



Electric vehicle charging

Guidance for developers on the requirements for electric vehicle charging for new development.



STOCKPORT
METROPOLITAN BOROUGH COUNCIL

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1.0 Introduction

1.1 The UK Government has introduced a number of policies and initiatives aimed at cutting exposure to air pollutants, improving local air quality and reducing greenhouse gas emissions. A key part of this is cleaner road transport and the move to zero emission vehicles. In 2018, the Government set out the following aims in 'The Road to Zero' (HM Government, July 2018):

- At least 50% of new car sales to be ultra-low emission by 2030.
- All new cars and vans to be effectively zero emission by 2040.
- Almost every car and van to be zero emission by 2050.

In August 2020, the Government announced plans to accelerate the phasing-out of petrol and diesel cars. This will involve:

- Sales of new petrol and diesel cars and vans will be phased out by 2030
- New cars and vans be fully zero emission at the tailpipe from 2035
- Between 2030 and 2035, new cars and vans can be sold if they have the capability to drive a significant distance with zero emissions (for example, plug-in hybrids or full hybrids).

1.2 To enable this to be achieved, there will be a need to develop an electric vehicle infrastructure network. The Government has set out that this will need to include:

- Charging points that are easily accessed across the UK, including at motorway service areas and large fuel retailers
- Uniform standards for charging points
- Ensuring charging points are provided for all new homes
- Providing on-street charging points
- Ensuring local planning policies require developments to include facilities for the charging of electric vehicles (via the National Planning Policy Framework).

1.3 The Automated and Electric Vehicles Act 2018 incorporates legislation in respect to some of the above measures and the requirement for the provision of facilities in new development for the charging of electric vehicles was set out in the National Planning Policy Framework 2018 (updated in February 2019).

1.4 At a local level, Stockport Council made a resolution on electric vehicle charging points in November 2018 (see Appendix A) to include in the Council's planning policy as soon as practicable the requirement that new developments (including conversions) make provision for dedicated electric vehicle charging points. In addition, it resolved to ask the Council Leader to instruct officers to form a project group to put together a bid for grant funding and devise a comprehensive plan of how best to develop the borough-wide on-street charging infrastructure that would meet future demand.

1.5 In light of the above, this document sets out how electric vehicle charging points should be provided in new development.

1.6 It should be noted that whilst the Government has set out targets in respect to the sale of zero and ultra-low emission vehicles, the exact uptake of electric vehicles is

difficult to accurately predict and may vary between different areas of the country. In addition, technology in respect to both electric vehicles and electric vehicle charging infrastructure is rapidly and continuously evolving. It is also expected that additional legislation and regulations relating to electric vehicles and electric vehicle charging infrastructure is likely to be introduced over the coming months and years. As such, whilst this document sets out key requirements for the provision of electric vehicle charging points for new development, it does not detail exact technological requirements and sets out the requirement for a flexible approach in some areas so as to take into account increases in the number of electric vehicles on the road over the next few years and site and development specific issues. In addition, there will be a need for the policy to be regularly updated in order to take into account the rapidly changing situation (e.g. changes in technology).

2.0 Policy context

- 2.1 The requirement for the provision of electric vehicle charging points in new development (development can be both new build and changes of use) is set out in Paragraph 110 of the National Planning Policy Framework 2019.

Paragraph 110, National Planning Policy Framework 2019

Applications for development should... be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.

The provision of electric vehicle charging points is to enable the move to cleaner, low and zero emission road transport, so as to improve local air quality and reduce greenhouse gas emissions. The requirement for development to not adversely affect air quality is set out in paragraphs 170 and 181 of the National Planning Policy Framework 2019.

Paragraph 170, National Planning Policy Framework 2019

Planning policies and decisions should contribute to and enhance the natural and local environment by...preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality.

Paragraph 181, National Planning Policy Framework 2019

Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement.... Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan

- 2.2 At a local level, the Stockport Core Strategy DPD does not have a specific policy on the provision of electric vehicle charging points. The Stockport Local Plan, however, is currently under development and will have a specific policy/s on electric vehicle charging points. Once the Local Plan is published, this document will be updated to reflect the new Plan and the policies it contains. The Core Strategy DPD does, however, contain a number of policies regarding air pollution which are relevant.

Policy SD-6: Adapting to the Impacts of Climate Change

Development should be designed in such a way as to avoid, mitigate or reduce the impacts of climate change.

Policy SIE-3: Protecting, Safeguarding and enhancing the Environment

New development that seeks to reduce air, noise, light, water or ground pollution in areas or locations where acceptable standards are already exceeded will be given positive consideration. New housing or other environmentally sensitive development will not be permitted where existing pollution levels are unacceptable and where there is no reasonable prospect that they can be satisfactorily reduced through specific measures or action programmes. In particular:

An Air Quality Management Area (AQMA) has been declared under the provisions of the National Local Air Quality Strategy and is subject to revision on a biennial basis. All development should be designed so as to ensure that adequate levels of air quality are achieved within buildings. Development that assists in reducing the existing levels of poor air quality within the declared AQMA will be given positive consideration. Development that would exacerbate the existing poor air quality levels within the AQMA will be permitted only where it is demonstrated that that exacerbation will be mitigated.

Core Policy CS10: An effective and sustainable transport network

The Council will continue to work alongside other Greater Manchester Boroughs on implementing Air Quality Management Plans to facilitate improvements in air quality along the Borough's major road corridors, where national and European targets on nitrogen dioxide emissions are currently not being met.

