

EV Transition Toolkit For Business



How will the toolkit help me?

If you are a business and considering transition to an electric vehicle (EV) or vehicles, then this toolkit is designed to provide information to help you make a successful switch. It is produced by Green Car Guide for Cheshire West and Chester Council. This toolkit is broken down into sections with key information and links. Sections are:

1. Introduction to EVs (pages 2 – 4).
2. Saving money by transitioning to EVs (pages 5 – 19).
3. Environmental, social and corporate governance (ESG) (pages 20 – 24).
4. Latest EVs – commercial and domestic – and expected lifetimes (pages 25 – 28).
5. EV Charging and grants (pages 29 – 35).

1. Introduction to EVs

Driver experience:

- EVs have 100% torque available at virtually all times, meaning that they offer instant responses when accelerating – in most people’s eyes this makes EVs better to drive than petrol or diesel cars.
- EVs are quieter and more refined to drive than petrol and diesel cars.
- A number of surveys have shown that at least 90% of EV drivers – and a higher percentage in some cases – would never go back to a petrol or diesel car

See: EVA England, 15 Dec 2023: 91% of EV drivers have no intention of returning to a petrol or diesel car. 92% of EV drivers would likely recommend an EV to friends and family. 86% have found owning an EV cheaper to run. [Click here.](#)

Availability and range:

- There's already a wide selection of EVs on sale. [Click here.](#) and there are increasing numbers of new EVs coming to market. [Click here.](#)
- The driving ranges of EVs are increasing, with many models having a real-world driving range of 300 miles or more. [Click here.](#)
- There's a varied offering of electric vans, and electric heavy goods vehicles are now available. [Click here.](#)
- Most people charge at home or at work, but the UK's public charging infrastructure is also continually growing. [Click here.](#)
- There are now increasing numbers of second-hand electric cars. [Click here.](#)

Decarbonisation:

- Independent reports show that EVs have a lower whole-life CO2 footprint than petrol and diesel cars. [Click here.](#)
- Batteries are becoming more sustainable. [Click here.](#)
- The UK's electricity grid is becoming increasingly decarbonised – fossil fuels made up just 33% of UK electricity supplies in 2023 – meaning that the electricity used to charge EVs is becoming greener. [Click here.](#)

2. Saving money by transitioning to EVs

Businesses can save money by transitioning to electric vehicles in the following ways:

- a. Vehicle excise duty.
- b. Company car tax.
- c. Leasing.
- d. Salary sacrifice.
- e. Capital allowance.
- f. Lower running costs / whole life costs.
- g. Exemption from charges in Clean Air Zones and Low Emission Zones.
- h. Electric commercial vehicle grants.

a. Vehicle excise duty

Electric vehicles are currently exempt from Vehicle Excise Duty (VED) until 31 March 2025.

Electric vehicles are also currently exempt from the Vehicle Excise Duty 'expensive car supplement' until 31 March 2025; all other cars with a list price above £40,000 pay this (currently £390 annually) for five years from the second time a vehicle is taxed.

For more information, [click here](#).

b. Company car tax

Company car drivers can save thousands of pounds per year in benefit in kind tax (BIK) by choosing an electric car, because a pure EV has BIK currently fixed at 2% until April 2025. From April 2025, the BIK rate will increase by 1% every year until 2028.

For more information, [click here](#).

c. Leasing

The vast majority of new EVs aren't bought outright, but instead use some form of finance arrangement, such as leasing, which eliminates the need to fund the full purchase price and instead spreads payments monthly (more than 90 per cent of new cars are bought on finance, according to Finance & Leasing Association statistics).

Leasing also avoids depreciation. Leasing is often referred to as personal contract hire (PCH), which is the consumer version of a business lease; there's also personal contract purchase (PCP) and hire purchase (HP).

c. Leasing

	Electric LCV	Diesel LCV	Variance
Vehicle Hire/Depreciation	£10,010	£5,597	£4,413
Fuel	£892	£5,070	-£4,179
Road Tax	£0	£685	-£685
Maintenance/Repairs	£1,883	£3,603	-£1,719
Total	£12,785	£14,955	-£2,170
Saving for EV v ICE			15%

The indicative figures here show how an electric light commercial vehicle (LCV) has lower overall costs than a diesel LCV.

