Why install Electric Vehicle Charging Points?

Produced By:

Battery Vehicle Society
The UK's longest running Electric Vehicle Society
www.BatteryVehicleSociety.org.uk

EV Network
The UK directory of EV charge points
www.EV-Network.org.uk

This guide, for businesses, was prepared by a working party set-up by the Battery Vehicle Society (BVS). The group included representatives of Local Community Transport, the EV Network, chartered engineers and officers of the BVS.

Introduction

This guide clarifies some of the justifications for you to install public/employee electric vehicle (EV) charging points. A separate guide describes how to create a low-cost charging facility. Charging points are ideal in places where vehicles will remain for one or more hours, such as offices, cinemas and shopping centres.

Advantages of Installing EV charging points:

- **Installing charging points provides visible evidence that your business is actually supporting green travel**

Facilitating greater use of EVs helps to reduce particulate pollution. EVs are ideal for local commuting to work, for shopping, etc. If your visitors are using an EV instead of a petrol car, this reduces their carbon footprint for each local trip by about 60% when charged with "brown" electricity and by 100% when charged with "green" renewable electricity.

- **Installing a charging point at your location effectively allows 4 times the number of people to use EVs as their method of travel to your location**

For example: allowing people to re-charge at work, so that they are not dependent on their vehicle getting them to work **and back** again, means they can travel double the distance during their daily commute - potentially, four times the number of employees will be able to commute in EVs - doubling the commute radius quadruples the area of the possible circular commuting catchment-area. The same reasoning applies to increasing accessibility of your business to EV-driving members of the public.

The increased usability of EVs - resulting from installation of charging points at business addresses - is probably more significant than that resulting from other non-domestic charging points (e.g. fast charging stations). However, such facilities will only be used if the user is confident that their vehicle will complete charging successfully (i.e. not trip-out or be disconnected). It is therefore important to follow the recommended guidelines regarding individual circuit protection, and reservation of EV parking bays.

- **Installations at shopping centres and cinemas allow for around 50% more EV-drivers to visit**

Again by considering the area of the circular 'catchment area' of a charging point: if an electric car takes 8 hours to fully re-charge, and most people spend about 2 hours shopping or watching a film, then the increase in range (commute radius) is 2/8 = 0.25. Therefore the potential multiplying factor of people affected, is 1.25 x 1.25 = 1.56

- **Installations at work and shopping centres contribute to Project Better Place**

Project Better Place is deploying a network of 500,000 battery charging spots in Israel as part of a national scheme for an EV infrastructure that is both practical and appealing to governments. Many governments have shown interest in adopting the model, and charging points at work and in shopping centres are an important part of that model.

- **There is currently a 50% grant available for the installation of publicly accessible charging points.**

Many organisations choose to perform low-cost installations without grant assistance, due to the administrative cost involved not seeming worthwhile for such cheap installations. However, grants are available from The Department for Transport who fund the Infrastructure Grant Programme. Please visit www.cenex.co.uk/igp_index.asp for more information. Alternatively you can call or email: 01509 635750 or IGP@cenex.co.uk

Disadvantages of Installing EV charging points:

- **Potentially high initial costs of installation compared to the amount of electricity that is used (and can therefore be charged for)**

However, this can be dramatically reduced by installing a simpler charging point (with no means of metering). This simpler facility, described in our other guide, can be installed at a fraction of the price. Considering the relatively low cost of the electricity consumed, many organisations decide that the publicity available from offering free re-charging facilities is more valuable to them than the revenue from taking payment; hence there is little justification for the extra expenditure on complex charging point installations and their maintenance (metering and payment systems). A typical electric car might consume 2kWh (about 20p) for a one hour charge and 10kWh (10 units, about £1) for a full charge, depending on electricity tariff and time of day.

- **Increases pollution at power station - by increased electricity usage**

This is only true where fossil fuel power stations are used to supply the electricity to the charging point. If your business chooses to buy its electricity from a 'green' supplier, then there may be zero pollution. Alternatively, a business may choose to install wind turbines or solar cells locally. This significantly increases the costs, e.g. £20k for a solar cell array to fully cover a few electric vehicles, but the excess electricity can be sold back to the electricity supplier for around 30p/unit i.e. more than you would pay for it from the grid! See http://www.lowcarboneconomy.com/community_content/_tips_did_you_know/6652/proposed_uk_feed-in_tariff_levels. Most organisations simply choose to change electricity supplier, to someone like Good Energy – www.goodenergy.co.uk or Ecotricity - www.ecotricity.co.uk

Battery Vehicle Society: 0800 083 2171 EV-Network: 0895 095 1357