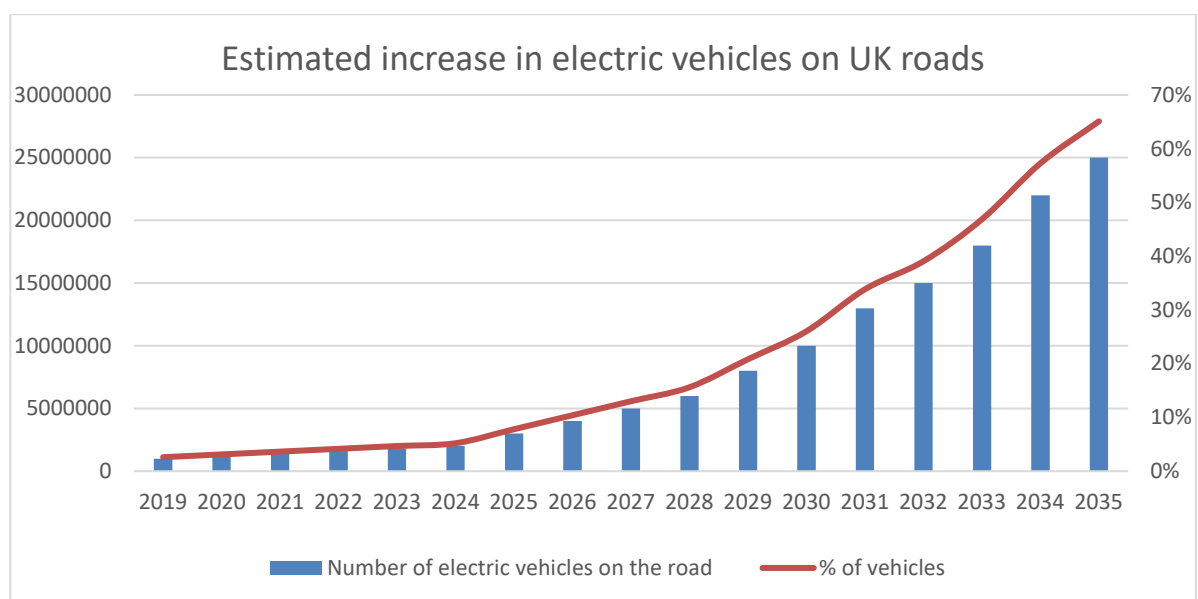
The Council will promote the use of cleaner fuels amongst motorists and continue to use cleaner fuels for its own fleet of vehicles.



3.0 Requirements

- 3.1 The Council will require all development that has on-site car parking to have electric vehicle charging points installed at, at least, some of the car parking spaces. For developments without on-site parking, developers will be required to fund the provision of public charging facilities to meet expected demand (unless agreement is reached to fund car club vehicles).
- 3.2 Whilst the overall number of electric vehicles in the UK currently makes up a small percentage of total vehicles on the road, sales of electric vehicles is increasing. In 2020, battery electric vehicles made up 6.6% of total UK registrations and plug-in hybrid electric vehicles accounted for a further 4.1%. This is predicted to rise sharply as outlined in Figure 1 below (based on National Grid predictions).

Figure 1: Estimated increase in electric vehicles on UK roads



- 3.3 As such, whilst demand over the next few years would not justify the provision of charging points for every parking space in car parks at present (unless there was a particular requirement, such as the requirements of an occupier or a travel plan initiative), an adequate number of charging points must be provided to cater for both the current demand, as well as predicted demand for the first few years of the development. In addition, infrastructure (e.g. ducting / cable routes – accessible trunking, conduits, cable trays etc.) should also be provided to allow additional charging points to be provided as demand increases.
- 3.4 Due to possible changes and improvements to technology, it is considered that it is appropriate for charging points to be provided to cater for the estimated demand for the first 5 years that a development is occupied. As such, the Council's requirements are based on current estimates for the percentage of electric cars that will be on the road 5 years after a development is occupied. This is outlined in Table 3.1. For example, for a development approved in 2021 and to be first occupied in 2023, charging points should be provided to cater for demand up to 2027.

- 3.5 After five years the Council would expect future occupiers of a development to review the number of charging points provided and arrange for additional points to be provided so as to cater for demand for the next few years. As ducting / cable routes would already be in place, this should not prove too difficult and would enable up-to-date charging points to be provided. For larger sites, there may be a formal requirement to do this as part of a Travel Plan or car parking management plan.

Table 3.1: Number of electric vehicles to cater for

Year of occupation	Percentage of electric vehicles to cater for
2021	10%
2022	13%
2023	16%
2024	21%
2025	26%
2026	34%
2027	39%

3.6 Residential Development

- 3.6.1 For residential development with allocated car parking (e.g. in a private drive or garage), an electric vehicle charging point must be provided for each dwelling. This could be provided within a garage or on / adjacent to a drive. In future years as demand increases with many families owning two electric vehicles, the Council will require charging equipment to be provided that enables more than one vehicle to be charged at once.
- 3.6.2 The minimum specification for charging points to be provided for single dwellings is outlined below:

Domestic charging points: minimum technical requirements

Charge protocol: Mode 3

Rated output: 7kw

Supply: 230v AC 32 amp on a dedicated supply protected by an RCBO

Charging point: Weatherproof and corrosion resistant if externally located.

Connector: Untethered.

Compliance with the minimum technical specification for the Electric Vehicle Homecharge Scheme.

It should be noted that this specification may be revised as technology advances / develops. Further information on charging technology is provided in Appendix B.





Image: www.rolecserv.com

- 3.6.3 For residential development with communal car parking facilities to be occupied during 2021, a minimum of 2 spaces or 10% of all parking spaces (whichever is greater) must have an electric vehicle charging point. This assumes a level of parking of 1 space per dwelling or greater. For town centre or other accessible sites where the level of parking is below this figure, the number of electric charging points provided should be based on the number of dwellings, with charging points provided for at least 10% of dwellings (minimum 2) for developments occupied during 2021. This means that for developments with a low level of parking, a higher percentage of spaces will have charging points. In the event that the number of spaces with electric charging points required exceeds the total number of parking spaces to be provided, unless there is sufficient capacity, developers will be required to fund the provision of additional charging points in the vicinity of the site and / or car club vehicles. Further information on this is contained in Section 9.0.
- 3.6.4 For developments scheduled to be first occupied after 2021, the number of charging points provided should be in accordance with the details in Table 3.2. For example, a 30-unit apartment building occupied in 2023 with 45 parking spaces would require 7 charging points (45 spaces x 16%). If, however, it had 25 parking spaces, it would require 5 charging points (30 dwellings x 16%), as the calculation would be based on number of dwellings, not spaces (with the level of parking being below 100%).

