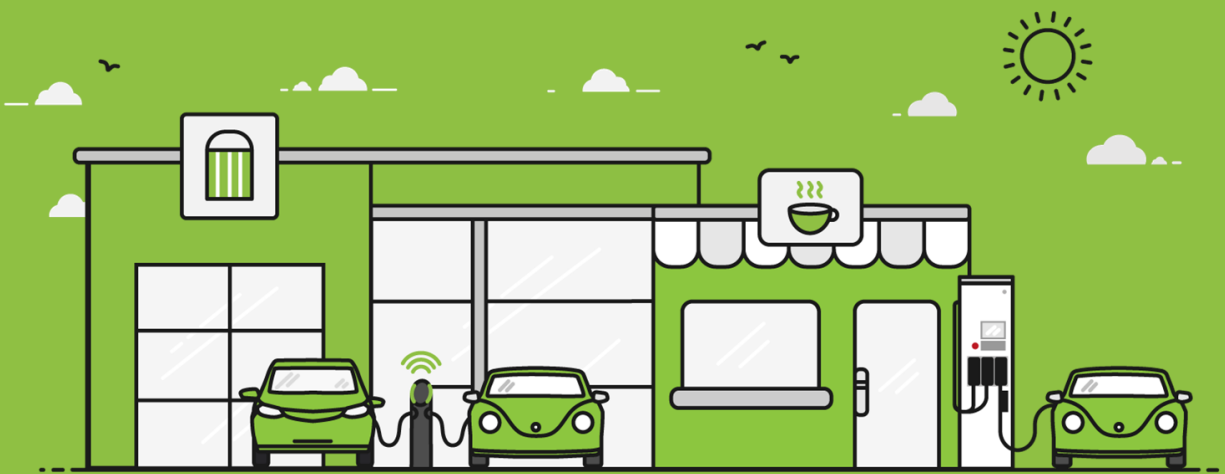




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Retailers' Guide to Power Upgrades for Charging Infrastructure



Introduction

In order to prepare a dealership to sell and service electric vehicles it is imperative to install appropriate charging infrastructure. The correct infrastructure mix is defined in your dealer standards document and includes a number of slower AC chargers and some provision of higher powered DC chargers.

AC chargers allow EVs to plug in while they are parked for longer periods, while DC rapid chargers can get cars ready for test drives and to return to customers with a quick turn around.

From our experience, around 40% of dealerships will not have sufficient power capacity to install the necessary chargers to meet their manufacturer's dealer standards (particularly those high powered DC rapid chargers), and require an upgrade to the sites power supply.

Upgrading the power to any site can be daunting, usually involving collaboration with a District Network Operator (DNO) and civils work[TV(5)] [KA6] contractors both on your site and beyond. Without an effective understanding of the process and a suitable plan of action, upgrades can be unnecessarily costly and can critically delay the installation of the required EV charging infrastructure.

Thankfully Pod Point offer a turn-key approach that streamlines the power upgrade process. This document details how Pod Point can manage the whole process and provide an affordable power upgrade quote.

NB: A Glossary of Terms is included as **Appendix 1**.

Power Upgrade Procedure

Pod Point will provide you with a dedicated Project Manager (PM) [TV(1)] [KA2] for the installation of your charging infrastructure. Below is a breakdown of the power upgrade procedure (a summary Flow Chart for new and existing dealership cases can be found in **Appendices 3 & 4**).

- 1) When requesting a survey you will be asked to provide pictures[TV(3)] [KA4] (both close up and wider area views) of your site's electrical supply. **Appendix 2** shows an example of the kind of picture we need - as a general rule more pictures is better than fewer! If you do have site maps that you can provide these will be very useful. An Aerial view of your site from google maps would also be helpful but not essential. Using these pictures our PM will conduct an initial desk based assessment of your power availability and needs.

- 2) If a power upgrade is required, we provide your site address and an aerial view of your site to our Independent Connection Provider (ICP) partner who use their network mapping system to determine the most cost effective location from which to bring a new power supply. That supply will likely need to be brought from outside the dealership site and works can be required on public land/highway and/or 3rd party private land.

NB: Should power upgrade works be required, Pod Point will seek to provide a future proofed amount of power capacity (generally between **69kVA and 138kVA**) as the costs of re-upgrading are far higher than choosing to upgrade to incrementally higher capacity.

