

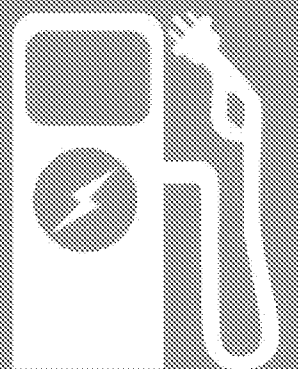
Arun District Council

ELECTRIC VEHICLE INFRASTRUCTURE STUDY

November 2017

Vehicle Technology and Aviation Bill

Government will take
new powers to help
improve electric
vehicle infrastructure



CONTENTS

1. Introduction	3
2. Planning Policy Context	4
3. What Electric Vehicles and their Benefits?	8
4. Planning requirements	10
5. Delivering, implementing and managing charging points	11

1. Introduction

- 1.1 This study explains the policy background to and contents and purpose of the *Vehicle Technology and Aviation Bill 2016-2017*. It looks at what this means for new development in Arun District Council and therefore includes national policy as well as the Development Management policy which will be used by Arun District Council to determine planning applications. The policies are applicable to all types of development across the district. This Study has been prepared as an evidence base document to support the Local Plan and in particular the Development Management policy and specifically relates to all types of development that generates road traffic.
- 1.2 As part of this, consideration is given to key design principles and environmental requirements which are set out in a range of planning policies in the Local Plan.
- 1.3 In particular these policies encourage that new development should seek to deliver high standards of sustainable design. Opportunities to minimise the adverse impacts on the environment is a key thread in the Local Plan with all development encouraged to minimise impacts on air quality.
- 1.4 The use of electric vehicles is an important measure in reducing emissions locally and therefore the provision of necessary infrastructure which promote the use of such vehicles is essential. Growth in the uptake of plug-in vehicles is also steadily growing and therefore it is important that new development seeks to encourage continued growth and respond to such change.
- 1.5 This study also provides information and advice to developers on how opportunities for the use of electronic vehicles can be maximised, particularly through the provision of necessary infrastructure in new development such as electric charging points. The study supports the provision of such infrastructure as part of both residential and commercial development.
- 1.6 The Study will be presented to the Local Plan Sub-committee for approval and will then subsequently be used by officers when determining planning applications. Developers should also use this document when developing their systems.

2. Planning Policy Context

National Policy

- 2.1 The Office for Low Emission Vehicles (OLEV) have set out a UK strategy to ensure that by 2050 nearly every new vehicle purchased in the UK will be an ultra-low emission vehicle. Pure electric and plug-in hybrid vehicles are therefore anticipated to take an increasing share of the new car and van market over the next 40 years.
- 2.2 The National Planning Policy Framework (NPPF) was published by the Government in March 2012 and sets national planning policy for England. In paragraph 35 of the NPPF it states that plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people and suggests a number of means for developments to achieve this. In particular paragraph 35 states that *'developments should be located and designed where practical to incorporate facilities for charging plug-in and other ultra-low emission vehicles'*.
- 2.3 Further support is provided under paragraph 124 of the Framework which states that planning policies should sustain compliance with, and contribute towards, EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas.
- 2.4 The Vehicle Technology and Aviation Bill 2016-17 (HC Bill 143) was introduced in the House of Commons on 22 February 2017. The Vehicle Technology and Aviation Bill 2017 introduces a set of transport policies to modernise the transport system for businesses and passengers. The bill makes policies for:
- automated vehicles (AV)
 - electric vehicle infrastructure
 - air traffic control regulations (NATs)
 - ATOL
 - road vehicle testing
 - misuse of lasers
 - courses offered as an alternative to driving fixed penalty notices
- 2.5 Part 2 of the Bill makes provision in relation to charging electric vehicles and this study focuses on Electric vehicle infrastructure. To this end The Bill provides government with the powers to:
- require that data on charge point location and availability is openly available
 - set minimum technical specifications for charge point connectors
 - oblige charge point network operators to allow interoperability between networks
 - mandate provision of electric vehicle infrastructure at motorway service areas and large fuel retailers
 - require that charge points are 'smart' and can interact with the electricity grid

