has increased exponentially over the last five years and is projected to expand rapidly over the next 30 years. It is important that there is sufficient and accessible charging infrastructure in place to support this transition to low emissions vehicles, whilst keeping abreast of emerging technologies and key developments surrounding charging infrastructure and sustainable transport.

Awareness of the infrastructure that will need to be introduced by a range of stakeholders including local authorities and the private sector is key, whilst creating a forward plan to ensure the Council plays a strong enabling role. Residents and the Council alike need to be forward thinking and resilient to the way our transport systems will have to change, however this is the alternative to what will be a very different world if we continue to depend on fossil fuels.

Swale Borough Council recognises its role in supporting the uptake of electric vehicles and in light of the Council declaring a climate and ecological emergency¹, this strategy will provide guidance on identifying the appropriate charging infrastructure, located in the right places, to support the level of electric vehicle uptake that will be required to reach the target of net-zero across the borough by 2030.

This document will address the Council's role as an electric vehicle enabler by understanding the key stakeholders, the current and future market, and where this fits into the national picture. Focus will also be placed upon installing infrastructure in a way that meets the borough's local needs and follows best practice, so that pedestrians and other pavement users are not adversely affected.

The objective of this document is to fulfil one of the aims of the Swale Climate and Ecological Emergency Action Plan (April 2020):

To develop an EV charging strategy including publicly accessible fast and rapid chargers, in council and private car parks (e.g. hotels, shopping centres), and working with KCC for on-street charging

The Swale Electric Vehicle Strategy will include:

- Clear vision and direction for the types and locations of charge points in Swale;
- Strategic and focused actions and measures to encourage Electric Vehicle uptake;
- Engagement and support process with all stakeholders and delivery partners on the installation of charge points;
- Recognition of the needs and demands of both EV and non-EV owners at the time of writing;
- Considerations of air quality improvement aspirations;
- Additional steps to futureproof the proposed strategy due to the nature of EV technology; and
- Implementation and delivery plan for the Electric Vehicle Strategy for 2022 - 2030.

The chart below shows how this Electric Vehicle Strategy will fit amongst Swale Borough Council's existing suite of policy documents.

¹ <https://services.swale.gov.uk/assets/Climate-Change-and-Ecological-Emergency/Climate-Change-and-Ecological-Emergency-Motion.pdf>

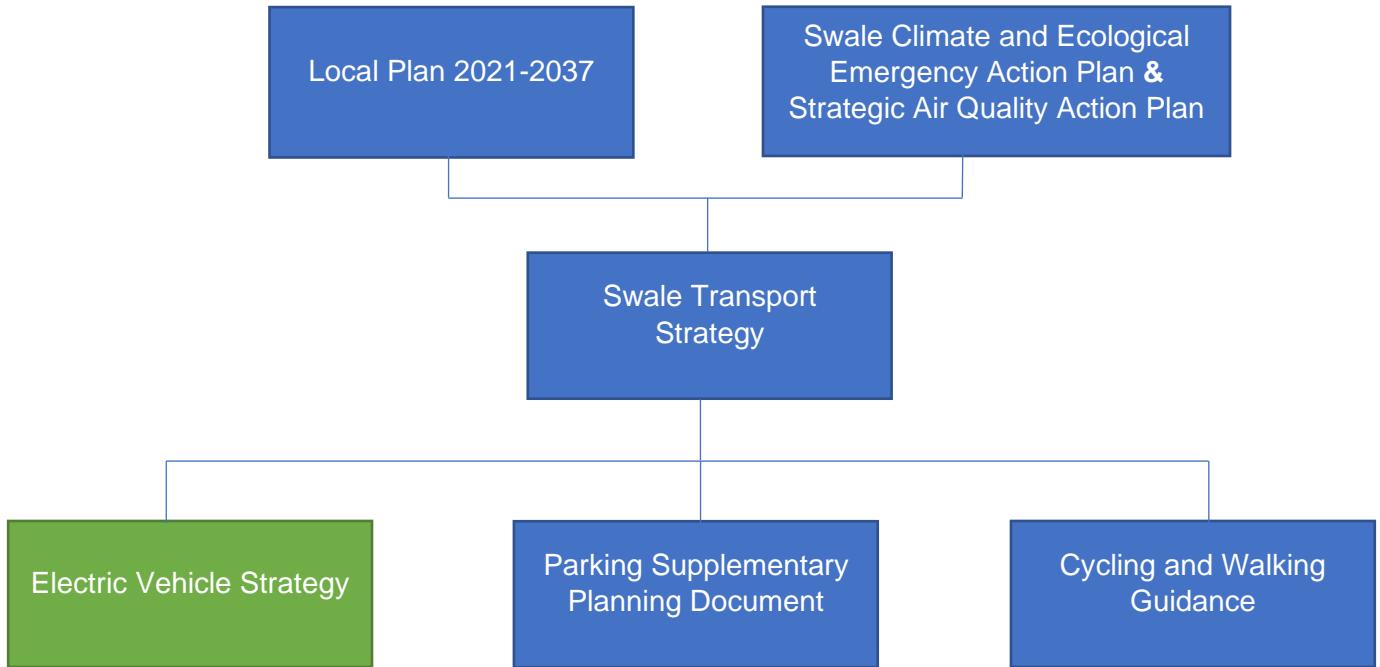


Figure 1 Existing SBC policy documents

4. National Position

4.1 National Context

It has been recognised in the National parking policy that restrictions on an individual's right to own and park cars are 'unrealistic', as restricting parking at the origin does not necessarily discourage car ownership. It is therefore important to encourage the sustainability of vehicle usage by taking steps to facilitate the switch to Electric Vehicles.

The uptake of Ultra Low Emission Vehicles (ULEV) has been increasing year on year: globally, EV stock has risen from 14,260 in 2010 to over 10 million in 2019 with the UK being one of the countries leading the way. Electric car registrations increased by 41% in 2020, despite the pandemic-related worldwide downturn in car sales. With the Government's target to end the sale of all new conventional petrol and diesel cars and vans by 2030, on the basis of the existing market share, it is anticipated that EVs in the UK will reach between 2.7 and 10.6 million by 2030. This will be dependent on the work of the government and local authorities to produce the infrastructure necessary to support EV uptake.

Planning policy also supports the provision of infrastructure for ULEVs, with Paragraph 112 of the NPPF stating that local parking standards should require developments to: "be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations." The direction for Swale under this directive is set out in the Parking SPD. Other national legislation and policy will feed into establishing the UK's electric vehicle charging networking and is therefore important to be recognised in this document.

4.2 Road to Zero

The Road to Zero Strategy outlines how the government will support the transition to zero emission road transport, with a focus on developing world-class EV infrastructure, working in combination with the £400 million Charging Infrastructure Investment Fund².

The policies identified the government's long-term ambitions as:

- Reduce emissions from the vehicles already on our roads
- Drive the uptake of the cleanest new vehicles
- Reduce emissions from heavy goods vehicles and road freight
- Put the UK at the forefront of the design and manufacturing of zero emission vehicles
- Support the development of one of the best electric vehicle infrastructures in the world
- Support local action

4.3 Automated and Electric Vehicles Act 2018

This legislation is part of the Government's industrial strategy to promote the development and deployment of both automated and electric vehicles and is in line with policies on climate change. The purpose of this legislation is both to amend the existing compulsory third party insurance framework by extending it to cover the use of automated vehicles and deal with electric and hydrogen powered vehicle charging infrastructure.

Part 2 of this Act relates to electric vehicle charging. It is intended to address incompatibility of charge points by requiring standard connectors for vehicles. It also improves access to charge points by requiring that they are accessible without membership, certain information is made available on charge points and there is a common method of payment.

4.4 Clean Air Strategy 2019

The Government's Clean Air strategy, published January 2019, sets out plans to meet ambitious legally binding international targets to reduce emissions of the five most damaging air pollutants by 2020 and 2030. This strategy outlines the government's ambitions relating to reducing air pollution, making air

² <https://www.gov.uk/government/publications/charging-infrastructure-investment-fund>

healthier to breathe, protecting nature and boosting the economy. The strategy sets out a clear direction for future air quality policies and goals. Emissions from road transport have been in the spotlight because of their impact on local air quality, but the government is committed to cutting air pollution from all forms of transport. As a local authority Swale has a statutory duty to improve air quality, as set out in the Air Quality Action Plan (2018-22)³.

4.5 Climate Change Act

The Climate Change Act 2008 sets up a framework for the UK to achieve its long-term goals of reducing greenhouse gas emissions and to ensure steps are taken towards adapting to the impact of climate change. The Act saw the UK tasked with reducing emissions by at least 80% by 2050, compared to 1990 levels. However, 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 bring all greenhouse gas emissions to net zero by 2050, reducing emissions by 78% compared to 1990 levels by 2035.

³

https://services.swale.gov.uk/meetings/documents/s11020/Appendix%20I%20AQAP_SwaleBC_2018%20nv%202.pdf#:~:text=This%20Air%20Quality%20Action%20Plan%20%28AQAP%29%20is%20being,in%20Swale%20Borough%20Council%20between%202018%20and%202022.

5. Local Position

5.1 Location

The Borough is located on the North Kent coast and measures approximately 144 square miles. Swale has an estimated population of 150,000 (BEIS figure 2019) and is predominately rural with three main urban areas: Sittingbourne, Faversham and Sheerness. Canterbury, Ashford, Maidstone and Medway surround Swale, creating a high demand on transport infrastructure. The area is well connected by road, with access to the M2, the M20, M25 and M26. Based on 2011 Census data, car ownership in Swale has risen to meet the Kent average.

