

Low Emission Topic Note 1

Provision of EV charging points *via* planning agreements

Prepared by Green Sphere on behalf of the Low Emission Partnership

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Summary

- i) This note provides a short review of current policy and practice on provision of EV charging points *via* planning agreements. It covers:
 - National policy context
 - General approach on local policies and guidance
 - Role of air quality specialists
 - Qualifying developments
 - Setting levels of provision
 - Technical specification of charging infrastructure
- ii) It also identifies some development issues and considerations, including around:
 - Ease of policy adoption
 - Setting levels of provision
 - Risks associated with technical specification
 - Approach towards strategic network development
- iii) The appendices provide specific examples of current practice.
- iv) The review draws on published and draft policies/guidance; and also on informal consultation with key practitioners, including: Bradford MBC, Sefton MBC, Mid Devon Council, West Midlands Low Emissions Towns and Cities Programme (LETCP), City of York Council, Sussex Council, Leeds City Council and Future Transport Systems.
- v) Topic notes provide rapid communication of outputs from review and development work undertaken by the Partnership. Further notes will be published as information becomes available. Current work includes:
 - Wider review of emerging practice on low emission planning policies and agreements
 - Development of selected case studies on low emission infrastructure development
 - Review/sign-posting of guidance on technical specification of EV requirements
- vi) For more information on current work and publication time table please contact info@lowemissionstrategies.org. The Partnership would welcome feedback and questions relating to any aspect of this first topic note as well as on wider related issues.

1 General Approach

National Policy

- 1.1 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.
- 1.2 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.
- 1.3 The [National Planning Policy Framework](#) states (para35) that *'Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Therefore, developments should be located and designed where practical to [...] incorporate facilities for charging plug-in and other ultra-low emission vehicles'*

Local Policies and Guidance

- 1.4 Many local authorities already obtain electric vehicle recharging points through the planning system. Their approach generally takes one of the forms listed below and the nature/level of provision achieved does not appear to be dependent on the exact route followed (note that, in many cases EV charging points are just one of a number of different types of low emission mitigation measures being sort through the same guidance note):
 - Development and adoption of [formal planning policy](#) – originally in the form of SPDs or SPGs but following changes to the planning system are being revised to become Development Management Policies (DMP) or similar (e.g. Mid-Devon)
 - Development and adoption of [local planning guidance](#) notes (e.g. Bradford, York)
 - Changes to [parking policy requirements](#) on new developments (sometimes combined with a wider formal planning policy / guidance note) (e.g. Sefton, Dudley)
 - Requirements in [travel planning policies](#) (e.g. Leeds)
- 1.5 In general, EV planning requirements 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](#)
- 1.6 Different approaches are followed to establish requirements for a given site:
 - [Standard provision](#) based on pre-specified site characteristics (e.g development size or number of parking spaces).
 - Requirement on a developer to propose [mitigation based on an emission assessment](#), including potentially provision of EV infrastructure.
 - [Flexible requirements](#) based on case by case negotiation between planning authority and the developer.
 - Provision determined with reference to a [strategic EV infrastructure plan](#).
- 1.7 Some authorities have also identified opportunities to [broker EV provision](#) at the point of development or afterwards, via ['non-planning routes'](#). This can help to reduce overall burden on the developer and/or to increase the overall level of provision that it is possible to achieve at a given site.

2 Common Principles

Role of air quality officers

- 2.1 This is a relatively new area in the field of planning. Successful implementation of LES planning guidance for the provision of EV charging points (and potentially other mitigation measures) requires the support of air quality officers to provide air quality evidence to support planning policy. Air quality officers may also contribute to or drive:
- development of policy hooks in core strategies or other core planning documents
 - drafting and consultation on guidance notes
 - training of development control colleagues on implementation of the guidance
 - advice on review of specific planning applications and developer proposals
- 2.2 Developers are also largely new to this area and may need support from LA planning and air quality staff to comply with new requirements. In some cases detailed discussions and extensive negotiations with developers and consultants will be required.