Local Policy and Guidance

2.6 EV charging points are just one of a number of different types of low emission mitigation measures being sort through the planning system. In Arun District Council, this will be through:

- Development and adoption of formal planning policy
- Development and adoption of local planning guidance notes or supporting evidence for the Local Plan
- Changes to parking policy requirements on new developments
- Requirements in travel planning policies

2.7 Local Authorities need to plan for an increase in demand for electric vehicle recharging infrastructure over the coming years. Planning policy and development management provide important delivery mechanisms and the Arun Local Plan includes a Development Management policy to achieve this.

Policy QE DM3

Air pollution

All major development proposals will be required to assess the likely impacts of the development on air quality and mitigate any negative impacts by:

- a. Ensuring the development is located within easy reach of established public transport services;*
- b. Maximising provision for cycling and pedestrian facilities;*
- c. Encouraging the use of cleaner transport fuels on site, through the inclusion of electric car charging points; and*
- d. Contributing towards the improvement of the highway network where the development is predicted to result in increased congestion on the highway network.*

Development proposed nearby any Air Quality Management Area (AQMA) declared within the District within the Plan period, will require an air quality assessment to identify likely impacts of development upon the designated area. Developers will be required to ensure delivery of the actions set out within any Air Quality Action Plan. Industrial development which is regulated by environmental permits (that creates or results in dust, smell, fumes, smoke, heat, radiation, gases, steam or other forms of pollution) must be located in such a position which ensures that the health, safety and amenity of users of the site or surrounding land is not put at risk and the quality of the environment would not be damaged or put at risk.

Developments shall also be consistent with all other Local Plan policies.

2.8 Air quality is a material consideration when a development is planned. Local Authorities throughout West Sussex are part of the Sussex Air Quality Partnership to try and ensure a strategic and consistent approach taken towards dealing with air pollution. The first output of the partnership is a guidance document called *Air quality and emissions mitigation guidance for Sussex (2013)*, which sets out the criteria for when an Air Quality Assessment is required.

2.9 West Sussex County Council (WSCC) is currently reviewing their Parking Standard which is a guidance document. The review will be looking to apply current policy and bringing the Parking Standards guidance note up to date for both residential and commercial properties. WSCC is currently gathering

evidence base information from a number of resources, including on street parking surveys. As part of the Parking Standards review it will consider the issue of Electric Vehicle charging points and is expected to go to WSCC Committee in early 2019. The updated Parking Standards will be issued as a guidance note to aid and support decisions on both residential and commercial parking levels.

2.10 Government has announced that the sale of new petrol and diesel cars and vans will be banned from 2040 to tackle air pollution. The final UK Air Quality Plan for tackling nitrogen dioxide follows a High Court ruling that previous government measures to tackle air pollution would have been illegal. West Sussex County Council therefore issued a briefing note on UK Air Quality Plan in August 2017. **The key findings are outlined in paras 2.10 through to 2.13.**

The key points for Local Authorities are:

- £255m Implementation Fund announced to help local authorities develop plans to tackle emissions and improve air quality, £40m of which will be made available immediately.
- Clean Air Fund (CAF) to be established. Detail on how councils can access this funding and the £100m for low-emission buses announced in the Autumn Statement to follow later in 2017.
- A national framework will set out the steps that local authorities need to take on air quality. Local authorities will be required to set out initial plans March 2018 with final plans due Dec 2018.
- Air quality is generally good in West Sussex compared to the most polluted areas of the country. Government's support plan is targeted at the worst-performing areas and West Sussex is not one of the 29 councils listed in the Plan as being required to take urgent action. However, all areas are expected to take steps to reduce emissions so that air quality limits are achieved.
- Further measures will be brought forward including the BEIS Clean Growth Plan in autumn 2017, a strategy on zero emission transport in Mar 2018 and a wider Clean Air Strategy in 2018.