The borough includes extensive and important rural areas, accounting for around a quarter of the population, which take in the whole of the Isle of Sheppey and part of the Kent Downs area of outstanding natural beauty.

Swale's demographic make-up includes a mix of affluent and less affluent areas, but in general the borough is less well-off than is typical for the south-east. The diverse makeup of the borough will require an Electric Vehicle Strategy which recognises the challenges faced by different areas, populations and sectors.

Swale's charging network will be impacted by policy created at both the county and district level. The below publications include commitments to supporting electric vehicles, with this document bringing these aspirations together through a coherent strategy.



Figure 2 – Swale Borough Boundary

5.2 Local Policy

5.2.1 Swale Climate and Ecological Emergency Action Plan

The Swale Climate and Ecological Emergency Action Plan⁴ includes the below actions in relation to electric vehicles:

Action	Timescale	Progress
Install EV charging points across the borough.	2025	8 charge points installed in council-owned car parks in 2020
Encourage high-quality, medium-high density dwellings near to transport nodes. Development could be supplemented by restricted parking, and EV pool-cars.	Short	Supported through the local plan review
Develop EV charging strategy including publicly accessible fast and rapid chargers, in council and private car parks (e.g. hotels, shopping centres), and working with KCC for on-street charging.	Short	Complete
Replace Swale Borough Council's fleet vehicles with electric vehicles	Short	This action was completed in December 2020

Table 1 – CEE Action Plan 2020 EV Targets

This document expands on how these actions will continue to be achieved and embedded in the council's operations to increase and encourage EV ownership across the borough.

⁴ <https://services.swale.gov.uk/assets/Climate-Change-and-Ecological-Emergency/SBC%20CEE%20Action%20Plan%20Final%20with%20illustrations.pdf>

5.2.2 Swale Borough Council Strategic Air Quality Action Plan 2018-2022

This Air Quality Action Plan⁸ (AQAP) outlines the strategic and local actions to improve air quality in Swale Borough Council between 2018 and 2022. The current Air Quality Action Plan expires at the end of 2022 in which the Environmental Protection (EP) Team in collaboration with a stakeholder steering group will review and update the AQAP. The EP team will prioritise the most effective and feasible measures to ensure they are delivered, as part of the update.

The key priorities of the AQAP are to develop measures which deliver compliance of air quality objectives through a combination of strategic and local focused AQMA measures. The plan identifies measures which target reductions in emissions from vehicle fleets (HGV, LGV and cars). Measures within the updated AQAP will emphasize and encourage the switch to zero emission vehicles in line with this Electric Vehicle Strategy.

5.2.3 Kent and Medway Energy and Low Emissions Strategy (2020)

Outlined below are the key findings of this strategy document:

- 14.3% increase in the number of vehicles on major roads in Kent between 2006 and 2016
- 43 Air Quality Management Areas, where air pollutants have been known to exceed government objectives
- Only a 4.5% fall in carbon emissions from transport since 2005
- Kent and Medway's mortality rate associated with poor air quality is worse than the national average⁷

Low carbon technologies such as electric vehicles and local renewable energy generation pose a challenge to the electricity grid network in Kent and Medway which is already significantly constrained, and which could inhibit future growth. Therefore, Swale must work with KCC to engage with the energy utility companies to create a more resilient, smart and innovative local energy network to ensure we have the energy we need, when we need it, at the right price and without any negative environmental impacts.

The Kent and Medway Energy and Low Emission Strategy has shown that much of the county is already subject to electricity grid network constraints, which is making new connections increasingly difficult, particularly for new energy generation projects. Electricity demand is also expected to grow significantly to 2050, driven by the growth in electric vehicles and increased electrification of heating, which could see up to 60% of homes using heat pumps. A drive towards locally generated renewable energy, often from smaller, more dispersed sources, will further ramp up pressure on an already constrained electricity grid network.

Ambitions set out by Kent and Medway to which Swale can contribute and work as an important stakeholder:

High Level Activities:

- Work collaboratively with the public and private sector to roll out EV charging points and infrastructure for walking and cycling
- Support public transport providers, including school transport providers, to use lower emission vehicles

Short term (by 2023):

- Implementation of low-carbon mobility hubs for electric cars, electric bikes and push bikes, to include battery storage and solar panels where possible. Hubs to be located across the public sector estate and car parks, linking with communities, village halls and business parks.

For longer term consideration (by 2030):

- Increased control, regulation and charging for public parking in favour of electric vehicles and public transport

- Increased involvement in regulation of public transport and taxis to tackle poor air quality and lower greenhouse gas emissions

5.2.4 Swale Transport Strategy

Target 6 of the Transport Strategy 2014-31⁵ aims to reduce NO₂ levels to below an annual average of 40 µg/m³ to comply with EU directives on air quality. Due to this, new developments will be required to develop robust travel plans with infrastructure measures as required as well as targets. The Swale Transport Strategy 2022-2037 (Draft)⁶ replaces the Swale Transport Strategy 2014-2031 and provides a supporting evidence base to the Swale Local Plan (2021-2037) and has been prepared to provide the transport policy framework for Swale to the year 2037.

Two of the main objectives of this Transport Strategy are to:

- Identify the transport improvements and solutions that are required to accommodate the anticipated changes in travel demand and promote a shift towards sustainable travel;
- Promote sustainable travel as a measure to address localised air quality concerns and the global climate crisis.

5.2.5 Car Parking Standards Supplementary Planning Document 2019

It has been recognised that parking design should accord with the most relevant technical requirements/standards. Justification and discussion of the type of charger with wired connection would need to be undertaken with officers at the application stage to ensure an appropriate provision. For example, it may be that a slow or fast charger would be suitable for office and residential uses where vehicles are parked for longer, yet for retail uses, a rapid charger may be more appropriate.

For residential developments, each dwelling with off-street parking should provide an electrical outlet within close proximity of the parking space. For communal residential parking areas and other car parks for non-residential uses, it is important to provide a mix of ‘active’ and ‘passive’ charging spaces (where the electricity supply is installed, however, the physical charging infrastructure is not, allowing the spaces to be converted into fully active spaces at a later date).

Details of how ULEV parking will be allocated and managed should be included within Transport Assessments submitted as part of planning applications. This should also set out how ULEV parking for visitors and disabled users will be accommodated. The parking standards for ULEVs are found in Table 2. This strategy upholds and encourages the enforcement of the ULEV requirements in the Parking SPD.

Other recommendations within the SPD include:

- Mechanisms for discouraging high emission vehicle use and encouraging the uptake of low emission fuels and technologies
- Car club provision within development or support given to local car club/EV car clubs
- Designation of parking spaces for low emission vehicles
- Differential parking charges depending on vehicle emissions

Residential Uses	
Dwellings with On-Plot Parking	1 Active Charging Point* per dwelling
Dwellings with unallocated communal parking	10% Active Charging Spaces with all other spaces to be provided as Passive Charging Spaces
Visitor Parking	A minimum of two visitor spaces or 10% of the total visitor provision (which ever is greatest) should be provided with passive charging provisions suitable for future conversion
Non-Residential Uses	
All Uses with Off-Street Parking	10% Active Charging Spaces with all other spaces to be provided as Passive Charging Spaces

* Please note, where reference is made to a charging point, more than one socket can be provided. The charging point that is implemented should be sufficient for the needs of the dwelling.

Table 2 Parking SPD EV References

⁵ <https://services.swale.gov.uk/meetings/documents/s993/Appendix%20II.pdf>

⁶ <https://services.swale.gov.uk/meetings/documents/s16438/Appendix%20III%20Swale%20Transport%20Strategy%202022-2037.pdf>

- All commercial vehicles should comply with current European Emission Standards
- Fleet operations should provide a strategy for considering reduced emissions, low emission fuels and technologies
- Use of ultra-low emission service vehicles
- Supporting the Highways Authority to provide on-street EV charging where suitable
- Contribution to low emission vehicle refuelling infrastructure
- Bike/e-bike hire schemes
- Contribution to renewable fuel and energy generation projects
- Incentives for the take-up of low emission technologies and fuel

5.2.6 Air Quality and Planning - Technical Guidance *(and any updated versions)*

This document⁷, alongside other similar versions across the Kent and Medway Air Quality Partnership, seeks to develop consistent EV charging standards for new developments across the county. Support for electric vehicle infrastructure within this document, much of which is in-line with the Parking SPD, includes measures such as:

- Provision of a Car Club Scheme within the development or support given to local car club/eV car clubs
- Active and passive EV charging infrastructure – beyond standard measures.
- Parking arrangements including reserved spaces for EV/car

⁷<https://services.swale.gov.uk/assets/planning%20policy%202019/FINAL%20AQ%20Planning%20Tech%20Guide%20July%202019.pdf>

6. Current EV Position & Charging Network

6.1 Air Quality Management Areas

At a local level, Swale has committed to ambitious targets to reduce greenhouse gas emissions to net-zero by 2030.

By 2031, it is anticipated that there will be almost 180,000 new homes and nearly 400,000 extra people, a 24% increase from 2011 levels, in Kent. The local economy is also expected to expand, creating an additional 170,300 jobs by 2031 a 21% increase from 2011 levels, in line with forecast population growth. It is estimated that in 2017, there were 922 deaths associated with particulate matter (PM_{2.5}) exposure across Kent and Medway.

