

TOP 10 WORKPLACE CHARGING QUESTIONS ANSWERED

Actemium e-mobility consultant Giles Benbow sets us straight on some of the most frequently asked questions about workplace charging for electric vehicles (EVs).



Before making any kind of investment, it's important to do your research to make sure it is the right decision for you. That's why much of our work at Actemium EV goes into carrying out feasibility studies for clients. Through this early consulting work, we aim to arm clients with the knowledge that will help them choose a workplace EV charging solution that's cost effective and optimised for their needs. To get you started, here are some of the most common questions our clients ask and some simple answers.

1. How many chargers do I need?

The number of chargers required depends on the number of vehicles that *need* to charge – I emphasise the word *need* – and it's smaller than you might think.

The range of EVs has increased dramatically over the last few years. Many can achieve up to 380 miles between charges – that's further than Birmingham to Edinburgh! Hence, it's unlikely that all EV drivers will *need* to charge their car at work.

We can help by looking into the number of employees, the distances they typically travel and how frequently they are in the office to estimate the number of chargers needed.

There are, of course, scenarios where you might need a lot of charging points – for example, if you run a fleet of vans which all come back to base to charge overnight. Again, we can assist with a study to make practical suggestions.

Overall, the number of chargers you need comes down to a balance of the business need and what is practicable in both physical infrastructure and cost.

2. How fast should they charge?

Many of our customers begin with the belief that they need to charge as fast as the EV allows – but it's important to consider the movements of the vehicle and how long it is likely to be stationary.

An EV belonging to an office worker may spend more than eight hours day in the staff car park so the charging doesn't need to be fast. Similarly, if a fleet of commercial vehicles is only in operation during the day, these EVs can charge overnight.

At Actemium EV, we focus on four and eight-hour charging windows. In almost every scenario we assess, charging at 7kW for four hours will provide 10x the average daily commute.

Charging at lower power for longer allows more individual sockets to be installed – and charging multiple vehicles simultaneously is more practical than charging one vehicle very quickly.

What socket/plug do I need and how do I ensure compatibility?

Since 2014 we have had two competing, but cross-compatible charging standards – Type 1 and Type 2. In situations where both connectors are likely to be present, a socketed charger can facilitate charging. You plug your own cable into the right socket and take the other end and connect it to your car – just like charging your mobile phone.

We are now moving to a time, however, where Type 2 is carried on all new vehicles (except for the Mitsubishi Outlander PHEV, which still uses Type 1). For convenience, we now suggest that clients consider tethered charging cables. This is where the cable is attached to the charger and plugs straight into the car. This could exclude some legacy vehicles today but since the number of EVs on UK roads is set to increase from 100,000 today to 30,000,000 by the end of the decade, this problem will only be short lived.

4. Do I need a back-office platform?

Yes! To benefit from all the features that a charging station can offer you, we wholeheartedly recommend that you have a back-office platform for workplace chargers.

A back-office platform can provide the following features:

- Access control
- Electrical consumption data
- A payment system
- Payroll integration
- Load management
- Public access
- Fleet management
- Statistics
- User management

Without the back-office platform, the charger will do nothing more than charge.

5. How much does it cost to charge?

To calculate the charging cost, you need to know the cost of electricity and quantity.

We measure power in kWh (Kilowatt hours) – think of this like petrol in l (litres).

If a car needs 10 kWh (the equivalent to 38 miles) and the cost of electricity is £0.14 per kWh, then the cost is £1.40.

For comparison, a petrol car with 38 mpg (miles per gallon) would need a gallon of petrol costing £5.58 @ 1.23 per litre to travel the same distance.

6. Do I need ore chargers to future-proof my site?

It's a challenge to forecast what we will need in five or 10 years. On the one hand, more EVs will be on the road, but on the other, these EVs will be even more capable and may not need to charge at the workplace at all.

At Actemium EV, we ensure that your charging system is already capable of over-delivering on today's requirement and is easily expandable when needs change.

7. What grants are available?

There are currently two benefits schemes available to businesses wishing to install EV chargers.

The first is the OLEV (Office for Low Emissions) Workplace Charging Scheme (WCS). WCS covers £500 or 75% of the cost of each socket installed, up to a maximum of twenty sockets.

The second is the Enhanced Capital Allowance (ECA) for EV charging. An ECA allows a business to write off the entire cost of an asset against taxable profits in the year of purchase.

These schemes are unlikely to be around forever as workplace charging develops from a 'nice-to-have' to a 'must-have' for all businesses.

8. How do I manage access?

With a back-office system, we can provide a largely self-managing access control system. The level of involvement from the business in administering the system is dependent on how the company wishes to use the system.

We can handle many different users within the same system. Each user of the system may have different requirements within one platform we can attribute rules to each user.

We can set different tariffs on each of the various users, these could include:

- Company car driver
- Private staff vehicles
- Cross-business roaming
- Visitors
- Vans
- Pool cars
- Public

We have different interface methods to increase flexibility with an app, RFID (radio-frequency identification) and contactless payment.

9. What if someone steals my electricity?

With access control, it would not be possible to steal electricity. Even better, if the site allows, why not make the charging point public and charge for the use?

10. What if I don't have enough power?

The first step is to work out how much power is available and Actemium EV will start at this point. Once power has been established, we will determine what is achievable. If there isn't enough power, we will consider one of two options to overcome this:

Increase the power to the site. Sometimes where the electrical infrastructure exists, the supply capacity can be increased by adjusting the supply contract. This adjustment will not attract any one-off constructional costs. If the electrical connection to the site is insufficient, then your local DNO (distribution network operator) will quote to upgrade your supply. Dependent on the work involved, the cost can be prohibitive.

Load management. The charging stations can be dynamically controlled to prevent overloading of the electrical connection. This allows the system to share the power dependent on the number of vehicles connected to the system. At times of low utilisation, cars will charge faster and slower when many are plugged in. When designing the solution, we ensure that the minimum level of performance of the system is in line with the requirements of the users.

We hope the information above has given you an insight into what is possible and how we work with clients but if you do have any more questions or need a more detailed or personalised answer, please don't hesitate to [get in touch](#). Our workplace EV charging experts will be happy to talk you through the entire process.



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