



The Ultimate Guide to **Electric Van Charging**



One of the most common concerns about electric vehicles (EVs) is how to charge the vehicle, which is often referred to as “charge anxiety” and “range anxiety”.

This document will help provide some clarity for businesses around the reality of EV charging.

1. How do EVs charge?

EVs include an on-board charger which converts alternating current (AC) to direct current (DC), which charges the vehicles battery. When fast DC charging is being used, the on-board charger is by-passed and the DC electricity is supplied directly to the battery.

2. What type of batteries are used in EVs?

Most EVs use Lithium-ion batteries, as they have higher energy density than alternatives, such as lead-acid or nickel-cadmium batteries.

3. What are the different types of EV charging connectors?

Type of charger	When to use	Exact charger types	Charger Visual	Charger features:
Slow & Fast Charging (Alternating Current)	This type of charger is typically used for a planned charge e.g. Home charging	Type 1		Common for American vehicles Single-phase plug Can charge at a speed of 3.7 to 7 kW.
		Type 2		Standard for European and Asian vehicles Can carry three-phase power if available Can charge at a speed of 3.7 to 7 kW – or 22kW if charging via three-phase

Type of charger	When to use	Exact charger types	Charger Visual	Charger features:
Rapid Charging (Direct Current)	This type of charger is typically used for en route charging e.g. Public charging stations	CHAdeMO		Can charge at a speed of 50kW and 100kW
		Combined Charging System (CCS)		Can charge at a speed of 50kW, 150kW and 350 kW

Most DC rapid charging stations will have cables with both a CHAdeMO and CCS connector attached so you will just have to choose which fits to your vehicle socket.

4. Where can I charge my electric van?

There are a variety of public and private EV charging options available for drivers. The most convenient charging option is installing EV chargers at home and at work. However, there are public locations and at dedicated charging stations for when you're on the road. There are a number of third-party websites you can use to find available and suitable public EV charging points, including Zap Map, Open Charge Map, Charge Finder and many more.

5. How do you charge EVs?

1. Locate the charger you would like to use.
2. Turn off your vehicle, then locate and open the charge port on your electric van.
3. Plug the charger cable into your vehicle and connect it to the EV charger (some public EV charging stations will come with cables attached, however, some will require you to use your own).
4. Check the vehicle is charging (some vehicles come with visual displays around the EV charge port that show the vehicle is charging, however, if yours does not, then you can always turn the vehicle on to check).
5. If you are using a public EV charger you will need to pay for the charging session. Most chargers will come with a contactless payment option, however, some may require you to pay and authorise the charge through a mobile app.
6. When charged to your satisfaction, remove the charging cable (you will have to unlock your vehicle before removing the EV charging cable from the port).



6. What length EV charging cable do I need?

The majority of EVs will include a charging cable. Typically, they are between 4-10 metres in length, however, the 7.5m EV charger cable is often recommended as the best choice for most vehicles.

7. How long does it take to charge EVs?

The duration of your EV charging session can be worked out through a simple calculation.



Battery size / charging speed = charge time

For example, a full charge for an electric van with a 66kwh battery size, charging at a 7.2kW EV charger is:



66kw/7.2kw= 9.2 hours.

8. How much does it cost to charge an EV?

The simple calculation to calculate the cost to charge your electric van is:



EV Battery Size x Electricity Cost = Cost To Charge

For example, if you're charging an electric van with a 66kwh battery size, at an electricity cost of £0.34 kWh, the cost to fully charge this vehicle is:



66kWh x £0.34 = £22.44 cost of full charge

It is worth noting that public charging points will often cost more than charging at home or at work due to these rapid chargers being able to recharge in a much shorter time.

9. How long do EV batteries last?

On average, EV batteries last around 10 years, with some lasting up to 20 years. The majority of EVs will come with manufacturer warranty for the battery. This warranty period will vary depending on the manufacturer, however, a good rule of thumb is 8 years or 100,000 miles.

10. Should EVs always be charged to 100%?

No, the recommendation is to keep your battery's charge between 20% and 80% to effectively manage the battery health. This being said, charging it occasionally to 100% for long trips or when needed won't cause any significant harm to the battery.

11. Are there any driving tips for making most of each charge?

EVs may look very similar to petrol and diesel cars and vans on the surface, however, they are quite different to drive. With this in mind, we have put together some top tips to help you make the switch to driving an EV.

These top tips can be found in our **Electric Vehicle Resource Pack** and on our website!



scan me!



12. What are the different types of charge points?

Charge point type Power output



Low speed 0-<3.7 kw



Standard 3.7kw - <8kw



Fast 8kw – 49kw



Rapid 50kw – 149kw



Ultra rapid 150kw and over

13. Are there any current grants and schemes available around EV charging in the UK?*

- 1 EV charge point grant** – provides funding of up to £350 or 75% towards cost of installing EV smart charge points at domestic properties across the UK.
- 2 EV infrastructure grant** – provides funding up to £30,000 or 75% off the total cost for installing multiple workplace charge point sockets. It will include sockets which will be installed at future date as well.
- 3 EV infrastructure grant for staff and fleets** – small to medium sized business can apply for this grant to install electric vehicle charging infrastructure in their commercial car parks.

*All grants and schemes were accurate as of the date published. As grants and schemes are constantly developing, we recommend checking <https://www.gov.uk/> for any changes.

14. How can I help my business overcome range anxiety?

One of the biggest barriers preventing fleets from adopting EVs is range anxiety. This perceived anxiety in most cases can be overcome by following the below:



Effective Driving training



Vehicles fit for purpose



Route planning



Analysing the vehicle data available

15. How important is it to implement an EV charging strategy?

Electrifying a fleet is just one part of a much larger carbon reduction plan and it is vital that businesses ensure they have a future-proofed, scalable strategy for creating a sustainable EV infrastructure. The future is electric and it's imperative that your business doesn't get left in the past.

Dawsongroup vans has the in-house expertise to support you through every step of this journey. By analysing data about your current fleet, we can help you to make informed decisions about introducing EVs, and its necessary charging. Our customer support goes beyond just introducing EVs. By partnering with Dawsongroup power solutions, we can offer a fully rounded EV strategy for your business.



Transition to EVs With Confidence

Dawsongroup | vans are committed to supporting customers throughout their entire electrification journey.

We take a holistic approach to helping customers transition to EVs, assisting them in implementing a scalable, sustainable EV charging infrastructure.

This comprehensive solution ultimately aims to improve your overall carbon reduction, whilst maintaining and improving your operational efficiency.



Reach out to **Dawsongroup | vans** today to prepare your business for EV adoption in the most cost-effective, future-proof way.

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