It has been identified that pollution from road vehicles is the main cause of poor air quality across Kent and Medway and is also the largest source of carbon emissions. Five Air Quality Management Areas have been identified in Swale, with diesel cars as the greatest contributors to NOx source contributions:

	East Street AQMA	Newington AQMA	Ospringe & Teynham AQMA4	St Pauls AQMA
Petrol Cars	6.8%	6.8%	8.2%	7.0%
Diesel Cars	51.3%	50.3%	62.8%	53.6%
Petrol LGVs	0.0%	0.0%	0.0%	0.0%
Diesel LGVs	20.4%	22.5%	9.4%	15.4%
Rigid HGVs	11.4%	12.2%	8.2%	14.5%
Artic HGVs	8.1%	6.0%	10.3%	6.6%
Buses/Coaches	1.3%	1.4%	0.3%	2.4%
Motorcycles	0.2%	0.4%	0.2%	0.1%
Full Hybrid Petrol Cars	0.1%	0.2%	0.1%	0.1%
Plug-in Hybrid Petrol Cars	0.0%	0.1%	0.0%	0.0%
Full Hybrid Diesel Cars	0.3%	0.2%	0.3%	0.2%

Table 3 – AQMA NOx contribution sources

Since the analysis shown above was carried out, Swale have identified a new AQMA at Keycol Hill. As congestion from road traffic continues to be a problem, it is imperative to find a solution that encompasses the switch to less polluting vehicles, but also encourages residents and visitors to use alternative modes of sustainable transport. Keeping the county moving is a high priority, as congestion negatively impacts productivity levels and air quality.” The KCC Energy and Low Emissions Strategy sets out targets to support the switch away from petrol and diesel to clean, alternatively fuelled vehicles.

This document aims to set out how EV charging will be included in the wider strategy to tackle air pollution in AQMA areas. These areas will be prioritised and investigated for charging hubs, working with partners such as parish councils to find suitable locations for EV charging. EV charging is a solution that is likely to be considered as part of a potential Low Emission Zone, which the guidelines set out in this document would need to inform if implemented.

6.2 Current EV uptake

The Council monitors usage of its public car parks in relation to vehicle type. Data on EVs is currently obtained using RingGo, which accounts for 53% of total transactions, equal to 359,696 transactions (as of Q3 2021). Electric vehicles currently make up 3.41% of transactions (2021/22 Financial year, YTD figure up until end of Q3).

Financial Year	EV Market Share of Parking Transactions
2019/20	1.87%
2020/21	2.43%
2021/22 (YTD as of January 01 2022)	3.41%

Table 4 – Growth in EV Market Share of Parking Transactions in Swale

This shows consistent growth of the market share from previous years. This 3.41% market share represents a total of 12,266 EV transactions in SBC car parks. As this data is only obtained from RingGo it's likely that the true number of EV customers using SBC car parks is up to double this amount.

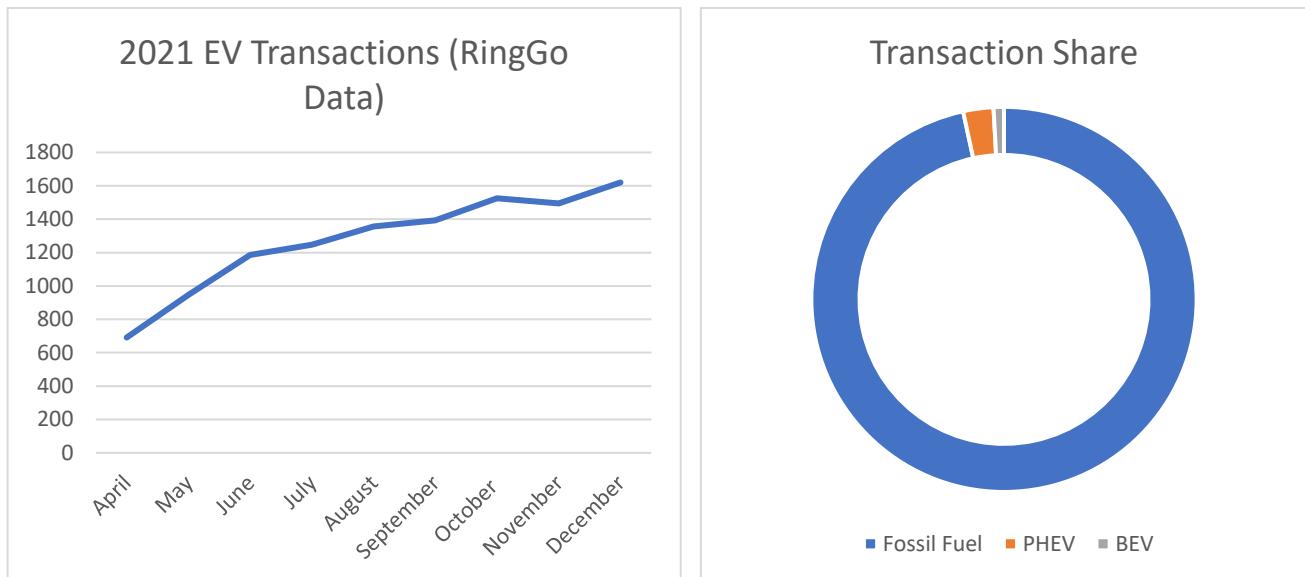


Figure 3 – 2021 EV Transactions Data in Swale Car Parks

Figure 4 – Transaction Share of Fossil Fuel, Plug-In Hybrid, and Battery Electric Vehicles in Swale Car Parks in 2021

The latest Department for Transport figures (2021) show that there are 564,000 electric vehicles registered in the UK. Of which, 8,544 vehicles are registered in Kent, and 525 vehicles were within Swale. Table 5, below, shows the steady growth in the numbers of plug-in electric vehicles licensed across the UK from 2015 to 2021, with a steeper increase in recent years. Similarly, ownership levels in Swale are now ten times higher than they were in 2015.

	2015	2016	2017	2018	2019	2020	2021
Swale	51	80	116	161	237	324	525
Kent	841	1469	2263	3232	4406	6028	8544
UK	42k	74k	116k	168k	224k	317k	564k

Table 5 - Registered ULEV Ownership Figures (Q2) (DfT)

Figure 6, below, shows the number of registered EVs in each Kent local authority area in 2020. Sevenoaks (746) has the highest number of EV's registered, whilst Dover (257) has the lowest.

The 324 EVs in Swale represent 0.35% of the total 93,000 registered vehicles in the borough in 2020. Across Kent, the borough with the highest proportions of EVs is Sevenoaks (0.88%) and the lowest is

Swale (0.35%). The UK average is 0.8%.

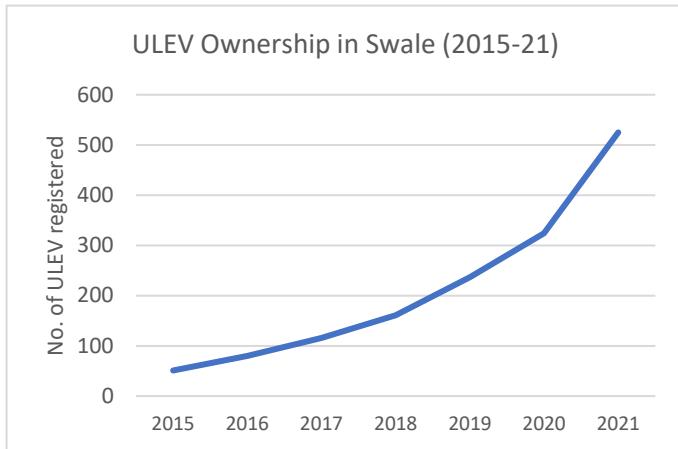


Figure 5 - Rising Trend in EV Ownership in Swale (DfT)

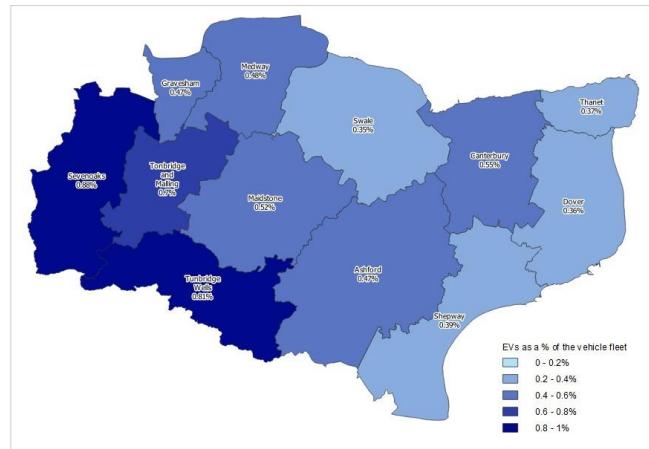


Figure 6 - Number of registered EV's per borough as proportion of total vehicle stock (Q2, 2020 - DfT)

6.3 Current EV Charging Network/Infrastructure

6.3.1 Public Charging

The national charging network has been growing in recent years to meet the demand created by an increase in electric vehicles being purchased. With the range of these vehicles improving, there is an emphasis on installing infrastructure that can charge larger batteries quicker, therefore favouring rapid or fast charge points (see section 6.2).

As of 1 July 2021 (UK):

- there were 24,374 public electric vehicle charging devices available in the UK
- of the total devices available, 4,551 were rapid chargers

Of these, there were 22 charge points registered via [ZapMap](#) in Swale (a full list can be found in Appendix B). Charge points have been installed at supermarket car parks, private workplace car parks, council owned car parks and other destinations. Some private residential charge points have also been registered via 'Zap Home' for public use and are included in this list. The connection types at these charge points include rapid, fast, and slow chargers, as shown in Figure 7. This results in 68 separate charging bays/sockets across the borough's charging network. There is a mixture of charging speeds available; 7kW, 22kW and 50+kW units. A review of the comments left by users on Zap Map show that points are regularly out of service and unusable. This is common across the UK where businesses install low cost units or are not incentivised to maintain them. There are seven different charge point operators, each with different fees, Apps and accounts required.