- 3) At this stage dealers can choose one of two quote types:

- a) Feasibility Quote: An indicative quote based on the identified location and the electrical works involved. Available within 2-4 working days.

Or

- b) Fixed Quote: The full, costed quotation, with caveats. Available within approximately 15 working days.

Pod Point recommends waiting for the fixed quote.

- 4) To provide the Fixed Quote Pod Point will work with our ICP partner to:

- Conduct public ground work assessment.
- Establish wayleaves requirements for works through 3rd party private land.
- Establish requirements for Traffic Management Orders (**TMO[TV(9)] [KA10]**) for public highway works.
- Consult relevant Local Authority.
- Make a works application to the IDNO.
- Conduct ongoing network asset valuation with IDNO (significantly reducing upgrade costs).

- 5) Once the power upgrade quote is received, an in-house Pod Point Engineer will conduct an onsite survey for the installation of the chargers.

- 6) Pod Point will provide a quote for the charging hardware and installation of your Pod Point Chargers within 5 working days of survey.

Installation

Once you are happy to go ahead with the power upgrade and charging infrastructure installation, Pod Point will project manage the whole process, arranging power upgrade first and then charger installation at mutually agreed dates.

If you would like us to manage this process for you it can be arranged at a cost of:

£500 (ex VAT)

If your dealership has already had a survey and requires a power upgrade, please get in touch with Kassim Al-Azzawe

Mobile: 07377884869

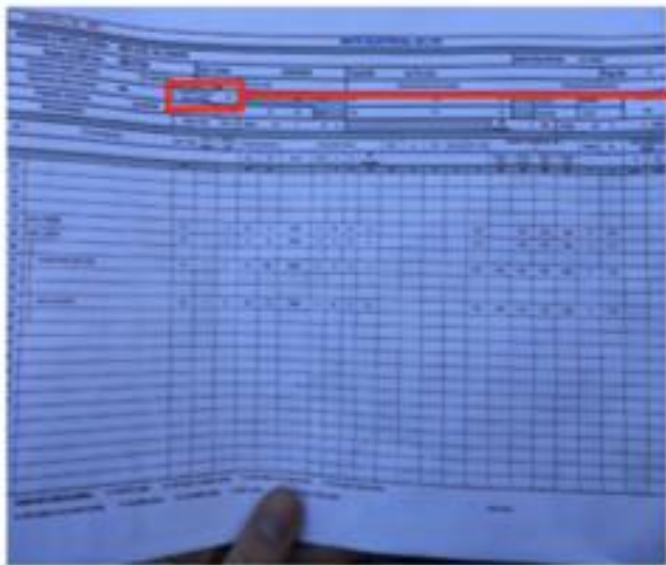
Email: Kassim.Al-Azzawe@pod-point.com.



Appendix 1

- DNO - Distribution Network Operator - a company licensed to distribute electricity in Great Britain by the Office of Gas and Electricity Markets. An Example of a DNO would be Western Power or UKPN
- Civil Works- Is the construction needed in create/install infrastructure, in the case of EV charging this can involve digging of the ground to create trenches for new cables, creating concrete bases for chargers to be placed on etc.
- ICP - Independent Connection Provider - an accredited company that carries out works on behalf of clients on the electricity network. These networks are normally owned by either a (DNO) or an Independent DNO (IDNO)
- IDNO - Independent Distribution Network Operator - an accredited company with a wider scope than an ICP. After building a local electricity network, it will continue to own the local network and provide maintenance and 24-hour fault repair
- kVA: Apparent Power - kVA is a measure of *apparent power*: it tells you the total amount of power in use in a system. In a 100% efficient system kW = kVA. However electrical systems are never 100% efficient and therefore not all of the systems apparent power is being used for useful work output
- Kw: Actual Power kW is the amount of power that *is* converted into a useful output. kW is therefore known as *actual power* or *working power*.
- PM - Project Manager - Pod Point provide a dedicated Project Manager to manage the whole process of installing charging infrastructure at your dealership site.
- TMO - Traffic Management Order - The statutory local authority document made by the council under the Road Traffic Regulation Act 1984. A TMO is used to provide the legal backing for the enforcement of road closures to permit works on the public highway.
- Circuit schedules (CS) - Are normally found on the inside panel of the distribution board in the electrical room. They will tell you how much power is feeding into the board.
- Distribution Boards (DB) - Is a panel carrying the fuses, terminals, and other components of a number of subsidiary electric circuits.