Table 3.2: Residential development charging point requirements (communal parking)

Estimated year of occupation	Minimum number of electric charging points
2021	10% of spaces (minimum 2 spaces)*
2022	13% of spaces (minimum 2 spaces)*
2023	16% of spaces (minimum 2 spaces)*
2024	21% of spaces (minimum 2 spaces)*
2025	26% of spaces (minimum 2 spaces)*
2026	34% of spaces (minimum 2 spaces)*
2027	39% of spaces (minimum 2 spaces)*

* If the level of parking is less than 100%, number as % of dwellings

- 3.6.5 Unless all, or the majority of parking spaces have electric vehicle charging points, spaces with charging points cannot be allocated as they will need to be available for all occupiers of the development. It may be appropriate that a time limit that a parking space with a charging point can be used is introduced so that occupiers move their car to another space once it is charged, so as to free up the space for another user.
- 3.6.6 A minimum of 10% of the spaces with electric vehicle charging points (and a minimum of 1 space) should be suitable for use by disabled badge holders.
- 3.6.7 All other spaces must have infrastructure (ducting / cabling routes) provided to them so as to allow charging points to be provided for each space in the future.
- 3.6.8 The minimum specification for charging points to be provided for residential development with communal parking (e.g. apartment blocks) is outlined below:

Multi-unit residential charging point: minimum technical requirements

Charge protocol: Mode 3

Rated output: 7kw

Supply: 230v AC 32 amp dedicated three-phase supply

Charging point: Weatherproof and corrosion resistant if externally located. Twin socket charging points could be provided.

Connector: Untethered

Payment: Where electricity is to be charged, suitable smart-charging equipment (as defined in the Automated and Electric Vehicles Act 2018)

It should be noted that this specification may be revised as technology advances / develops. For example, once wireless charging becomes widely available, this may be required. Further information on charging technology is provided in Appendix B.

- 3.6.9 Where 10 or more charging points are required, 5% of charging points (with a minimum of one) should be a rapid charging point (minimum 43kw).

3.7 Commercial / non-residential development

- 3.7.1 For commercial and non-residential development, such as offices, nursing homes, industrial units, retail units and supermarkets (but excluding service stations, garages and similar) a minimum of 4% of all parking spaces or 2 spaces (whichever is greater) must have an electric vehicle charging point (for developments to be occupied in 2021). This assumes that a development has a level of parking close to the maximum permitted standard. If the development is located in a town centre or other accessible sites where the level of parking is below this figure, electric charging points should be provided for 4% of the number of maximum number of spaces permitted by the adoptable standards (with a minimum of 2 spaces with charging points). This means that for developments with a low level of parking, a higher percentage of spaces will have charging points. In the event that the number of spaces with electric charging points required exceeds the total number of parking spaces to be provided, developers will be required to fund the provision of additional charging points in the vicinity of the site (unless there is sufficient capacity). Further information on this is contained in Section 9.0.



Image: www.rolecserv.com

- 3.7.2 For developments scheduled to be first occupied after 2021, the number of charging points provided should be in accordance with the details in Table 3.3. These figures take into account predicted growth in electric vehicles over the next few years and the fact that, whilst many drivers will charge their vehicles at home, some will be unable to as a third of homes do not have off-street parking.

Table 3.3: Commercial / non-residential development* charging point requirements

Estimated year of occupation	Minimum number of electric charging points
2021	4% of spaces (minimum 2 spaces)**
2022	6% of spaces (minimum 2 spaces)**
2023	8% of spaces (minimum 2 spaces)**
2024	11% of spaces (minimum 2 spaces)**
2025	13% of spaces (minimum 2 spaces)**
2026	17% of spaces (minimum 2 spaces)**
2027	20% of spaces (minimum 2 spaces)**

* Excluding hotels, sheltered accommodation, service stations, garages and other vehicle related uses

** If the number of spaces provided is less than the maximum adopted parking standard, this figure should be based on the maximum number of spaces that could be provided.

- 3.7.3 As with residential development, a minimum of 10% of the spaces with electric vehicle charging points (and a minimum of 1 space) should be suitable for use by disabled badge holders and all other spaces must have infrastructure (ducting / cable routes) provided to them so as to allow charging points to be provided for each space in the future.
- 3.7.4 The minimum specification for charging points to be provided for non-residential development is outlined below.

Non-residential charging point: minimum technical requirements

Charge protocol: Mode 3

Rated output: 7kw

Supply: 230v AC 32 amp dedicated three-phase supply. A load balancing system should be investigated

Charging point: Weatherproof and corrosion resistant if externally located. Twin socket charging points could be provided.

Connector: Untethered

Payment: Where electricity is to be charged, suitable smart-charging equipment (as defined in the Automated and Electric Vehicles Act 2018)

Signage: Clear signage to identify the charging point, how to operate it, charging arrangements and terms and conditions.

- 3.7.5 Unless all parking demand at the development is expected to be long-stay (e.g. which may occur at an office building or industrial unit), at least one charging point must be a rapid charging point (Mode 4, minimum 43kw). Where the majority of parking demand is expected to be short-stay (e.g. at a convenience store), the majority, if not all of the charging points should be rapid chargers. The proportion of fast and rapid charging points will need to be agreed with the Council, with the number of each type of charging point provided based on estimated demand.

3.8 Hotels and sheltered accommodation

- 3.8.1 For hotels and sheltered accommodation the number of charging points provided should be in accordance with the details in Table 3.4.

Table 3.4: Hotels and sheltered accommodation charging point requirements

Estimated year of occupation	Minimum number of electric charging points
2021	10% of spaces (minimum 2 spaces)*
2022	13% of spaces (minimum 2 spaces)*
2023	16% of spaces (minimum 2 spaces)*
2024	21% of spaces (minimum 2 spaces)*
2025	26% of spaces (minimum 2 spaces)*
2026	34% of spaces (minimum 2 spaces)*
2027	39% of spaces (minimum 2 spaces)*

* If the number of spaces provided is less than the maximum adopted parking standard, this figure should be based on the maximum number of spaces that could be provided.