Overall, there are currently few accessible charge points within the borough which suggests the majority of current EV users registered in Swale have access to private off-street charging facilities or perhaps charge outside of the borough. However, there has been an improvement through the Council's installation of charge points in car parks in the last 2 years, and this strategy commits to continue with this.

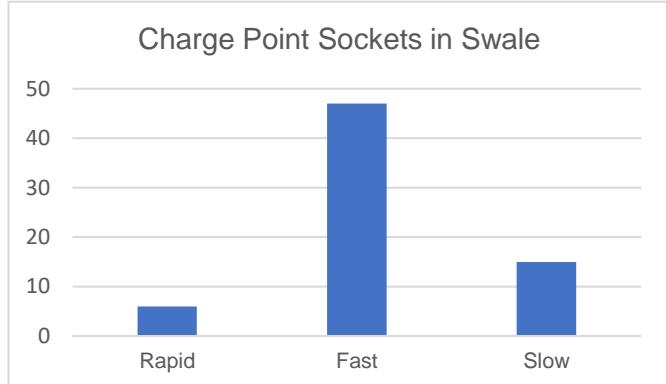


Figure 7 – number of charge point sockets in Swale by charging speed

6.3.2 Residential Charging Infrastructure

In addition to these, Swale residents have been installing charge points at their properties to charge a vehicle at home. These are often 'slow' chargers which are utilised overnight. These charge points are to be encouraged, particularly 'smart chargers' which are designed to draw power from the grid when it is cheapest and in lower demand, lowering pressures on national electricity capacity. The national government Electric Vehicles Homecharge Scheme⁸ encourages homeowners to install charge points at their properties by receiving up to £350 towards the cost. The below graph demonstrates Swale's current uptake of this compared to other Kent districts in 2021; this strategy sets out the commitment to continue to promote these schemes, as private and home charging will be an integral part of Swale's transition to electric vehicles. Work will also need to be undertaken to

⁸ <https://www.gov.uk/government/publications/customer-guidance-electric-vehicle-homecharge-scheme/electric-vehicle-homecharge-scheme-guidance-for-customers>

support those without access to off-street parking, therefore limiting their ability to charge at home (further details in section 6.3).

Electric Vehicle Homecharge Scheme: charging devices installed 2021 for Districts of Kent

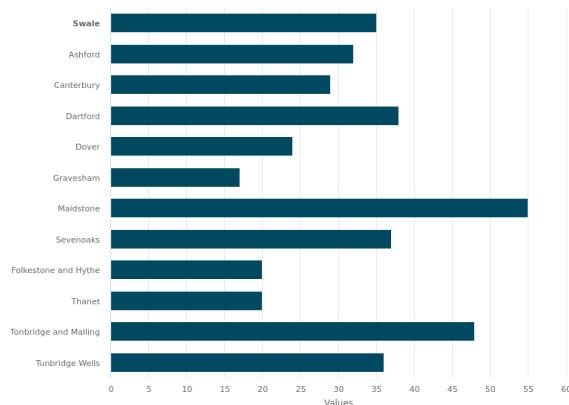


Figure 8 – Number of charging devices installed at domestic properties in 2021 across Kent districts via the EV Homecharge Scheme

Electric Vehicle Homecharge Scheme - Charging Devices Installed in Swale

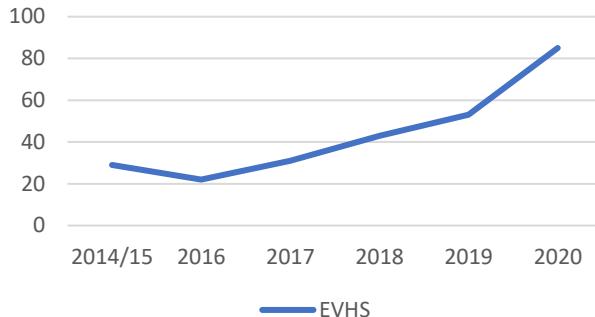


Figure 9 - Number of charging devices installed at domestic properties in 2021 in Swale via the EV Homecharge Scheme

7. Future Charging Network

7.1 Future EV uptake scenarios

The number of EVs in all regions of the UK is expected to rise rapidly over the next ten years, accelerated by the ban on new internal combustion engine vehicles in 2030. Then by 2050 it is expected almost all vehicles will be electric. UK Power Networks set out the below future energy scenarios and have produced the below estimations of EV (PHEV and BEV) numbers in Swale by 2050. It is important to note that even in the lowest scenario, we can expect around 20,000 EVs in Swale by 2030.

- Low (Steady Progression) – Current trend progressing with little input from national power networks and authority stakeholders
- Medium (System Transformation/Consumer Transformation) – investment and encouragement from the system, network and stakeholders
- High (Leading the Way) – High level of investment and encouragement from the highest level of government, ultimately leading to lower levels of EV ownership due to overall lower car ownership in place of active travel and public transport.

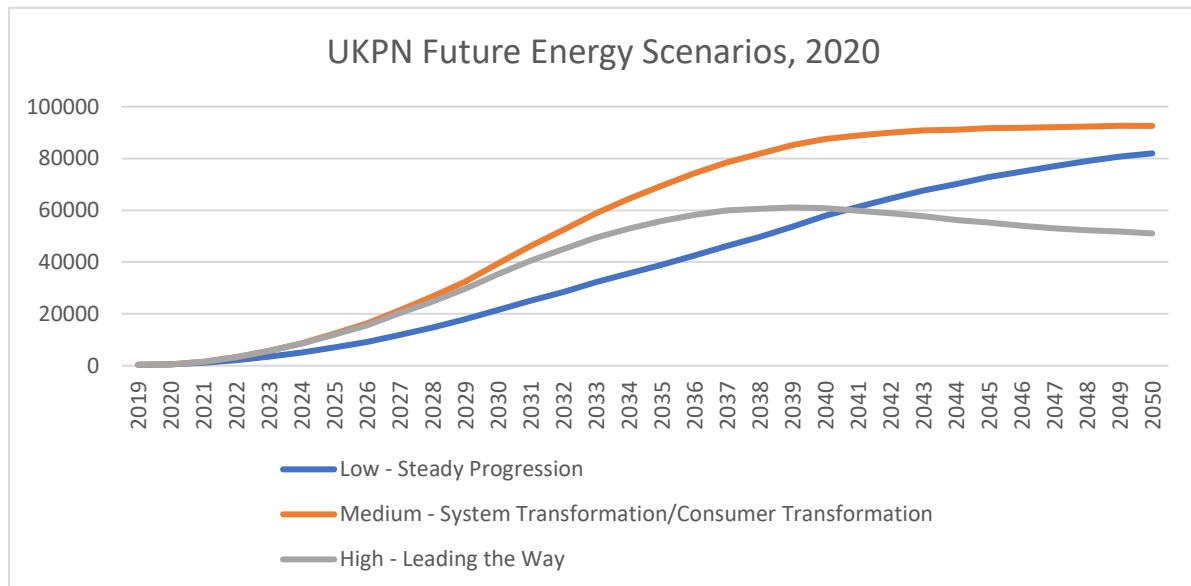


Figure 10 – UK Power Networks Future Energy Scenarios, 2020

7.2 Types of Charging

A charging network should be varied and include different types of charging infrastructure operating at different speeds (table x) to provide for a range of needs. Vehicle owners in Swale are at a relatively early stage in the adoption of electric vehicles and it will be particularly important that a network of public chargers continue to be introduced to help drive uptake. Different types of charge point are better suited to different locations, and design considerations need to be taken into account due to this (see Appendix D).

	Slow	Fast	Rapid	Ultra-Rapid
Power Rating	>7 kW	22kW	<50kW	120-350kW
Electrical Supply Type	AC	Usually AC, DC available at higher rates	Usually DC AC also available	DC
Charging time	6 to 8 hours	4 to 6 hours	25 to 40 minutes (80%)	10 to 15 mins

Connector	Type 1 or Type 2 Mode 2 or Mode 3	Type 1 or Type 2 Mode 3	CHAdeMO / CCS Type 2 (AC)	CHAdeMO CCS
Best Use	Residential or overnight charging	Home / workplace / destinations	Destinations / long distance trips	Long distance trips
EV Compatibility	All	All	Not all BEVs and very few PHEVs	Very few vehicles currently on the market

Table 6 – Categorisation and features of slow, fast, rapid and ultra-rapid EV charging

A range of scenarios, stakeholders and factors need to be considered to ensure the correct charging network for Swale is implemented.

7.3 On- vs Off-Street

The debate between on and off-street charging provisions is a complex one and continues as technology develops. This is particularly pertinent to Swale due to the high number of properties without off-street parking. This prevents many car owners from conducting slow, home charging overnight – often viewed to be the cheapest and most convenient form of EV charging. Additionally, many of Swale's higher density, terraced housing without off-street parking falls within areas with the highest levels of deprivation. This therefore creates another barrier to many of Swale's residents in switching to Electric Vehicles, especially as the 2030 deadline for the end of sale of new petrol and diesel vehicles looms.

However, on-street charging poses difficulties such as balancing existing non-EV demand, disabled and other permitted parking, and existing infrastructure.