2.11 Existing Local Authority Air Quality Duties

- The Environment Act 1995 requires District & Borough Councils to monitor air quality and declare Air Quality Management Areas (AQMAs) where pollutants exceed certain thresholds.
- The County Council, as the local transport authority, must work with D&B Councils to address air quality issues. The Clean Air Zone Framework does not suggest any changes to these roles.

2.12 Requirements for Local Authorities

- West Sussex County Council is not identified in the government's plan as one of the 29 local authorities with persistent exceedances required to take action to achieve statutory NO₂ limits.
- Local plans must be effective, fair, good value and deliver the necessary air quality compliance, and will only be approved by government and thus be considered for financial support (as discussed in para 2.10) if they:
 - a) are likely to cause NO₂ levels to reach legal compliance in the shortest time possible;

- b) have no unintended impact on local residents, businesses and disadvantaged groups;
 - c) demonstrate value for money.
- Where a solution has been identified which meets these criteria, the government will require and fund local authorities to deliver it. Measures other than charging zones must be prioritised.
- Local authorities will be expected to consider a wide range of innovative options, for example:
 - a) changing road layouts at congestion and air pollution pinch points;
 - b) encouraging public and private uptake of Ultra Low Emission Vehicles (ULEVs);
 - c) using innovative retrofitting technologies and new fuels;
 - d) encouraging use of public transport

2.13 Additional measures in the Plan

- The sale of new diesel and petrol cars and vans will be banned from 2040.
- Government aims for every car and van to be a zero emission vehicle before 2050, and has committed to invest £600m by 2020 to support this.

3. What are Electric Vehicles and their Benefits?

- 3.1 The Government has stated that by 2050 nearly all cars and vans should be zero emission vehicles (zero carbon dioxide and other harmful tailpipe emissions). Government funding and private investment have already spurred the development of more than 11,000 public charge points, and an initial network of hydrogen refueling stations. Significantly increased provision of infrastructure will be required to support mass market uptake of electric vehicles.
- 3.2 It will also be important that it is simple and straightforward to use. At present, in the early market, there are multiple networks with different offers to consumers. The accessibility and convenience of vehicle charging is frequently raised by consumers as a key concern in choosing an electric vehicle.
- 3.3 Electric vehicle (EV) charging has the potential to avoid network pressures and capitalise on cheaper off peak electricity generation by modulating or delaying charging. The use of 'smart' charge points will help enable these services, and could provide savings to electric vehicle owners and energy bill payers.
- 3.4 EVs are road vehicles containing batteries which are chargeable from mains electricity supply. These comprise either hybrid vehicles or fully electric vehicles, typically including cars, vans and bikes.
- 3.5 Fully electric vehicles have a range of approximately 60-200 miles, fully charged. EVs with greater range retail at a higher price. Popular brands such as the Nissan Leaf have a range of 125 miles.
- 3.6 Hybrid vehicle batteries generally have a range of 30-50 miles in addition to the traditional petrol engine. The maximum range of EVs continues to increase with technological improvements.
- 3.7 EVs are more cost efficient for owners over the lifetime of a vehicle and reduce carbon emissions by approximately 30% compared to traditional fossil fuel cars. EV owners are eligible to receive grants, tax deductions and private sponsoring.

Electric Vehicle Charging Point (EVCP) Infrastructure

3.8 Requirements of Active and / or passive EVCPs:

- Active charging points are fully wired and connected, ready to use, points at parking spaces.
- Passive provision requires the necessary underlying infrastructure (eg capacity in the connection to the local electricity distribution network and electricity distribution board, as well as cabling to parking spaces) to enable simple installation and activation of a charge point at a future date.
- Sites providing passive EVCPs need a sufficient electricity supply to cope with future demand.