- 3.8.2 As with other development, a minimum of 1 space, or 10% of the spaces with electric vehicle charging points (whichever is greater), should be suitable for use by disabled badge holders and all other spaces must have infrastructure (ducting / cable routes) provided to them so as to allow charging points to be provided for each space in the future.
- 3.8.3 The minimum specification for charging points to be provided for hotels and sheltered accommodation is as outlined below.

Hotels and sheltered accommodation charging point: minimum technical requirements

Charge protocol: Mode 3

Rated output: 7kw

Supply: 230v AC 32 amp dedicated three-phase supply. A load balancing system should be investigated.

Charging point: Weatherproof and corrosion resistant if externally located. Twin socket charging points could be provided.

Connector: Untethered

Payment: Where electricity is to be charged, suitable smart-charging equipment (as defined in the Automated and Electric Vehicles Act 2018)

Signage: Clear signage to identify the charging point, how to operate it, charging arrangements and terms and conditions.

3.9 Service stations, garages and other vehicle related uses

- 3.9.1 For planning applications relating to new, or amendments to, service stations, petrol filling stations, vehicle repair workshops and other vehicle related uses, an individual assessment of the number of electric charging points will need to be made. This will need to include the number of rapid charging points required. Developers are advised to consult the Council prior to the submission of a formal planning application to discuss such requirements. For developments which require the submission of a Transport Statement / Assessment, the document should set out the number of charging points to be provided, with the number justified.

3.10 Public car parks

- 3.10.1 For planning applications relating to the provision of new, or amendments to, public car parks (car parks, either publically or privately owned, that are not linked to a development but that the public have access to), an individual assessment of the number of electric charging points will need to be made. This will need to have regard to the expected usage of the car park, having regard to both short-stay and long-stay demand. If some demand will be short-stay, rapid charging points will need to be provided. Developers are advised to consult the Council prior to the submission of a formal planning application to discuss such requirements. For developments which require the submission of a Transport Statement / Assessment, the document should set out the number of charging points to be provided, with the number justified.

3.11 Larger developments

- 3.11.1 For developments which require the submission of a Transport Statement / Assessment and / or Travel Plan, the number of electric charging points to be provided should be in line with the minimum requirements outlined above but should also take into account factors including whether the development is in an Air Quality Management Area (AQMA) or is close to a school, children's nursery or health care establishment, to determine whether the provision of more electric charging points than the minimum standards would be justified. The Transport Statement, Transport

Assessment or Travel Plan should set out the number of charging points proposed, with the number justified.

- 3.11.2 If a development has a Travel Plan, this should include details of the electric charging provision and how occupiers, staff and visitors will be made aware of this and arrangements for use of charging points. It should also include details of proposals to review provision and arrangements to provide additional charging points as demand increases.

3.12 Light and heavy goods vehicles

- 3.12.1 The requirements for the provision of electric vehicle charging points outlined above relate to parking for occupiers, staff, customers and visitors. For developments where commercial vehicles will operate (e.g. delivery vans), an appropriate number of electric vehicle charging points must be provided for such vehicles. This will need to be determined on a case-by-case basis, taking into account factors including the total number of vehicles, length and frequency of trips and how the business operates.

- 3.12.2 Heavy goods vehicles are a major source of pollution, accounting for 18% of greenhouse gas emissions and 13% of nitrogen oxide emissions for road transport in 2016. Whilst the development of zero emission HGVs is not as advanced as cars and vans, electric powered HGVs are now being produced and technology is advancing rapidly. Developers must also consider the provision of charging equipment for HGVs. When a planning application is considered, the requirement for charging equipment for HGVs will be considered on a case-by-case basis, taking into account factors including available technology and local air quality.

3.13 Bus, coach, mini-bus, taxi and other passenger transport facilities

- 3.13.1 As with HGVs, the development of electric buses and coaches is not as advanced as cars. Technology, however, is advancing rapidly and electric buses are now being introduced. For planning applications relating to new, or amendments to, bus stations, bus depots, transport interchanges or developments where buses, coaches or mini-buses will park on a regular basis (e.g. leisure centres and tourist destinations), an individual assessment of the number of electric charging points will need to be made. This will need to take into account factors including the total number of vehicles, journey length and frequency of trips. Developers are advised to consult the Council prior to the submission of a formal planning application to discuss such requirements. For developments which require the submission of a Transport Statement / Assessment, the document should set out the number of charging points to be provided, with the number justified.

- 3.13.2 Electric vehicle charging points should also be provided in developments where taxis will park or visit on a regular basis (e.g. transport hubs and supermarkets). An individual assessment of the number of electric charging points will need to be made for such developments. Developers are advised to consult the Council prior to the submission of a formal planning application to discuss such requirements. For developments which require the submission of a Transport Statement / Assessment, the document should set out the number of charging points to be provided, with the number justified.

4.0 Planning application submissions

- 4.1 Details of parking to be provided within a development, including the number of electric vehicle charging points, should be submitted as part of any planning application. Details to be submitted must include:

- 1) The number of parking spaces with electric vehicle charging points to be provided
- 2) A layout plan showing the location of the spaces and charging equipment

The number of parking spaces with electric vehicle charging points to be provided should accord with the standards outlined above and take into account the expected year of first occupation.

- 4.2 For larger developments where parking is communal, details of how the parking spaces with electric vehicle charging points will be managed and how the charging system will operate should be outlined in the Transport Statement or Assessment to be produced and submitted in support of the planning application. Developers should also ascertain prior to the submission of a planning application whether there is adequate capacity in the local electricity network to supply the number of electric vehicle charging points required and set out in the Transport Statement or Assessment whether any capacity improvements are likely to be needed. If investigations conclude that there are constraints that cannot be addressed developers are advised to discuss the issue with the Council.

- 4.3 In the event that a planning application is approved, a condition will be attached to any approval granted requiring details of the parking spaces with electric vehicle charging points to be submitted for approval. Examples of conditions are included in Appendix C. Details will then need to be submitted as part of a discharge of conditions application. Details to be submitted will need to include:

- 1) A layout plan showing the location and design of the parking spaces
- 2) Details of signage and carriageway markings
- 3) Details of the electric charging equipment (e.g. its location, form and power rating)
- 4) Details on how the electric charging equipment will be managed and operated (e.g. charging regime, details relating to public access, how the equipment will be maintained, how the parking spaces will be managed to ensure vehicles do not over-stay etc.)