Additionally, on-street charging must work around the existing 'Electric Vehicle Charging on the Highway' guidance from Kent Country Council. Headlines of this document include:

- KCC will not allow cables to trail across the footways from a private property or EVCP to a vehicle as this would present unacceptable hazards for pedestrians
- KCC will not currently allow cable gullies to be installed from a private property or EVCP to a vehicle as this would result in a maintenance liability and potential trip hazard.
- Although there is a preference for grouping chargers in hubs, the guidance does set out the process of applying under S115 for a district council to install EVCPs on the highway land. Overall, however, it is more cost effective, with less design barriers, to place charging infrastructure in hub locations in car parks.
- Placing EV charging infrastructure on the highway should only be selected as an option where it is not possible to serve demand elsewhere.
- KCC will not currently allow private EVCP's to be installed on the highway or charging cables to be brought from a private property to the highway land

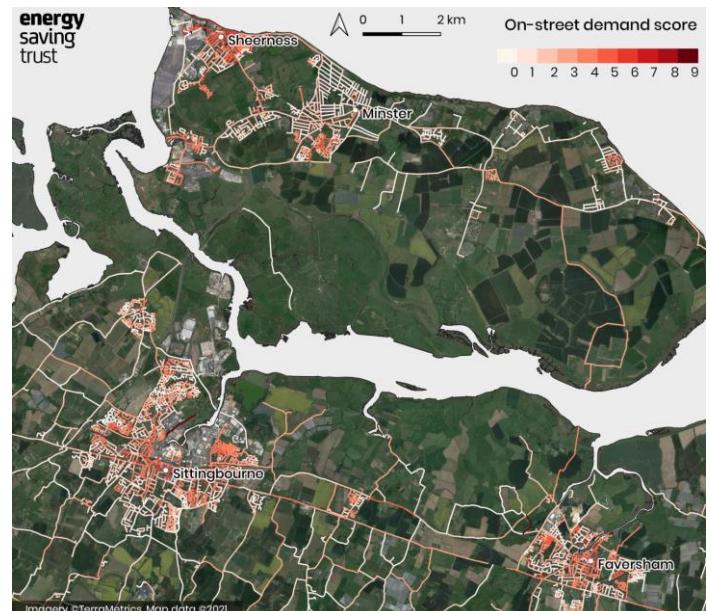


Figure 11 Map showing the on-street demand score for streets in and around the primary towns

The full guidance sets out the criteria that must be met to place an EV charger on the highway, however this strategy aligns with KCC to encourage charging hubs in car parks ahead of on-street solutions as the priority direction for charging infrastructure.

As more innovative on-street charging develops, this Electric Vehicle Strategy sets out the intention to consider these solutions alongside KCC, where required, in future years. On-street charging solutions will have to be considered on a pilot basis in the short-medium term to investigate the most practical and accessible solutions for Swale residents. Additionally, this Strategy is open to solutions such as Gul-Es⁹, looking towards trial projects by other local authorities, but recognising the requirement to comply with KCC guidance and S115 processes.

At present, the current pathway endeavours to use council owned car parks to meet charging demand in areas with low levels of off-street parking, with charging hubs as the central feature. This will reduce costs, ensure easy access to charge points and reduce risks associated with roadside charging, whilst understanding the existing demand for non-EVs particularly in resident parking scheme areas. The council recognises the On-Street Residential Charge Point Scheme¹⁰ as a key enabling tool.

Where there are areas with on-street parking demand without council-owned car parks, Swale Borough Council commits to working with local partners and stakeholders to work creatively to find solutions to EV charging demand, particularly in rural areas.

7.4 Improving the Public Network

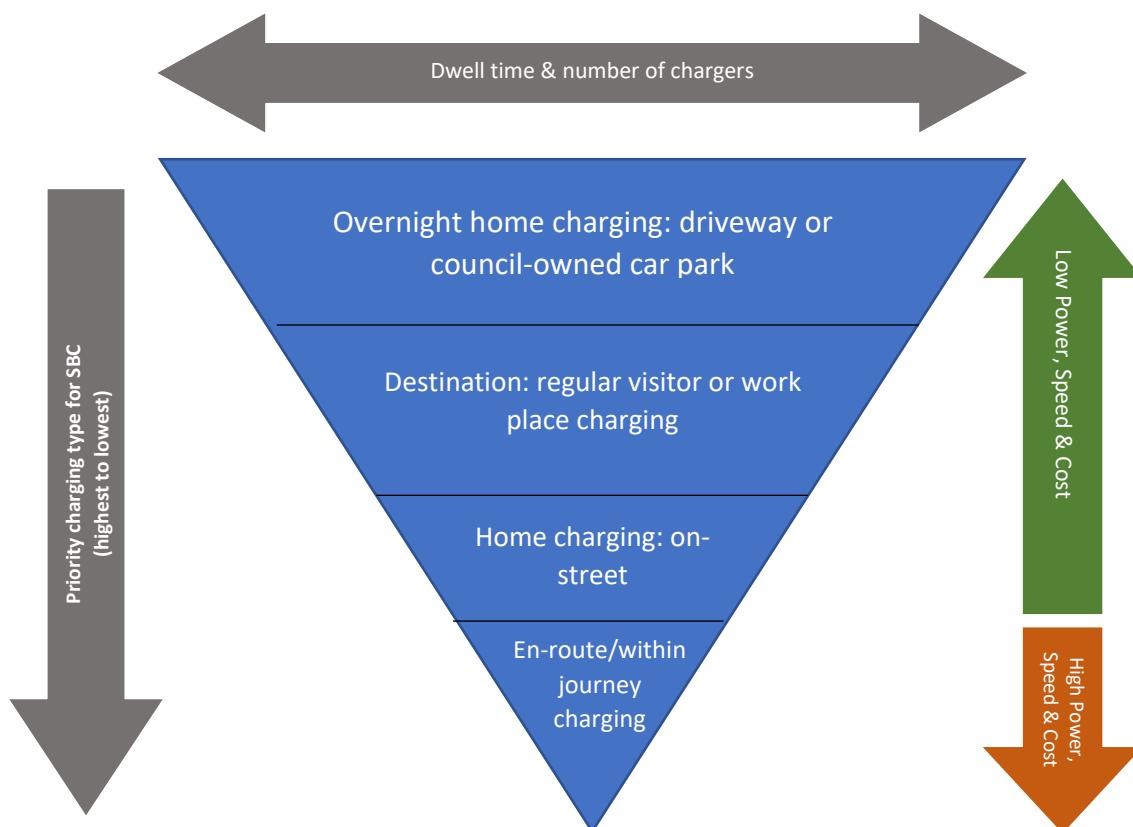


Figure 12 Types of EV charging by priority for SBC from highest to lowest

⁹ <https://energysavingtrust.org.uk/case-study/oxgul-e/>

¹⁰ <https://www.gov.uk/government/publications/grants-for-local-authorities-to-provide-residential-on-street-chargepoints/grants-to-provide-residential-on-street-chargepoints-for-plug-in-electric-vehicles-guidance-for-local-authorities>

The Committee on Climate Change, which advises the government, says there should be one EV charger for every thousand cars by 2030. This suggests that in across all sectors in Swale there should be at least 75 EV chargers by the end of the decade, although this target seems unambitious.

As indicated in the above diagram, charging infrastructure will be prioritised in the order of: slow home charging on driveway or at local council owned car park; destination charging for work or visiting (e.g. town centres); on-street home charging (as described in section 6.3); and finally en-route rapid charging points.

Swale Borough Council commits to keeping charges in-line with the market level for similar speed public charge points to encourage take up of EV ownership, and importantly, to accommodate those that do not have access to off-street parking and lower residential electricity rates.

Swale must work with KCC to engage with the energy utility companies to create a more resilient, smart and innovative local energy system to ensure we have the energy we need, when we need it, at the right price and without any negative environmental impacts.

7.5 Charging Hubs

Electric Vehicle Charging Hubs are recognised as centralised, convenient locations in which charging is accessible and reliable. To ensure residents are aware of their nearest charging location and to increase the likelihood of an available charging socket when they arrive, the Council will prioritise grouping charge points in hubs. Charging hubs provide additional benefits, such as a more streamlined approach to improving the necessary power infrastructure. There must be sufficient power infrastructure available to supply the EVCP. SBC to ensure communication with the Distribution Network Operator (UKPN).

Charging hubs also harbour greater potential to be supplied by on-site renewable energy sources, such as solar car park canopies and we will investigate the potential for creative solutions such as these. There is also greater flexibility and incentives to offer disabled charging bays where there are higher numbers of concentrated charge points, however solutions for on-street charging for disabled home-owners is recognised as an area of importance as EV uptake increases in future years.

Where possible sites will have potential to support multiple bays, either active or passive. This will ensure EV owners can be confident they will have EVCP availability, as charging demand increases. Double socket charge points are preferable due to their cost effectiveness.