- EVCPs can be provided publicly on-street or privately off-street, for home use for example. Duration to fully charge vehicles from EVCPs varies;
 - **Standard charge: 6-8hrs**
(Cheapest & usually used as a domestic private charger)
 - **Fast charge: 2-3hrs**
(‘mid-range’ retail price & frequently used as public charging points)
 - **Rapid charge: 30mins-2hrs**
(premium chargers & sometimes supplied as public chargers or for private developers e.g. at offices or supermarkets)
- An accessible electricity supply must be located in close proximity to an EVCP.
- Specifications for connector types typically comprise a Type 2 IEC62196-2 connector for active EVCPs to connect to the EV.
- The Charger connects to the mains supply with a 3-pin plug.
- Site audits should be undertaken to determine the feasibility of providing an EVCP at new developments.

4. Planning requirements

4.1 Arun District Council is committed to supporting measures that will reduce emissions from vehicles. It is also a measure specifically supported by the Arun Local Plan.

4.2 As an increasing percentage of the country switch to hybrid and electrical vehicles, charging stations are becoming a key consideration for new builds. The provision of electric charging points is obviously not the only measure that can be taken to help reduce emissions but it is the focus of this study and a requirement of Local Plan Policy QE DM3. In order to promote a greater role for plug-in vehicles the District Council will support development proposals which seek to encourage the use of electric vehicles. To assist understanding on how this could be achieved in new development the table below sets out how infrastructure should be provided in new development in Arun.

Provision of Parking Bays & Charging Points for Ultra-low emission vehicles (ULEV) in New Development (including Conversions)	
Houses¹	One charging point per house with garage or driveway
Flats (<50 units)²	One parking bay marked out for use by electric vehicles only, together with charging infrastructure and cabling.
Flats (>50 units)²	Further dedicated charging bays totalling 2% of the total provision.
Other Development (<50 Bays)²	One parking bay marked out for use by electric vehicles only, together with charging infrastructure and cabling.
Other Development (>50 Bays)²	Further dedicated charging bays totalling 2% of the total provision.
Phasing	Standard provision (as set out above) could be supplemented by the installation of groundwork / passive wiring at the commencement of development in order to enable further installation to match demand.

Table 1: Recommended approach toward promoting ULEVs within new development proposals.

4.3 It should be noted that where charging facilities are shared (for example through the development of flats) that any provision of infrastructure should also include arrangements for the future operation and maintenance of the facility.

4.4 In general, EV planning requirements will entail provision of one or a combination of:

- on-site charging infrastructure
- local charging infrastructure (i.e. nearby but off-site)
- a financial contribution towards developing a wider local strategic EV infrastructure

¹ Recommended installation of 16A or higher Type 2 charger (minimum requirement standard 3 pin 13A charger)

² Dedicated free standing weatherproof chargers

5. Delivering, implementing and managing charging points

- 5.1 Once the Arun District Council Vehicle Infrastructure Study is published (following approval by Full Council), officers will use this evidence document which supports the Local Plan to aid and support decisions on provision of vehicle infrastructure including charging points for both residential and commercial development. This will be read in conjunction with the WSCC Parking review guide (once published), the ADC Local Plan Policy QE DM3 and any other relevant policies in the Development Plan.
- 5.2 Where a development includes the delivery of parking spaces which are on-street (eg estate renewal schemes), EV charge points should be delivered to the same standard as those set out. In this case, a developer contribution through a section 106 agreement towards the delivery of spaces on street may be necessary, as it is likely that a bay would require a Traffic Regulation Order. For private developments the onus for the activation of passive charging points rests on the individual or company who manages or operates the car park.
- 5.3 These provisions apply to all spaces within a development and the delivery of charging points should not exclude parking spaces for Blue Badge holders. Monitoring of the uptake of EV charging points should take place through the travel plan or car parking management plan. For those developments with a travel plan, the level of use of the active charging points should form part of the monitoring. An action should be to activate the passive charge points once the demand exceeds the supply of active infrastructure. Where the development does not have a travel plan, this should form part of a separate site management strategy.