In the event that the year of occupation differs from that outlined when the original planning application was considered, the number of parking spaces with electric vehicle charging points to be provided will need to be varied (at the time that the discharge of conditions application is considered).

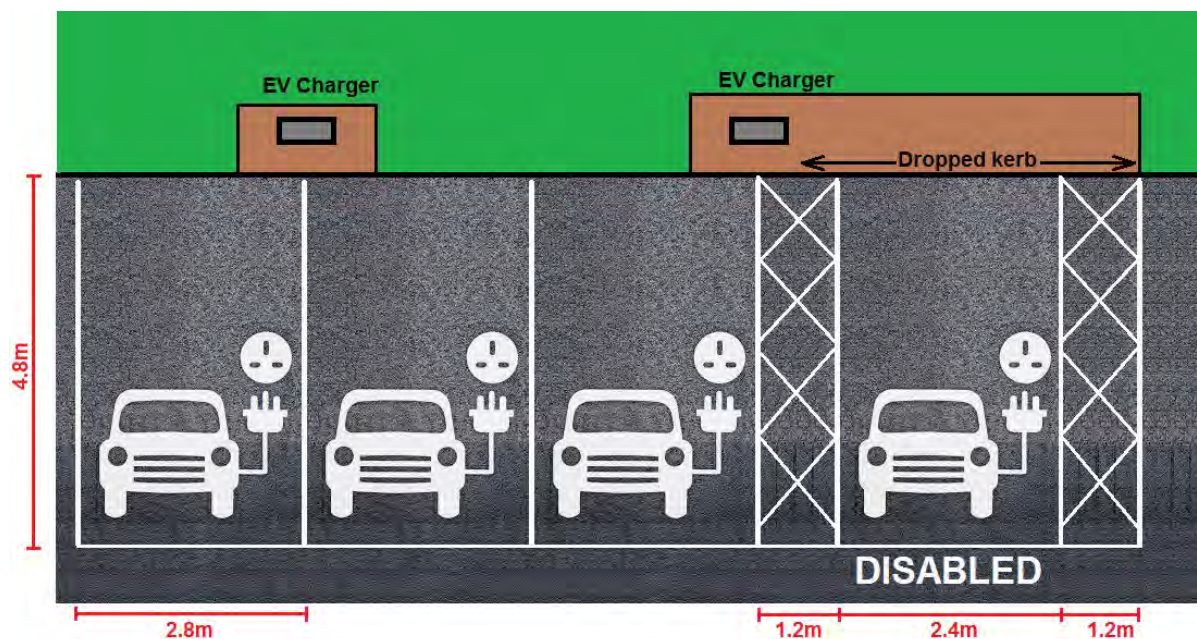
- 4.4 The design of the spaces with electric vehicle charging points should accord with the guidance outlined in Section 5.0.

5.0 Detailed design

5.1 As with all parking, parking spaces with electric vehicle charging points should be of a safe and practical design and conveniently located. Electric vehicle charging points should be provided for both standard parking spaces and spaces for disabled badge holders. Where electric vehicle charging points are not to be provided for all parking spaces within a development, appropriate ducting / cable routes should be provided to all spaces, together with areas where charging points can be installed, so as to allow spaces to be retrofitted with a charging point in the future. In terms of detail, the following criteria should be taken into account when designing developments:

- 1) Standard parking spaces should, as a minimum, be 4.8m long and 2.4m wide, although a width of 2.8m is recommended so as to provide more room to allow for cables and to enable easy access to the charging point.
- 2) Disabled parking spaces, should be 4.8m long and 2.4m wide, with a 1.2m wide access area on all sides of the space.
- 3) Spaces with electric vehicle charging points should be located in a favourable position in car parks (along with spaces for disabled persons, car club vehicles and car sharers).
- 4) Electric vehicle charging points should be positioned clear of the parking space, be protected from collision (e.g. using kerbing) but easily accessible for users (notably those with disabilities). An area of 750mm by 720mm is recommended for providing a charging point.
- 5) Electric vehicle charging points should be positioned so as to ensure that cables between the charging point and vehicle will not cause an obstruction or trip hazard.
- 6) Parking spaces with electric vehicle charging points must be clearly signed and marked for electric vehicle charging only.
- 7) Parking spaces with rapid charging equipment should be time limited (e.g. to less than 1 hour), with appropriate signage provided.
- 8) Where parking spaces with electric vehicle charging points are provided in public car parks, signage should be provided to advise drivers of how the charging points operate.
- 9) If the car parking is located in a conservation area or close to a listed building, the design and location of equipment and signage should have regard to its surroundings and be of a sensitive design.
- 10) For larger developments, the power supply required for the number of charging points to be provided (and to be provided in the future as demand increases) may be significant and therefore needs to be considered at an early stage when planning a development. Load management, battery storage or providing additional power supply to the development may need to be considered. It should be noted that charging units are now available that have integrated batteries and therefore these may provide a solution in some circumstances.