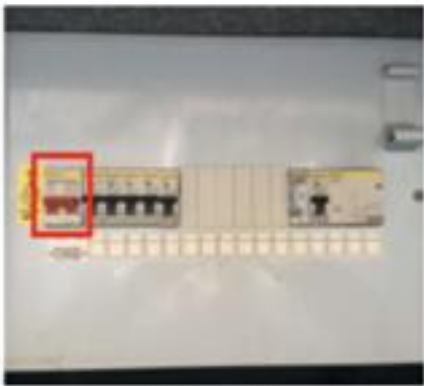
Appendix 2 - Circuit Schedules



34	Date Tested
F PLANTROOM	Supply Cable size & Type
	Protective Device Current Rating
BS (304)	50047-2
	Isolator Type

- We are looking for the upstream Protective Device Current Rating (Amps).
- This tells you how much power is feeding the board (in amps).
- Circuit schedule can be found in the door of the distribution board.

Distribution Boards



Single Phase DB



Three Phase DB

This the rating of the DB (what power is it manufactured to take, not necessarily what it is being fed).



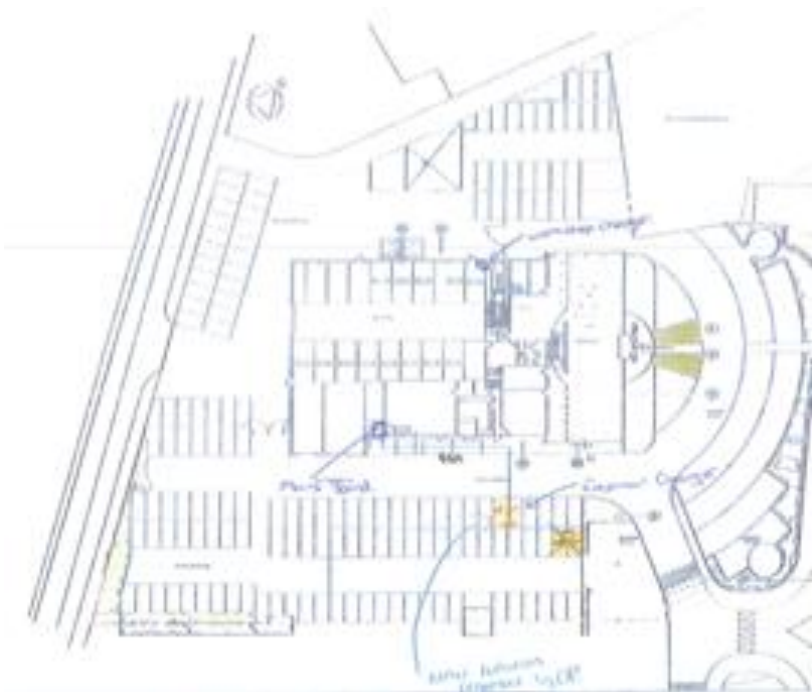
Main Switch Disconnector

Appendix 3



Aerial view of a dealership taken from google maps

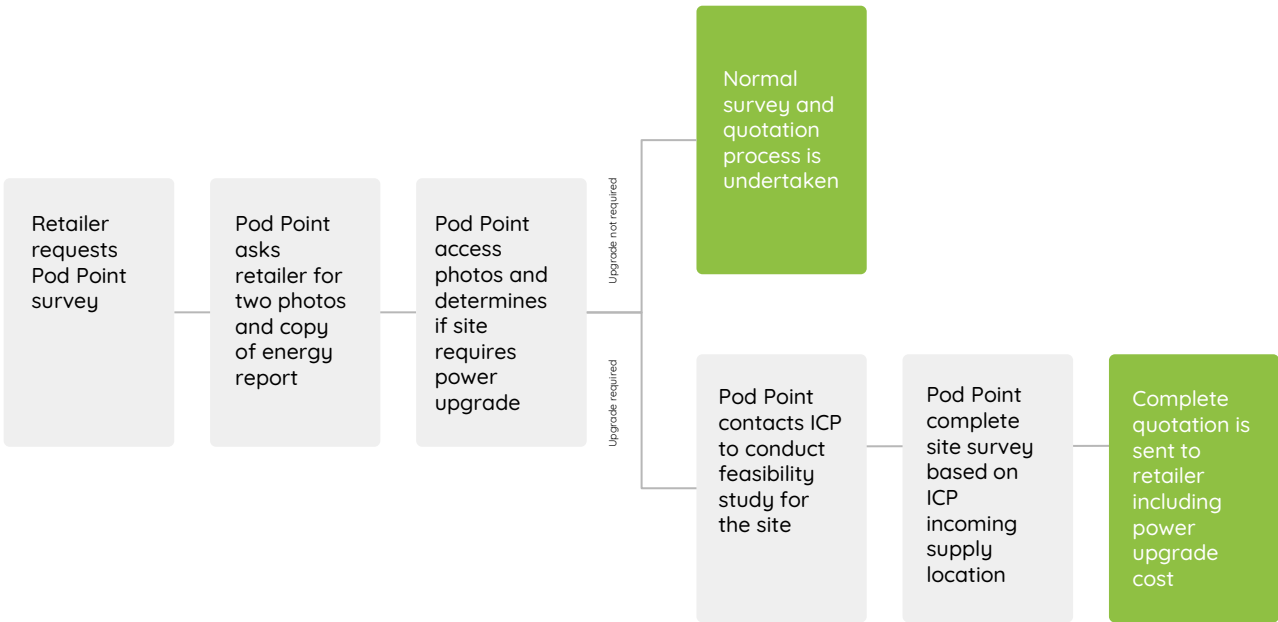
Appendix 4



Example of a site map

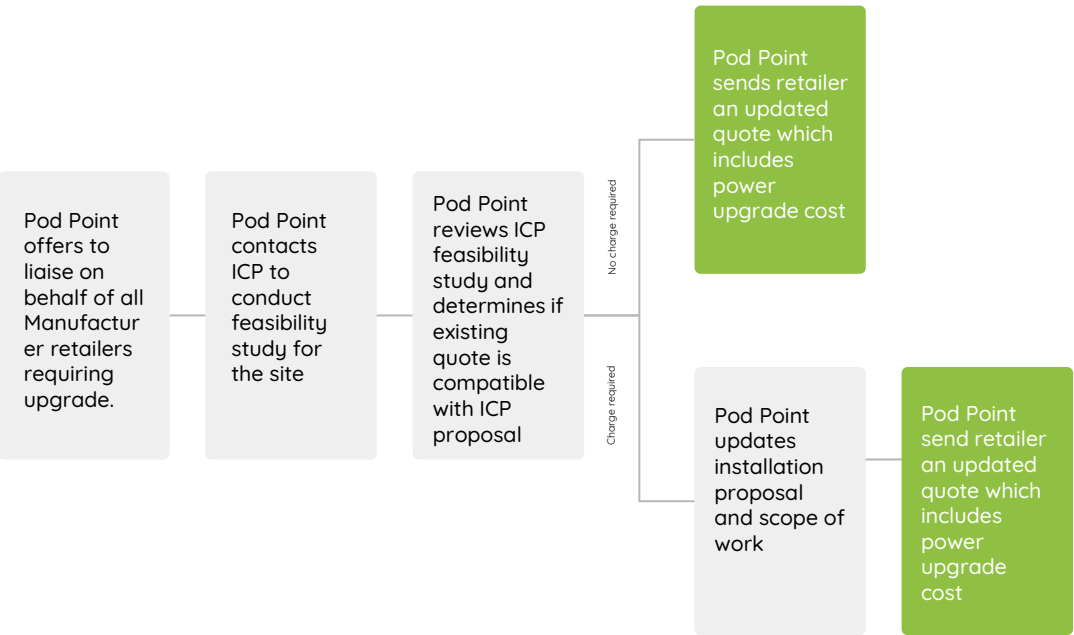
Appendix 5

Power Upgrade Progress - New Dealerships



Appendix 6

Power Upgrade Process - Existing Dealerships



We believe travel shouldn't
damage the earth.

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