7.6 Design and Site Considerations

When designing charge point locations and identifying potential sites and car parks, consideration should be given to the following:

- Driver and pedestrian 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. More specifically, it would be unacceptable where this creates a trip hazard or is at body or vehicle height. Any cable obstruction will have negative implications for road safety
 - There should be sufficient drainage, especially near basements and in buildings to mitigate flash flooding or fire-fighting measures
 - Not positioning charge points too close to busy junctions or crossings
 - Equipment installation should be in accordance with the Institution of Engineering and Technology's 'IET Code of Practice for Electric Vehicle Charging Equipment' ISBN:184919839X
- Inclusivity
 - Interoperability - Ensuring charge 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

- Easy to use for disabled users - there should be a sufficient distance of level surface around the charge point to allow easy access to the charge point by wheelchair users on the footway. Other considerations include having a dropped curb where required, ensuring the slant of the screen is appropriate for people with visual impairments, and other measures.
- Ideally chargers should be within close proximity to the residence or destination of the users.
- Coherence
 - Easy to use interfaces and payment methods
 - Clear signing directing drivers to charge points. Additionally, well aligned equipment that contrasts with the local environment will help increase the awareness of the existence of a charge point for pedestrians who may be visually or cognitively impaired.
 - Clear signing for length of stay/marked parking bays
- Attractiveness
 - Charge point may need to blend into existing surroundings e.g. heritage sites/conservation areas
 - Infrastructure should not clutter the streetscape
- Reliability
 - 24-hour access to charge points
 - Efficient maintenance and repair of the infrastructure to reduce downtime

A combination of technology change and behaviour change will result in changing infrastructure needs, so all parties should plan and procure for future projected need instead of for present need. This means finding a suitable balance between providing enough infrastructure to service current and expected demand and guarding against over-procuring. When installing public charge points, laying passive cabling, for example, at the same time will make it easier to install additional charge points at the same location in the future, as and when demand increases. Having said this, installing modular infrastructure, which can easily be updated without having to replace the entire unit, is vital. EV range will increase and charging times will fall as vehicle, charge point and battery technology all improve. Consumer charging behaviour may also change, supporting the importance of futureproofing.

7.7 Future Proofing

Delivering an electric vehicle charging network that meets the demands of residents, businesses and visitors, will involve keeping on top of emerging technologies and charging options as they develop, to ensure infrastructure remains fit for purpose and meets the needs and demands of users. This will also ensure less expenditure to replace obsolete charge points, increase public confidence, will create a practical and robust network, and reduced waste from removing infrastructure. The charging network in Swale will also need to compliment the growth of the national network and solutions introduced by the private sector. With advances in technology, some of which we are already witnessing, the charging needs of those within Swale may change.

Technological advances to be kept abreast of include:

Load Levelling	The capacity of the local electrical grid can limit the speed of chargers which can be installed, especially when multiple units are installed at one location. Load levelling is a basic form of smart charging which can vary the amount of power routed to each unit. When only one vehicle is charging then the maximum power can be provided but when multiple cars charge simultaneously then the power can be equally split between them.
Smart Charging	A system where the time at which the vehicle is charged is controlled to avoid overloading the local grid connection and avoid spikes in demand nationally. It has two advantages: <ul style="list-style-type: none"> ● It allows car owners to charge at times when electricity is cheaper ● Adjusting the time of charging to avoid local constraints. This might alleviate the need and cost of local grid upgrades
Vehicle to Grid	As the number of electric vehicles grows, there will be an increased demand on the national grid. One 'smart charging' solution is 'Vehicle to Grid' (V2G) which uses a bidirectional charger to feed electricity from an electric vehicle battery back into the grid,

	at peak times. At present this technology is in the experimental phase and it is not expected to be widely used in the short to medium term. Overall, it appears better suited to domestic charging. Uni directional chargers remain appropriate for public charging points, but it is important to monitor developments in smart charging to ensure that the infrastructure installed is future proof.
Wireless Charging	Wireless induction charging relies on a transmitter coil in a charging pad using electromagnetic energy to transmit power to a receiver coil within the object to be charged. Essentially, a car would simply need to drive over a charging pad and remain stationary in order to begin charging.
Hydrogen	Green and Blue Hydrogen generation is increasing in feasibility, with large fuel providers introducing hydrogen fuelling stations in the UK. While there are future plans for hydrogen stations to operate in the same way as a petrol station pump, it is recognised that this is unlikely to become a widely utilised fuel type in non-commercial transport. This strategy sets out the aspiration to investigate local hydrogen generation and supply, however focusing on the commercial viability of this solution.
Retractable Bollards	The development of low- impact charging solutions such as retractable bollards that sit flush to the pavement and can be raised using an app. These may provide a solution as and when on-street charging is deemed appropriate in future years.
Battery Size	The capability of chargers and the size of batteries are expected to improve significantly. In 2017, the speed of commercially available chargers on street increased by over 300%.

Table 7 – Technological advances with an impact on future-proofing charging infrastructure

8 Education and Engagement

8.1 Resident Consultation

Ahead of the completion of this Electric Vehicle Strategy, resident engagement was conducted on the matter of sustainable transport options. Questions were asked to provide evidence and inform decisions of future charge points.

In a survey conducted between 24th May – 7th July 2021, 267 respondents provided answers on plans for potential new EV charge points in the borough. Important findings from the survey include:

- 12.2% of respondents currently own an electric vehicle or plug-in hybrid
- 36.22% of respondents indicated that they intend to purchase an electric vehicle or plug-in hybrid within the next 5 years
- 25.4% cited not having off-street parking as the main barrier to purchasing an electric vehicle or plug-in hybrid, whilst 38.89% indicated this was due to there not being enough charge points
- 73.23% indicated that they would ‘strongly support’ or ‘somewhat support’ an EV charge point being installed in a car park near their place of residence
- When asked where residents would like to see charge points being installed, a high number expressed ‘all council owned car parks’ as their response

This strategy recognises the benefits of consulting with residents and other stakeholders to ensure a charging networking that is right for Swale. Swale Borough Council will continue to engage with residents on this topic.

8.2 Leading from the Front

8.2.1 Our Fleet

As part of Swale Borough Council’s commitment to electric vehicles, it is important to ‘lead from the front’. 2021 saw the fleet replaced with nine Nissan Env200 vans, charged at the Swale House council offices in Sittingbourne via eight new EV chargers.

Carbon Trust analysis indicated that our fleet accounts for 40 tCO₂ (2018/19) – we are already seeing a reduction, with 8474kg of carbon saved in the first year, from charging our fleet at the Swale House charge points alone (additional charging across the borough not included in this figure). Three environmental warden vans, three green space vans, two dog warden vans and a parking services van are now out on the road alongside the Mayor’s car which was upgraded to an electric vehicle in December 2020. The new electric vans join the two Nissan Leaf electric cars already used by the council’s civil enforcement team.

The council is also using its Commissioning Strategy to ensure that major contracts also utilise electric vehicles wherever possible. The grounds maintenance contract (2021) has also been updated to include provisions to replace diesel vehicles with EVs starting in year 1 and increasing over the contract period.

8.2.2 Car Clubs

Car Clubs have been proven to assist and complement the transition away from ICE vehicles. They provide socially inclusive, low emission mobility which helps to break dependency on private car ownership. Pay as you go cars offer affordable, occasional access to cars to benefit individuals. Car clubs provide their members with convenient access to cleaner vehicles without the hassles and expense of ownership (such as tax, MOT, fuel, servicing, repairs, depreciation and parking). For members who drive less than 6,000 – 8,000 miles per year, a car club could save up to £3,500 a

year¹¹. This is therefore an affordable entry level access to electric vehicles, as well as encouraging use of public and active travel.

The introduction and encouragement of Car Clubs across Swale is being utilised for multiple purposes:

- to support residents wishing to move away from private car ownership
- encourage active travel
- provide a solution to businesses to looking for more sustainable travel plans
- provide an opportunity for residents to ‘trial’ an electric vehicle before purchase through car club hire

The scheme has initially launched in Faversham, with future expansion across the borough encouraged through s106 contributions or direct developer introduction. EV charging infrastructure will need to consider the car club and future expansion as a priority ‘customer’.

Work around Car Clubs is complementary to Swale’s Active Travel work and encouragement of public transport, encouraging lower car ownership. It is recognised that reducing congestion and overall numbers of cars will still be important to achieving the aims of a net-zero Swale, however Electric Vehicles will play a large part in the solution for many residents.

8.3 Businesses

In addition to the charge-points installed by businesses for customer use, many have installed charge points as part of travel plans encouraging staff to use electric vehicles. At present, the Workplace Charging Scheme¹² provides up to £350 per socket towards the cost of a charge-point for staff or fleet use. Swale’s uptake of this scheme at present is mid-range when compared to other Kent districts. Promotion of the scheme to businesses, as well as support for creating and implementing sustainable travel plans will be an integral part of the strategy to increase EV uptake across the borough and across the sector.

At present, businesses are being support by SBC to install EV charge points through the Clean Growth Grant. Future funding and support opportunities for clean growth and recovery will be considered.

Collaboration with businesses and other stakeholders may also be necessary to expand the charging network to difficult to reach areas.

8.4 Taxis

Swale is committed to working with partners such as KCC to ensure the right technology is implemented for commercial use, such as rapid charging at taxi ranks. Progress has been made on this area already (1 rapid charge point and taxi bay installed to date) and usage will be monitored to determine expansion moving forward.

The anticipated review of the taxi licensing policy will provide an opportunity to include mechanisms to encourage the uptake of ULEV taxis in the borough, in consultation with operators.

Workplace Charging Scheme: sockets installed Q2 (Apr-Jun) 2021 for Districts of Kent

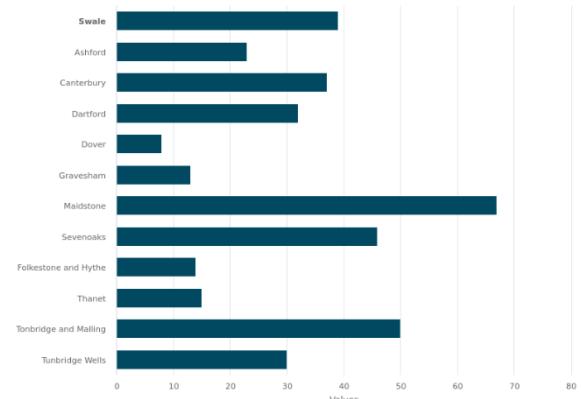


Figure 13 Number of charge points sockets installed at commercial locations via the Workplace Charging Scheme for Apr-June 2021

¹¹ <https://como.org.uk/shared-mobility/shared-cars/why/>

¹² <https://www.gov.uk/guidance/workplace-charging-scheme-guidance-for-applicants>

8.5 Marketing

Utilisation of social media, Swale Climate Action webpages¹³, Swale Means Business¹⁴, Inside Swale and other marketing avenues is important to ensuring Swale residents are aware of the below points:

- The benefits of switching to an electric vehicle, for both the driver and environment
- The importance of smart charging
- Awareness of the home and workplace charge point schemes
- Our future plans for EVCP installation

Additionally, surveys and consultations as described above are useful for understanding EV awareness levels amongst residents. For example, when asked where they would like to see EV charge points installed, many indicated car parks which already have charging bays. This could point towards a lack of knowledge of the current charging network, which may prevent non-EV drivers from switching to an electric vehicle.