Qualifying Developments

- 2.3 Many different types of development are suitable for obtaining either EV charging infrastructure or financial contributions towards a wider charging network. The most common are:
- Commercial, business and retail sites
 - Residential developments
 - New domestic garages

Standard Provision

- 2.4 Amongst those Authorities who have produced guidance the greatest consistency in EV charging requirements is for [new housing developments](#), irrespective of size:
- one EV charging point per residential dwelling with dedicated off street parking
 - one EV charging point per 10% of undedicated parking spaces (or a minimum of 1)
- 2.5 There is some variation in the definition of 'off-street' parking with some authorities considering this to be any form of driveway (hence requiring an external charging point) whilst others limit the requirement to those properties with garages (internal charging point). Not all Authorities request EV charging points for non-dedicated residential parking spaces.
- 2.6 For [other types of development](#) (e.g. commercial, retail and industrial), requirements of around 10% is common, though there is greater variation here in the detail, some include:
- an option to deliver in two phases (e.g. 5% then another 5%).
 - additional criteria such as numbers of rooms or retail area to refine the specification.
- 2.7 See appendices and references list for current practice examples.

Emission Assessments

- 2.8 Some Authorities do not separate EV charging from other mitigation measures nor have standard requirements relating to the type / size of the development. Instead they require developers to estimate the emissions impact of the site and propose appropriate mitigation.
- 2.9 In Mid-Devon a proposed new approach is to require the developer to calculate and minimise residual transport emissions (using a recognised tool such as LET) from the development once mitigation measures (potentially including provision of charging points) have been applied.
- 2.10 A similar situation exists in Sussex where those developments needing to advance to an emission assessment stage are required to demonstrate that they have mitigated the residual emissions using measures from a given 'pick' list (in the case of non-major developments within the proximity of an AQMA an emission assessment is not required but the local authority retains the right to condition what it considers to be appropriate mitigation).

Flexible Requirements

- 2.11 Whilst many Authorities do not yet have formalised EV charging point requirements as part of their planning policies and guidance there are examples where provision has been agreed more flexibly on a case by case basis.
- 2.12 In York, the approach to requesting EV recharging through the planning system has not yet been formalised, although there are clear policy links to the adopted Low Emission Strategy within the Core Planning Strategy. To date over 20 publicly accessible EV charging points have been obtained through sec 106 agreements or other planning conditions and simple 13A socket style domestic EV charging points are routinely required on all new housing developments with garages and on applications for new build domestic garages on existing properties.

Strategic Network

- 2.13 Having a standard approach to specifying EV charging points on developments can lead to a 'scattergun' approach to EV charging provision, especially where development is concentrated in specific areas of an authority due to regeneration programmes or similar. It may also eventually result in over provision or provision that becomes outdated before the demand for it fully arises.
- 2.14 Some Authorities such as York are considering how a more strategic approach can be taken towards EV provision. This will require estimating future levels of demand for different types of EV charging in the city and ensuring that this demand is adequately covered by either EV charging provision on specific sites or through the use of financial contributions to support a wider city wide EV charging network.
- 2.15 In mid-Devon considerable progress has been made with obtaining developer contributions to support strategic investment in low emission mitigation measures. This was done initially through a dedicated fund with a formula specified in an LES planning SPD but this system is in the process of being replaced with a Development Management Policy (DMP) linked to CIL contributions.

Non-Planning Routes

- 2.16 Some authorities have also taken opportunities to broker EV via ‘non-planning routes’. This can help to reduce overall burden on developers and/or to increase the level of local provision that it is possible to achieve. Such routes include:
- The charity Zero Carbon World provides free charging points to hotels and other leisure facilities where members of the public spend prolonged periods of time. There are some criteria that have to be met by the applicant with regards to provision of dedicated parking, signage and security. The applicant is responsible for the cost of installing the charging point (typically no more than £400). In York the LA offered a grant to cover the cost of the installation resulting in 9 successful installations to date at existing hotels. <http://www.zerocarbonworld.org/free-charging-stations>
 - Public recharging point provision through grants. Some grant schemes that have been accessed for this purpose include: Local Transport Funds, Local Sustainable Transport Funds, Air Quality Grant Fund, Plugged in Places, OLEV grants for public authorities.