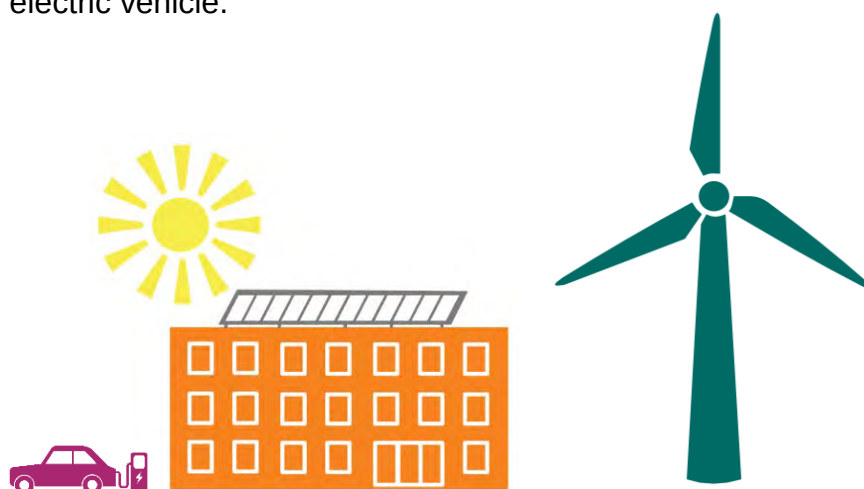
- 11) If charging points are located in underground car parks, this may affect what charging system can be used as a phone signal may not be available.
- 12) The installation of charging points and associated infrastructure must be carried out in accordance with the most up to date version of 'Code of Practice for Electric Vehicle Charging Equipment Installation' written by IET Standards, as well as other applicable documents, including 'Approved Document P: Electrical safety – dwellings and Electricity at Work Regulations HSR25, BS7671:18th edition (2018)'.
- 13) All charging points with public access must be available to use on a 'pay as you go' basis, without the need to pre-register. Firmware should be compliant with the Open Charge Point Protocol (OCPP). It is recommended that charging points are also compatible with Greater Manchester's Be.EV network.



6.0 Sustainable energy

- 6.1 The electricity used to power electric vehicles will usually come from the National Grid. Although the amount of electricity generated from fossil fuels in the UK has reduced significantly in recent years, in 2020 gas still accounted for around 37% of the National Grid power mix and coal 2%. If possible, all the electricity used to power electric vehicles should be generated totally from renewable sources and, as such, developers are advised to consider on-site renewable energy generation (e.g. the installation of solar panels) to supply some or all of the electricity required to charge electric vehicles at the site. If this is not possible, occupiers are advised to purchase electricity generated from renewable sources.

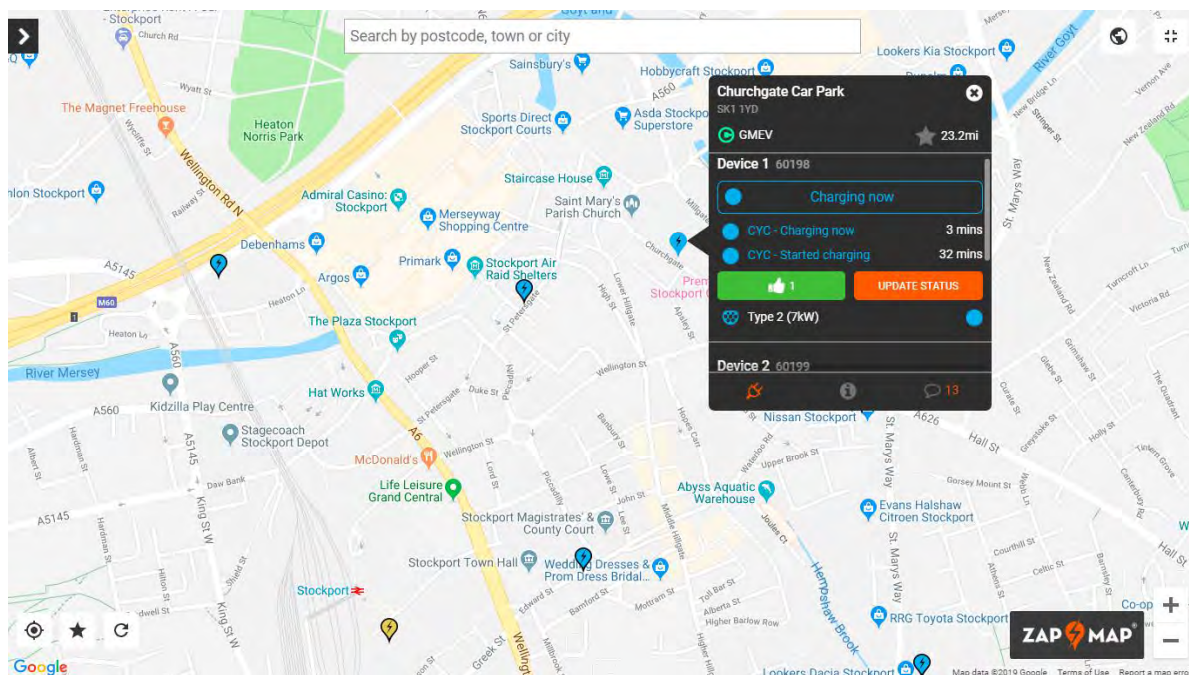
- 6.2 It is also recommended that battery storage is provided within the development. This enables electricity generated at the development to be stored until such time that it is required to charge an electric vehicle.



7.0 Public availability / mapping

- 7.1 Where parking spaces with electric vehicle charging points are available for the public to use (e.g. in a supermarket or restaurant car park), details should be made publically available. These should be uploaded to the National Charge Point Registry and all key on-line mapping systems, including www.zap-map.com, www.plugshare.com and openchargemap.org.

Figure 6.1: Extract from Zap-map showing charging points in Stockport



8.0 Charging for electricity

- 8.1 In public or communal car parks, it is up to the developer to decide whether to charge a fee for the cost of electricity. If a charge is made, it must be reasonable and at a level which does not deter use. It is recommended that developers take into account the cost of charging at other charging points in the local area when determining charges. To allow electricity to be charged for, charging equipment will be required to be installed and an associated system introduced to allow payment to be made. If the car park is subject to a charging regime (e.g. it is a pay and display car park), signage should be provided, including on, or in the vicinity of the electric vehicle charging points, to inform users of parking spaces with electric charging points if they must pay for car parking. It is recommended that if there is a charging regime, charges are not made for both parking and electricity.

9.0 Developments without (or with a low level of) off-street parking

- 9.1 If no off-street car parking is to be provided within a development or the development will have a low level of parking which means that the required number of spaces with electric charging points cannot be provided, when the planning application for the development is being assessed consideration will be given to the availability and usage of public electric vehicle charging points in the vicinity of the development. If it is determined that existing provision will not meet the increased demand that will result from the development, developers will be required to fund the provision of additional charging points (which could be on street or within public car parks). Alternatively, the Council may agree to the funding of car club vehicles in lieu of some or all the required charging points.