In-person engagement will also be considered, where appropriate, to ensure residents can fully understand Electric Vehicles – the benefits and the practicalities. We endeavour to utilise the Energy Saving Trust ‘Local Government Support Programme¹⁵’, which provides specialised knowledge and innovative projects to engage with residents, businesses and taxi drivers about switching to EVs.

8.6 Other stakeholders

Overall, there is a recognition that creating a coherent and accessible charging network in Swale is not something Swale Borough Council can do on its own. Collaboration with other stakeholders is key to the success of this strategy, including KCC, schools, businesses, housing associations and other innovative collaborations yet to be determined. We recognise that pressure needs to be applied in a variety of sectors to ensure that we are driving this area forward while ensuring no one is left behind.

¹³ <https://cee.swale.gov.uk/>

¹⁴ <http://www.swalemeansbusiness.co.uk/>

¹⁵ <https://energysavingtrust.org.uk/service/local-government-support-programme/>

9. Delivery Plan

9.1 Immediate Plans for Car Park Provision

To increase EV charging provision across the borough, we are currently conducting analysis and data gathering to shortlist the best locations for charging hubs. Successful applications to Government funding opportunities such as the On-Street Residential Charge Point Scheme (and any future funding opportunities) will ensure charge points are installed in our car parks in areas with high on-street demand, as determined by analysis conducted by the Energy Saving Trust. At the time of publication, we anticipate this being in the region of 9 additional twin charge points across 3 car parks, creating 18 new charging bays, for 2022.

This data will be used to inform charge point locations in the future. Additionally, we have entered a data sharing agreement with the Energy Saving Trust in which we are in a position to advise local businesses investigating EV charging provision, of the most suitable locations in terms of demand.

Swale's approach will also focus on the direct procurement of charging equipment, rather than entering into profit share arrangements in which we do not own the equipment, for all infrastructure within our car parks. This enables full control of the equipment and maintenance, along with fee rates ensuring we can maintain the standards set out in this strategy. This will also ensure we can be responsive to what is a rapidly changing market in a way that is sensitive to the unique needs of the Swale district. This does not mean we need to manage all payments via the units as this is achieved via the charger company software. Although this will be a strict criteria for charging hubs within our car parks, we are open to different opportunities for on-street charging provision.

9.2 Objectives

This section details the objectives that Swale Borough Council has set and provides guidance on how these objectives are to be achieved.

Objective 1	Creating and facilitating a network of EVCPs that meets the needs of residents, businesses, and visitors, with sufficient coverage by 2030
Objective 2	Designing sites that take into consideration accessibility concerns and other road users/pedestrians
Objective 3	Ensure the charging network has capacity for further expansion and is futureproofed
Objective 4	Encourage the uptake of EVs through education using campaigns, supporting trials, initiatives, and public engagement
Objective 5	Lead by example through use of electric vehicles wherever possible for delivering council service and promoting the benefits.

9.3 Action Plan

<u>Objectives</u>	<u>Actions</u>	<u>Time Scale</u>
<p>1. Create an EV charging network that meets the demands of residents, businesses and visitors, with sufficient coverage by 2030</p>	<p>1.1 Residential Charging</p> <ul style="list-style-type: none"> a) Encourage the installation of charge points through charging hubs across the borough, working with KCC where on-street is suitable, and encouraging installation in developments, reviewing on- and off-street charging provision regularly b) Continue to consult with residents and respond to local demand by considering these locations for charging points if suitable, especially if residents do not have access to off-street parking c) Continue to encourage use of slow charge points over night in car parks in close proximity to residential areas via charging hubs based on local data d) Promote the Home Chargepoint Scheme to residents to encourage private charge point installation e) Support and publicise KCC guidance ('Electric Vehicle Charging on the Highway') prohibiting cables trailing across pathways f) Explore potential for local amenities such as village halls, parks and business parks within proximity to residential areas in which charge points could be installed to enable overnight charging where on- street charge points are not suitable (for example, engage with the KCC parish charge point scheme) g) Work to keep the cost of charging at council owned chargepoints below the market value to avoid disadvantaging residents without access to off-street parking h) Support the Parking SPD requirements for 1 active charging point per dwelling; 10% active charging spaces for dwellings with unallocated communal parking; minimum of two visitor spaces should be provided with passive charging provisions suitable for future conversion; and ensure this document is reviewed periodically and remains up to date i) Use the Local Plan Review to require that where a development is for more than 50 residential units measures such as the following be provided- <ul style="list-style-type: none"> o Travel plan including mechanisms for discouraging high emission vehicle use and encouraging the uptake of low emission fuels and technologies o A welcome pack available to all new residents online and as a booklet, containing information and incentives to encourage the use of sustainable transport modes from new occupiers. o EV car club provision within development or support given to local car club/EV car clubs. o Designation of parking spaces for low emission vehicles o Improved cycle paths to link cycle network. o Adequate provision of secure cycle storage. o Using green infrastructure to absorb pollutants. o Consider and research the benefits of introducing differential parking charges dependent on vehicle emissions and offering reduced costs for EVs <p>1.2 Town centres and other key destinations</p> <ul style="list-style-type: none"> a) Install EV charge points in council-owned car parks where demand is identified. Focus on charging 'hubs' in strategy for car park identification, in-line with KCC guidance, including investigating opportunities to develop wider 'mobility hubs' b) Ensure charge points are installed in high visibility, high footfall areas without compromising road or footway space c) Work with stakeholders to provide a balance of fast and rapid chargers in on and off-street locations. Rapid chargers are important for long distance travel, taxis and delivery/service vehicles which need to top up mid journey. Fast chargers are suited to local travel and sites with longer dwell times and will be the focus of SBC d) Investigate potential for renewable energy generation and create charging hub solutions, such as solar canopies. 	Short – medium term

1.3 Car clubs

- a) Develop a pilot programme to demonstrate the benefits of car clubs
- b) Swale Borough Council will encourage developers to provide electric Car Club vehicles where appropriate and viable to promote the shift towards electric and active travel

1.4 Taxis

- a) Explore suitable sites for charge points near taxi ranks
- b) Use the review of the taxi licensing policy to provide an opportunity to include mechanisms to encourage the uptake of ULEV taxis in the borough, in consultation with operators.

1.5 Business/Industry

- a) Continue to support the Kent REVS Van Trial (KCC) which launched January 2021 and will be available to any Kent (and Medway) business who would like to 'try for free' an electric van for up to two months
- b) Provide public charge points in council owned car parks, encouraging drivers who need to recharge during the day without returning to a depot or home (e.g. businesses or taxi/private hire drivers)
- c) Explore the DEFRA Air Quality Grant Scheme to support EV requirements in Taxi licensing applications
- d) Explore the potential for private car parks to install rapid charge points for workers or customers, encouraging the Workplace Chargepoint Scheme
- e) Promote business fleet decarbonisation - educate and inform businesses about the long-term benefits of decarbonisation
- f) Consider incentives such as introducing tax breaks (business rates) for businesses fulfilling decarbonisation targets
- g) Support public transport providers, including school transport providers, to use lower emission vehicles
- h) Encourage implementation of sustainable travel plans

2. Designing sites that take into consideration accessibility concerns and other road users/pedestrians

- a) Use best practice principles and guidelines when selecting and designing sites to ensure a unified approach
- b) Ensure that if a charge point were to be installed, it would not cause an obstruction to any other road/footway user
- c) Actively discourage chargepoints which require cables across footways, as per the KCC guidance, to ensure pedestrian safety is not compromised
- d) Ensure footway widths meet Council standards and charge points are accessible
- e) Consider charge point design in each setting and ensure the infrastructure fits in with the surrounding streetscape
- f) Monitor demand and consider dedicated disabled charging bays in car parks, where appropriate
- g) Stay on top of emerging technologies and charging options as they develop, to ensure infrastructure remains fit for purpose and meets the needs and demands of users