Technical Specification of Charging infrastructure

- 2.17 The level of detail by which requirements are specified varies between authorities. While it is simpler to specify at a low level of detail, this leaves greater uncertainty as to what will be provided.
- 2.18 Broad technical considerations, when specifying EV requirements, include:
- Performance (e.g. power rating, speed of charge, plug type, safety features)
 - Quality (e.g. defined in system neutral terms or as a list of approved suppliers/systems)
 - Interoperability (i.e. relating to billing/back-office systems)
- 2.19 Other aspects on which it may be useful or essential to engage with developers include: anticipated costs, design and layout options and future proofing.

3 Development Issues and Considerations

- 3.1 Adoption of planning guidance on EV provision presents a number of development issues and considerations, which various authorities are currently working to address. This includes:
- Ease of policy adoption
 - Setting and justifying levels of provision
 - Risks associated with technical specification
 - Approach towards strategic networks

Ease of policy adoption

- 3.2 Ease of adoption of EV charging point requirements into planning policy has varied between authorities. Determining factors include:
- The stage of development of the Core Strategy when work on EV-requirement starts
 - Differing local approaches to the incorporation of detailed guidance on specific subjects
 - The extent of overlap or conflict with existing related policies (e.g. parking standards or travel planning).
- 3.3 These issues can be particularly problematic in the situation where regional guidance is being developed and there is significant variation between the component authorities.

Setting Levels of Provision

- 3.4 The different approaches to setting levels of provision outlined in section 2 have respective advantages and disadvantages

Standard Provision:

- 3.5 Setting a standard level of provision creates a level playing field for developers. It also simplifies and streamlines the process both for planning officers and the developer.
- 3.6 The level, rate and location of demand for EV charging is difficult to predict as is the rate, type and location of new development. Setting standard policies therefore runs the risk of either too much or too little provision area by area.
- 3.7 Standard rates are also inevitably blunt instruments, which make it harder to tune requirements to detailed site specific characteristics, such as:
- The period of time users are likely to be present at the site
 - Vehicle access to charging points
 - The number of vehicles accessing the site
 - The number of charging points already in the vicinity
 - Existing gaps in the strategic network provision
 - Other emission mitigation measures already being provided by the developer.
- 3.8 Where standard rates are adopted within formal policy and guidance documents they provide strong levers, which are resistant to challenge. This can also create inflexibility, making it harder to adapt and refine the system over time. Informal guidance is more flexible and so more easily adjusted but potentially carries less weight than formalised documents.

Emission Assessment

- 3.9 Determining provision as part of an overall mitigation plan based upon emissions assessment is attractive since it gives good proportionality between impact and mitigation. It also provides the developer with flexibility to adopt the most cost-effective or practical mix of solutions.
- 3.10 Incorporating infrastructure provision into this approach is not however straight forward, since the associated emission benefits are indirect, subject to assumptions and there is no widely recognised method for benefit attribution.
- 3.11 EV charging provision by this approach has the potential to vary considerably from site to site.

Flexible Requirements

- 3.12 Adopting a flexible approach, makes it possible to tune requirements, taking into account a full range of site specific factors including those listed in paragraph 3.7.
- 3.13 In the absence of documented points of reference, outcomes tend to be reliant on the approach, judgment and confidence of individual planning and air quality officers. At the very least this makes the approach sensitive to personnel change and level of competing workloads.

Strategic Networks

- 3.14 Tying levels of provision to a strategic plan offers solutions to most of the difficulties raised above. Requirements can be tuned to specific sites while still supported within a formal document. Also costs and benefits are more easily assessed at strategic area level rather than site by site.
- 3.15 However development of a strategic plan is of itself a significant undertaking and there is potential to miss near term opportunities, if delays arise, waiting for a strategic plan to be developed and approved. Also the mechanism by which planning as a whole and sites individually contribute to a strategic plan, needs careful thought and ideally embedding within formal (or at least informal) documents/guidance. No precedents for how this is achieved were identified during our review.