Real-world case study cost comparison, leasing an electric van v a diesel van.

Source: Drive Electric

For more information, [click here.](#)

d. Salary sacrifice

Salary sacrifice enables employees to save up to 40% on an electric vehicle by exchanging part of their salary; the gross amount sacrificed reduces the employee's income tax and national insurance (NIC) liability, as well as the employer's NIC liability. Salary sacrifice is a cost-effective way for an employee to switch to a new EV, with zero upfront outlay.

d. Salary sacrifice

Salary sacrifice cost savings

	MG4 SE	Volkswagen ID.3 Pro	Tesla Model Y RWD
Monthly Gross Salary Sacrifice	£449.41	£504.33	£828.50
Monthly Saving in Tax & NI	£188.75	£211.83	£347.70
Monthly Company Car Tax 2%	£17.66	£24.58	£29.96
Total Monthly Net Cost	£278.31	£317.08	£510.49
Monthly Saving	£171.10	£187.25	£318.01

Examples based on 3-year personal lease, 10,000 miles per annum for 40% taxpayer (£50k - £100k).

The net monthly cost includes rental, maintenance, insurance and Class 1A NIC.

Employee's total income including tax charge on a company car.

For more information, [click here](#).

e. Capital allowance

Businesses using company electric cars are also entitled to 100% first year capital allowances, meaning you can deduct the entire expenditure for your car from your profits before tax. This could provide huge amounts of tax relief in the first year, making EVs an ideal option as company cars.

For more information, [click here](#).

f. Lower running costs / whole life costs

EVs have lower running costs and lower total overall costs of ownership – despite a slightly higher purchase price (currently).

Running costs are lower because the cost of a full charge, if charged at home, is significantly less than the cost of a tank of petrol or diesel, even taking into account the recent volatility in energy prices.

The service and maintenance costs of an EV are also a lot cheaper. There is far less wear and tear with fewer moving parts susceptible to damage, therefore servicing costs are less frequent and cheaper.

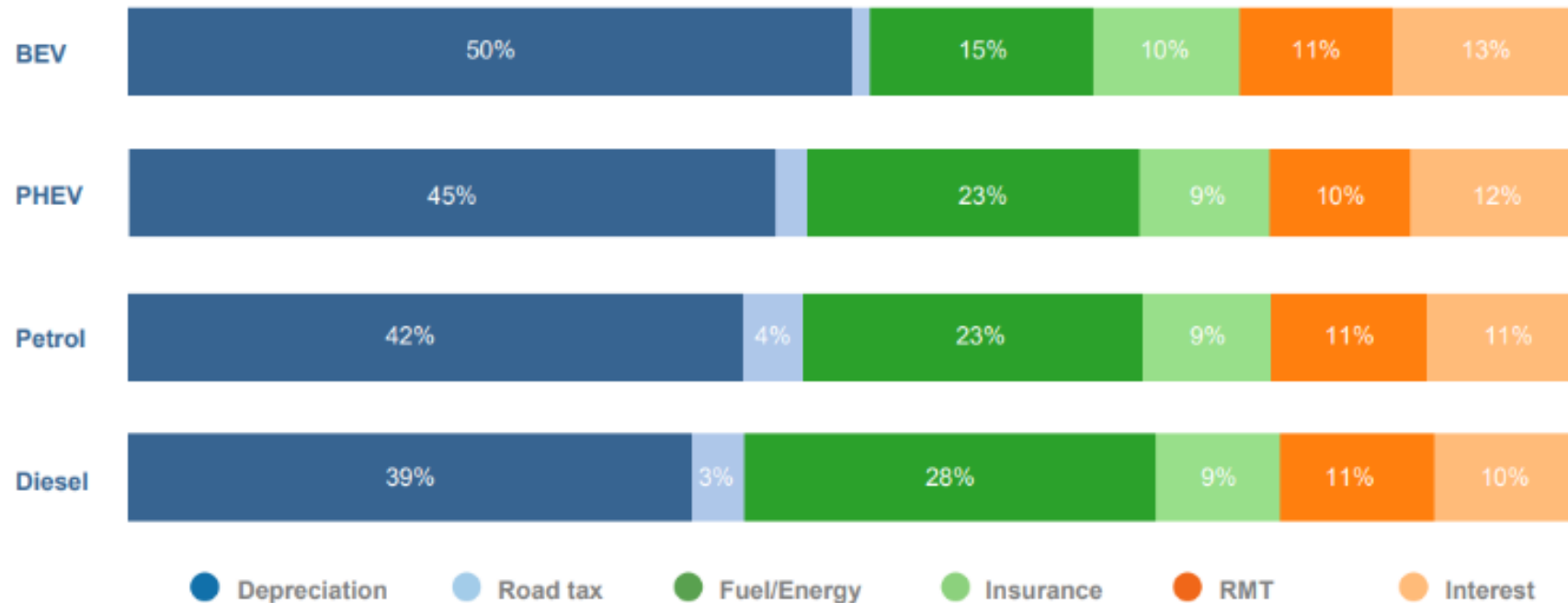
f. Lower running costs / whole life costs