10.0 Travel Plans

- 10.1 If a development has a Travel Plan, the plan must contain information on electric vehicle charging points to be provided within the development. This should include details of where they are located and how they will be managed and proposals to provide information on EV charging in marketing material and 'Welcome Packs'. In addition, the travel plan review process must include proposals to review usage / demand of charging points and proposals to provide additional charging points as and when they are required.

11.0 Building Regulations

- 11.1 In July 2019 the Government published a consultation document 'Electric Vehicle Charging in Residential and Non-Residential Buildings' which outlined proposals to alter building regulations so as to include the requirement to provide electric vehicle charging points in new development. At the time of writing, the outcome of this review was still awaited. Whilst this guidance document takes into account this consultation document, the outcome of this consultation or what future building regulations will be is not yet known. In the event that the requirements for EV charging outlined in building regulations that are published in the future are greater than those outlined in this guidance (e.g. requiring a greater number of charging points), the greater standards in the building regulations will need to be adhered to.

12.0 Contacts

- 12.1 For further information, developers or their consultants / agents should contact the Highways Team within Development Management. The contacts are:

East of the Borough, which includes Stockport Town Centre, Bredbury, Brinnington, Hazel Grove, High Lane, Marple, Offerton (south), Reddish, Romiley and Woodley.

Contact: Alex Bond:
Tel: 07800 618184
E-mail: alex.bond@stockport.gov.uk

West of the Borough, which includes Bramhall, Cale Green, Cheadle, Cheadle Heath, Edgeley, Gatley, Heald Green, the Heatons, Heavily, Offerton (north) and Woodford.

Contact: Kevin Brooks
Tel: 07800 618255
E-mail: kevin.brooks@stockport.gov.uk



Appendix A: Stockport Council Resolution

Resolution on electric vehicle charging points made by Stockport Metropolitan Borough Council on Thursday 29th November 2018.

This Council notes:-

- *the continuing deterioration of air quality across the UK, with particular areas of exceedance of nitrogen dioxide legal limits across Greater Manchester, including in Stockport;*
- *the current work ongoing at the Greater Manchester Combined Authority to seek ways of improving air quality, reported to Members at a recent briefing; and*
- *the main cause of poor air quality is fossil fuel burning vehicles, particularly when they encounter congestion.*

This Council further notes:-

- *electric vehicle sales are increasing, but Battery Electric Vehicles and Plug-in Hybrid Vehicles still account for only one in twelve new cars sold in the UK;*
- *by 2017 only 3% of Britons had ever driven an electric vehicle and only 7% had been a passenger in one; and*
- *purchase cost, fear of obsolescence, slow speed of re-charging and limited availability of rapid-charging stations are cited as the main reasons why more drivers do not switch to electric vehicles*

This Council welcomes the investment made across Greater Manchester over several years, making our electric vehicle network one of the biggest and most modern in the UK, with nearly 2,000 registered drivers by the end of 2017 and an average of 50 new members joining each month.

This Council regrets the recent government decision to cut the subsidies for new electric vehicles by £1,000 to £3,500 and to abolish altogether the subsidy of £2,500 for new hybrid cars, announced only three months after the transport secretary published the “Road to Zero” strategy (which looks to curb vehicle emissions by promoting greener cars) and only three days after the Intergovernmental panel on Climate Change called for an urgent switch to electric vehicles.

This Council believes we should do all that we can to encourage the further use of electric vehicles but notes the relative absence of electric options for commercial vehicles, including waste and recycling collection vehicles and larger vans, and the challenges faced by those who do not have off-street parking options.

This Council recognises work already being done elsewhere, for example Lancaster City Council’s planning policies include a requirement for new developments (including conversions) to promote Ultra Low Emission Vehicles by requiring the provision of dedicated parking bays and charging points as follows:

- *one electric vehicle dedicated charging point per house with garage or driveway;*
- *at least 10% of parking bays for flats to be provided with dedicated charging points and all other spaces to be provided with passive wiring to allow future charging point connection; and*

- *all other developments to have 4% of parking bays (minimum 2 bays) marked out for use by electric vehicles only, together with charging infrastructure and cabling.*

This Council further recognises the government's scheme to provide grants to local authorities for 75% of the capital cost to provide residential on-street charge points for plug-in electric vehicles, aimed at those who do not have off-street parking options. Bids can include schemes for retrofitting electric charge points into car parks where these are near to residential properties who lack off-street parking.

This Council resolves to include in our planning policy as soon as practicable the requirement that new developments (including conversions) make provision for dedicated electric vehicle charging points, using the Lancaster guidelines as outlined above as the starting point.

This Council further resolves to ask the Council Leader to instruct officers to form a project group, initially to put together an urgent bid for grant funding as outlined above and then to devise a comprehensive plan of how best to develop the borough-wide on-street charging infrastructure we would need to meet future demand.

Moved by: Councillor Colin MacAlister

Seconded by: Councillor Christine Corris

Appendix B: Technology

There are three main types of electric vehicle (EV) charging – rapid, fast, and slow. These represent the power outputs, and therefore charging speeds, available to charge an electric vehicle. Each charger type has an associated set of connectors which are designed for low or high power use, and for either AC or DC charging. The three types of chargers presently in use are outlined below.

Rapid chargers: Rapid chargers are the fastest way to charge an electric vehicle and are usually located at motorway services or similar locations close to main roads. They can recharge a car to 80% in 20-40 minutes. Rapid charges have the charging cable tethered to the charging point. They can only be used on vehicles with rapid-charging capability. Power is provided at 43kW or 50kW DC and 120kW DC on the Tesla Supercharger network.