Outlook

- 3.16 There is as yet no consensus on the perfect or ideal approach to setting the level of EV provision and it seems likely that further evolution of approach is yet to come.

Risks associated with technical specification

- 3.17 Paras 2.17-2.19 note broad technical considerations when specifying and negotiating EV requirements. A more detailed treatment lies beyond the scope of this note, however the following list illustrates some of the factors that need to be considered:
- + Speed of Charge: It is important to match the charging point with the user/use type (eg. require faster charge in locations where cars are parked for shorter periods)
 - + Plug Type: There are different plug systems available and it is important to meet the needs of the majority of users. The Mennekes type 2 charger is rapidly become a UK standard, though it is also usual to provide a standard 3 pin socket on the same post (this ensures good plug compatibility, though some issues around cabling compatibility can still arise).
 - + System Quality: Provision of cheaper less reliable systems can impact on performance and ultimately public confidence and their willingness to convert to electric vehicles
 - + Interoperability: Lack of compatibility between back office systems can result in users having to carry more than one access card or pay for membership of more than one scheme.
 - + Future Proofing: Planned though long term (i.e. decades) upgrade to household electrics may lead to obsolescence of current domestic installations, potentially before they are ever used.
 - + Competition: Whilst balancing all needs, it is important for an authority as far as possible to establish fair markets and encourage competition (e.g. specialist advice on wording of and approach to technical specification may be needed).
- 3.18 The Partnership aims to review and publish/sign-post further information on these and related issues shortly.

Strategic Networks

- 3.19 Development of a strategic and planned approach on EV provision across an entire area or region, offers the opportunity to build consensus and coherence around a range of important questions, including:
- How many is the right number of charging points to require for a given site?
 - How should this vary by type of development? Or geographic location?
 - What is the right rate of increase over time?
 - What timeframes should we be conditioning for?
 - How are the EV point locations going to be recorded/managed?
 - What are potential cumulative grid impacts? And how should they be managed?
 - What emission benefits can be attributed to ev charging point provision (and/or how can associated costs/benefits be assessed/justified).
- 3.20 Detailed treatment of these considerations lie beyond the scope of this note. The Partnership is working to review latest progress on strategic networks and will be publishing selected case studies on the Low Emission Hub.

4 Next Steps

- 4.1 Topic notes provide rapid communication of outputs from review and development work undertaken by the Partnership. Further notes will be published as information becomes available.
- 4.2 Current work includes:
 - Wider review of emerging practice on low emission planning policies and agreements
 - Development of selected case studies on low emission infrastructure development
 - Review/sign-posting of guidance on technical specification of EV requirements
- 4.3 For more information on current work and publication time table please contact info@lowemissionstrategies.org. The Partnership would welcome feedback and questions relating to any aspect of this first topic note as well as on wider related issues.

5 References and Acknowledgements

- 5.1 The review draws on published and draft policies/guidance; and also on informal consultation with key practitioners, including:

Bradford MBC: Low Emission Strategy - August 2013

Sefton Council: Planning Committee report 'Lowering Transport Emissions', March 2011

Mid Devon Council: Supplementary Planning Document on Planning and Air Quality (2008) – (this is the old document the new approach involving CIL is not yet in the public domain)

West Midlands Low Emissions Towns and Cities Programme (LETCP): Good Practice Planning Guidance

Private communication with Andrew Gillah – City of York Council

Private communication with Simon Newcombe – Mid-Devon

Private communication with Nigel Jenkins – Sussex Air Quality Partnership

Private communication with Jon Tubby – Leeds City Council

Private communication with Derek McCreadie – City of York Council

Private communication with Liz Gray – Future Transport Systems

Appendices – examples of planning requirements for EV charging points

A. Low Emission Partnership (Ref, Jan 2011)

Within some authorities standard requirements are being set for all developments of a similar nature. The examples below illustrate typical requirements currently in use by some authorities.