Short – long term

3. Ensure the charging network has capacity for further expansion and is futureproofed	<ul style="list-style-type: none"> a) Use the Parking SPD to encourage the installation of active and passive charging points in new developments to account for future growth and up-take b) Ensure charge point infrastructure and design are futureproofed through strong communication with charge point, including potential passive charging spaces c) Once charge points are installed, monitor usage data to ensure locations are suitable and charge points are being used - use parking data to make evidence-based decisions about future charge point locations d) Embed capacity for EV infrastructure into other Highways and Transport projects and programmes and ensure these are aligned with the EV objectives as far as possible, to encourage and support further expansion e) Support partners to find solutions to grid capacity implications Be open to renewable energy projects within the borough to support the ever-increasing demand for electricity produced by EV uptake f) Work through KCC to engage with the energy utility companies to create a more resilient, smart and innovative local energy system to ensure Swale Borough Council have the energy we need, when we need it, at the right price and without any negative environmental impacts g) Encourage the installation of smart chargers to mitigate the impact on the grid h) SBC to ensure communication with the Distribution Network Operator (UKPN) 	Long term
4. Encourage the uptake of EVs through supporting trials, initiatives and public engagement	<ul style="list-style-type: none"> a) Monitor public demand for new charge point locations via consultation and webform processes, whilst clearly outlining plans to manage expectations b) Use trials and schemes to familiarise residents and users with the technology and raise public awareness c) Explore the potential to work with school transport providers to encourage use of EVs d) Ensure publicly available charging points are uploaded to www.zap-map.com so residents and visitors have access to one website showing all charge points e) Continue a plan of public engagement to ascertain the charging needs of the residents and businesses within Swale f) Ensure climate change webpages include adequate and up to date local EV information g) Engage with all appropriate stakeholder groups, such as KCC, town and parish councils and the business community 	Short – long term
5. Lead by example and electrify the Council fleet	<ul style="list-style-type: none"> a) Install charge points in car parks and on all Council owned sites for use by council staff and visitors b) Understand the challenges faced by Swale Borough Council employees in the purchase of EVs c) Identify further locations to install EV charge points to benefit Swale Borough Council workers d) Explore grid implications of providing charge points for both council fleet and workers private vehicles e) Discourage the purchase of Internal Combustion Engine vehicles as part of the fleet (only to be purchased where market does not support electric alternatives) f) Encourage staff to switch to electric vehicles with promotion of grant schemes g) Using the Council's Commissioning Strategy to ensure that major contracts also utilise electric vehicles wherever possible. 	Short - medium term

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11. Appendix A

Glossary

AQMA; Air Quality Management Area - Local authorities review and assess air quality; where UK pollution objectives are not likely to be achieved, it must declare an Air Quality Management Area and an Air Quality Action Plan must be produced.

BEV; Battery Electric Vehicle

CO₂; Carbon Dioxide - Pollution mostly as a result of the burning of fossil fuels

EVCPs; Electric vehicle charging points

EU; European Union

LEZ; Low Emission Zone

NO_x; Nitrogen Oxide - When nitrogen is released during fuel combustion, it combines with oxygen atoms to create nitric oxide (NO). This further combines with oxygen to create nitrogen dioxide (NO₂). Nitrogen dioxide and nitric oxide are referred to together as oxides of nitrogen (NO_x).

NO₂; Nitrogen Dioxide

OLEV; Central Government Office for Low Emission Vehicles

PHEV; Plug-in Hybrid Electric Vehicle

PHV; Private Hire Vehicle

PM; Particulate Matter - also known as particle pollution, is a complex mixture of extremely small particles and liquid droplets that get into the air. Once inhaled, these particles can affect the heart and lungs and cause serious health effects

RFID; Radio-Frequency Identification - the use of radio waves to read and capture information stored on a tag attached to an object, such as a contactless payment card

ULEV; Ultra Low Emission Vehicle

ULEZ; Ultra Low Emission Zone

Type 1; EV charging connector common on older models of electric car, usually used for home charging on AV supplies with a 5-pin plug. Rarely seen in Europe.

Type 2; EV charging connector common in Europe, used for home charging on a single-phase electricity supply

Mode 2; The mode of charging is independent of the connectors. This is the default charging lead that comes with most cars. Mode 2 cables contain an in-line electronics box which emulates the communication of a smart charge point.

Mode 3; Most commonly used to enable fast charging and smart charging.

Smart Charging; Enables communication between the charging point and the car, with the ability for the car to instruct the charging point to turn off the power when the car is fully charged.

CCS; EV charging connector which permits rapid DC charging, found on newer models for charging away from home. The CCS socket is always combined with either a Type 2 or Type 1 socket

CHAdeMO; EV charging connector which permits rapid DC charging, found on some newer models and older EVs for charging away from home. The CCS socket is always combined with either a Type 2 or Type 1 socket. As a bi-directional charger, this connector type allows 'vehicle to grid' energy flows.

12. Appendix B

Current Charge Point Locations in Swale

Correct at time of publication; please refer to ZapMap for most up to date locations

Charge Point	Postcode	Location Type	Charge Points (sockets)
The Shurland Hotel	ME12 4EH	Hotel Car Park	1 (2x slow)
Plough Leisure Park (Zap-Home)	ME12 4JF	Caravan Park	1 (1x fast)
Tesco Superstore Sheerness	ME12 1RH	Supermarket Car Park	2 (4x slow)
Hyundai Medway	ME8 8PT	Car Dealership Forecourt	1 (2x fast)
The Rose & Crown	ME9 7SS	Pub Car Park	1 (2x fast)
9 Barn Close (Zap-Home)	ME9 8JW	Private Residential	1 ((1x fast)
Kent Science Park	ME9 8PS	Company Car Park	6 (8x fast)
Express Grass	ME10 2PG	Company Car Park	1 (1x fast)
Cook Classic Kitchen	ME10 3NH	Company Car Park	4 (4x slow)
BP Milton Regis	ME10 2AB	Service Station	1 (2x rapid, 1x fast)
Morrisons Sittingbourne	ME10 3EX	Supermarket Car Park	4 (4x fast)
Bourne Place Multistorey Car Park	ME10 3DW	Public Car Park	2 (4x fast)
The Swallows Car Park	ME10 4AH	Public Car Park	1 (2x fast)
Swale House Car Park	ME10 3HT	Public Car Park	1 (2x fast)
Perrys Vauxhall Sittingbourne	ME9 9AQ	Car Dealership Forecourt	2 (2x slow)
Morrisons Faversham	ME13 7DY	Supermarket Car Park	1 (2x rapid, 1x fast)
Sheerways (Zap-Home)	ME13 8TP	Private Residential	1 (1x fast)
Grain Store Studio	ME13 9LY	Company Car Park	1 (1x fast)
Boughton Golf Club	ME13 9AJ	Company Car Park	3 (2x fast, 1x slow)
67-69 The Street (Zap-Home)	ME13 9BE	Private Residential	1 (1x fast)
Rose Street Car Park, Sheerness	ME12 1AJ	Public Car Park	2 (4x fast)
Central Car Park, Faversham	ME13 8PW	Public Car Park	2 (4x fast)
Tesco Superstore Faversham	ME13 7AS	Supermarket Car Park	3 (4x fast, 2x slow)
Aldi Faversham	ME13 8ZB	Supermarket Car Park	2 (2x slow)
Red Lion Faversham	ME13 9LL	Company Car Park	1 (2x rapid, 1x fast)

*Slow = >7kW; Fast = 22kW; Rapid = <50kW; Ultra-Rapid = 120-350kW. More detail in section 6.2.

13. Appendix C

Car Parks in Swale

Car Park	Region	No. of Spaces	Current Charge Point Provision	Max Capacity of nearest substation (kW)	Future Provision
Institute Road	Faversham	40	0	>150	N/A at present
Queens Hall	Faversham	142	0	>150	Charge point installation being investigated
Central	Faversham	219	4	>150	Extended provision and car club being investigated
Partridge Lane	Faversham	55	0	>150	N/A at present
Ospringe Street	Faversham	30	0	>150	N/A at present
Beach Street	Sheppey	94	0	>150	Unsuitable
Beachfields	Sheppey	76	0	>150	Unsuitable
Trinity Place	Sheppey	57	0	>150	N/A at present
Trinity Road	Sheppey	62	0	>150	N/A at present
Albion Place	Sheppey	16	0	>150	N/A at present
Bridge Street	Sheppey	47	0	>150	N/A at present
Cross Street	Sheppey	82	0	>150	N/A at present
Hope Street	Sheppey	9	0	>150	Unsuitable
Jetty Car Park	Sheppey	6	0	50	Unsuitable
Park Road	Sheppey	25	0	150	N/A at present
Seathorpe Avenue	Sheppey	20	0	150	N/A at present
Minster Abbey	Sheppey	17	0	>150	N/A at present
Queenborough Library	Sheppey	44	0	150	N/A at present
Halfway	Sheppey	41	0	50	N/A at present
The Promenade	Sheppey	272	0	>150	N/A at present
Shellness Road	Sheppey	250	0	150	N/A at present
Coastal Park	Sheppey	100	0	150	N/A at present
Cliff Drive	Sheppey	20	0	>150	N/A at present
Ship On Shore	Sheppey	80	0	50	N/A at present
Rose Street	Sheppey	169	4	50	Extended provision being investigated
Shortlands Road	Sittingbourne	35	0	>150	Charge point installation being investigated
Albany Road	Sittingbourne	104	0	>150	Charge point installation being investigated
The Forum	Sittingbourne	86	0	>150	N/A at present
Swale House	Sittingbourne	72	2	>150	Extended provision continually monitored
Grafton Road	Sittingbourne	10	0	>150	Unsuitable
Cockleshell Walk	Sittingbourne	86	0	150	N/A at present
Spring Street	Sittingbourne	72	0	150	N/A at present
Central Avenue	Sittingbourne	60	0	150	N/A at present
Swallows Car Park	Sittingbourne	86	2	150	N/A at present
Milton Court	Sittingbourne	10	0	50	N/A at present
Crown Quay Lane	Sittingbourne	42	0	>150	N/A at present
Bell Road	Sittingbourne	24	0	>150	N/A at present
Bourne Place Multistory	Sittingbourne	308	4	>150	N/A at present

Contacting Swale Borough Council

The customer Service Centre deals with all enquiries across the Council, it should be your first stop when contacting us.

Call 01795 417850.

Copies of this report are available on the council website.

Front cover: stock photo, electric car charging