Connectors: CHAdeMO (50 kW DC), CCS (50 kW DC), Type 2 (43 kW DC) and Tesla Type 2 (120 kW DC)

Fast chargers: Fast chargers have historically been provided at destinations, such as car parks, supermarkets or leisure centres, where you are likely to be parked for an hour or more. They are now, however, increasingly being used for all types of development, including residential development, as they allow vehicles to be charged in a much shorter length of time than slow chargers and costs for these chargers have dropped. Charging times vary depending on the type of charger and the vehicle. A 7 kW charger could recharge a compatible vehicle with a 30 kWh battery in 3-5 hours and a 22 kW charger could charge a vehicle in 1-2 hours. Most fast chargers are untethered and are rated at 7 kW AC. Some, however, are 22 kW AC and some home and workplace based charging points have cables attached. Untethered charging points are more flexible as they can be used by any EV with the correct cable. All electric vehicles can use fast chargers but not all will be able to draw more than 7 kW (or even 3.3 kW). They are the most common public charge point.

Connectors: Type 2 (7-22 Kw AC), Type 1 (7 Kw AC) and Commando (7-22 Kw AC).

Slow chargers: Slow chargers have historically been provided at domestic property or workplaces where drivers will leave their vehicles to charge overnight or through the working day. Most slow charging points are rated at up to 3 kW and a 3 kW charging point will typically take 6-12 hours to charge a car. Some lamp-post chargers are rated at 6 kW. Most slow chargers are untethered. Slow charging can be carried out via a three-pin socket using a standard 3-pin socket, but because of the higher current demands of electric vehicles and the longer amount of time spent charging, this is not recommended for regular / daily use. Whilst slow chargers have historically been the most common form of chargers, the technology is now dating, with the cost differential between slow and fast chargers reduced considerably. As such, the use of slow chargers is now not recommended.

Connectors: Type 1 (3 Kw AC), Type 2 (3 Kw AC), and Commando (3 Kw AC).

Appendix C: Planning Conditions

Planning conditions will be used to require the provision and retention of charging points for the charging of electric vehicles and associated car parking spaces, as well as ducting / cable routes to enable the provision of additional electric vehicle charging points to be provided in the future. Example conditions are outlined below.

Charging point for a single dwelling

A charging point for the charging of electric vehicles shall be provided within the site for the approved dwelling. Prior to its provision, details of the charging point shall be submitted to and approved in writing by the Local Planning Authority. The approved dwelling shall not be occupied until the charging point has been provided in accordance with the approved details and is available for use. The charging point shall thereafter be retained and shall be available for use (unless it is replaced with an upgraded charging point in which case that should be retained and be available for use).

Reason: To ensure that adequate parking with facilities for the charging of electric vehicles are provided in accordance with Policies SD-6 'Adapting to the impacts of climate change', SIE-3: Protecting, Safeguarding and enhancing the Environment, T-1 Transport and Development', T-2 'Parking in Developments' and T-3 'Safety and Capacity on the Highway Network' of the Stockport Core Strategy DPD and Paragraphs 110, 170 and 181 of the National Planning Policy Framework.

Charging points for multiple dwellings

Charging points for the charging of electric vehicles shall be provided within the site for each of the approved dwellings. Prior to their provision, details of the charging points shall be submitted to and approved in writing by the Local Planning Authority. Each dwelling within the development shall not be occupied until the charging point for that dwelling has been provided in accordance with the approved details and is available for use. The charging points shall thereafter be retained and shall be available for use (unless they are replaced with upgraded charging points in which case they should be retained and be available for use).

Reason: To ensure that adequate parking with facilities for the charging of electric vehicles are provided in accordance with Policies SD-6 'Adapting to the impacts of climate change', SIE-3: Protecting, Safeguarding and enhancing the Environment, T-1 Transport and Development', T-2 'Parking in Developments' and T-3 'Safety and Capacity on the Highway Network' of the Stockport Core Strategy DPD and Paragraphs 110, 170 and 181 of the National Planning Policy Framework.

Charging points and ducting

No work shall take place in respect to the provision of charging points for the charging of electric vehicles and associated infrastructure within the site until details of proposals to provide:

- 1) A minimum of *** charging points within the site for the charging of electric vehicles, together with associated signed / delineated car parking spaces
- 2) Ducting / cable routes to all other car parking spaces within the site so as to enable charging points for the charging of electric vehicles to be provided for all other parking spaces in the site in the future

have been submitted to and approved in writing by the Local Planning Authority, together with a method statement outlining how the charging points and associated car parking

spaces will be managed and operated. Details to be submitted shall include how the parking spaces with charging points will be signed and marked out, details of the charging points and details of the ducting / cable routes. The approved development shall not be occupied until the charging points and associated car parking spaces have been provided in accordance with the approved details and are available for use and the ducting / cable routes have been provided to all other parking spaces. The charging points and associated car parking spaces shall thereafter be retained, as approved, and shall remain available for use. The charging points and associated car parking spaces shall be managed and operated at all times in complete accordance with the approved method statement (or alternative method statement as may have been approved in writing by the Local Planning Authority).

Reason: To ensure that adequate parking with facilities for the charging of electric vehicles are provided in accordance with Policies SD-6 'Adapting to the impacts of climate change', SIE-3: Protecting, Safeguarding and enhancing the Environment, T-1 Transport and Development', T-2 'Parking in Developments' and T-3 'Safety and Capacity on the Highway Network' of the Stockport Core Strategy DPD and Paragraphs 110, 170 and 181 of the National Planning Policy Framework.

Off-site charging points

Details of proposals to provide within *** charging points for the charging of electric vehicles shall be submitted to and approved in writing by the Local Planning Authority prior to the approved development being occupied. Details shall include where the charging points will be located, details of the charging points and associated parking spaces (including details of the equipment, signage and carriageway markings), how they will be provided (including details of any required traffic regulation order) and a timescale for their provision. The charging points shall then be provided in accordance with the approved scheme and timescale. Once provided, they shall then be retained and shall remain available for use at all times thereafter (unless they are replaced with alternative charging points in which case they should be retained).

Reason: To ensure that adequate parking with facilities for the charging of electric vehicles are provided in accordance with Policies SD-6 'Adapting to the impacts of climate change', SIE-3: Protecting, Safeguarding and enhancing the Environment, T-1 Transport and Development', T-2 'Parking in Developments' and T-3 'Safety and Capacity on the Highway Network' of the Stockport Core Strategy DPD and Paragraphs 110, 170 and 181 of the National Planning Policy Framework



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