Table 5: RECOMMENDED ELECTRIC VEHICLE RE-CHARGING (EVR) INFRASTRUCTURE PROVISION FOR NEW DEVELOPMENTS

DEVELOPMENT TYPE	BASIC	STANDARD	ADVANCED	OFF-SET TARIFF ⁶
RESIDENTIAL: House with off-road parking	Single Phase* 1 point per unit	Single Phase* 1 point per unit	Single Phase* 1 point per unit	Contribution to wider community provision ¹
House with on-road parking	Single Phase* 1 point per 10 units ¹	Single Phase* 2 points per 10 units ¹	Single Phase* 3+ points per 10 units ¹	Contribution to wider community provision ¹
Flats/Apartments	Single Phase* 1 point per 10 parking spaces (or per 10 units ²)	Single Phase* 2 points per 10 parking spaces (or per 10 units ²)	Single Phase* 3+ points per 10 parking spaces (or per 10 units ²)	Contribution to wider community provision ¹
COMMERCIAL: Leisure / Retail	Single/3 Phase* 1 point per 200m ²	Single/3 Phase/Accelerated* 2 points per 200m ²	Single/3 Phase/Accelerated* 3+ points per 200m ²	Contribution to on-street provision using same ratios ² Contribution to wider community provision ¹
Business, Higher Education & Hospitals	Single/3 Phase* 1 point per 200m ²	Single/3 Phase/Accelerated* 2 point per 200m ²	Single/3 Phase/Accelerated* 3+ points per 200m ²	Contribution to on-street provision using same ratios ² Contribution to wider community provision ¹
Hotels & Residential Inst.	Single/3 Phase* 1 point per 30 rooms or per 10 parking spaces	Single/3 Phase/Accelerated* 2 points per 30 rooms or per 10 parking spaces	Single/3 Phase/Accelerated* 3+ points per 30 rooms or per 10 parking spaces	Contribution to on-street provision using same ratios ² Contribution to wider community provision ¹

B. Bradford MBC: Low Emission Strategy (August 2013) – adopted guidance

EV re-charging standards for all new developments

	Residential	Commercial/Retail	Industrial
Provision Rate	1 charging point per unit (house with dedicated parking) 1 charging point per 10 spaces (unallocated parking) <i>To prepare for increased demand in future years, appropriate cable provision should be included in scheme design and development in agreement with the local authority.</i>	10% of parking spaces (this may be phased with 5% provision initially and a further 5% trigger)	10% of parking spaces (this may be phased with 5% provision initially and a further 5% trigger)

**C. West Midland Low Emission Towns and Cities Programme – Planning Good Practice Guide
(Consultation draft April 2013)**

Table 3: EV Recharging Standards

	Residential	Commercial/ Retail	Industrial
Provision Rate	1 charging point per unit (house with dedicated parking)	10% of parking spaces (this may be phased with 5% provision initially and a further 5% trigger)	10% of parking spaces (this may be phased with 5% provision initially and a further 5% trigger)
	1 charging point per 10 spaces (unallocated parking)		
	To prepare for increased demand in future years, appropriate cable provision for increased provision should be included in scheme design and development in agreement with the local authority.		
	Where Travel Plans are required, recommended EV re-charging provision should be detailed within them, including future proofing through the provision of cabling .		

D. Merseyside ‘parking standards’ for development - Ensuring Choice of Travel SPD

Table 3: Minimum Provision of Parking Bays and charging points for Electric Vehicles in new developments	
Houses: All houses with at least one off-street parking space or garage space	One charging point per house (in most cases a domestic 13a socket fixed to an internal or external wall, will cost less than £100)
Flats:	At least one or 10%, (whichever is the greater) parking spaces must be marked out for use by electric vehicles only, together with an adequate charging infrastructure and cabling for each marked bay.
All Other Development:	At least one or 10% (whichever is the greater) parking spaces must be marked out for use by electric vehicles only, together with adequate charging infrastructure and cabling for each marked bay
Above requirements includes conversions	