Based on 2023 electricity and fuel prices, a medium or large EV costs between 8.6p to 11.1p per mile (or £694 to £900 over a year based on a typical annual mileage of 8,100 miles) for those charging their cars at home. It should cost an average of £3,985 to run an electric car for five years, compared to £6,125 to run a petrol car over the same period.

Source: Which?

BEVs have a higher **initial investment** but lower **running costs**

TCO Breakdown



f. Lower running costs / whole life costs

Electric vehicles are now the same price or cheaper in terms of the total cost of ownership (TCO) than petrol or diesel cars, despite the rising prices for fuel and electricity. A survey found that overall costs of ownership of a standard family category EV is cheaper in 19 out of 22 European countries. *Source: World Economic Forum*

For more information, [click here](#).

g. Exemption from chargers in Clean Air Zones and Low Emission Zones

Electric vehicles are exempt from financial charges in Clean Air Zones and Low Emission Zones across the UK, meaning businesses can avoid significant penalties for driving dirtier vehicles into the zones which would have a significant impact on their business costs.

Clean Air Zones are currently in place in London, Birmingham and Oxford, with more planned across other UK cities. In London, the EV Congestion Charge exemption will end in 2025.

For more information, [click here](#).

h. Electric commercial vehicle grants

There's an ever-widening selection of electric vans. Transitioning to electric vans is important because of the growing emissions from the increasing numbers of diesel vans in our towns and cities.

Even electric heavy goods vehicles (HGVs) are now coming to market – even though many people said that electric HGVs would never happen. Long haul HGVs are now available, and there are HGVs with other duty cycles that are ideal for electrification, such as refuse trucks.

The plug-in van grant (PIVG) was launched in 2012 to help bridge the price gap between the cost of ultra-low emission vans and diesel vans. It was extended to trucks in 2016.

h. Electric commercial vehicle grants

Grants – Vans. Some vans can be sold at a 35% discount.

Small vans: The maximum discount available for some small vans is £2,500. To be eligible for a grant, the vehicle must: 1. Be less than 2,500 kilogrammes (kg) gross vehicle weight. 2. Have CO2 emissions of less than 50g/km. 3. Be able to travel at least 96km (60 miles) without any emissions.

Large vans: The maximum discount available for some large vans is £5,000. To be eligible for a grant, the vehicle must: 1. Be between 2,500kg and 4,250kg gross vehicle weight. 2. Have CO2 emissions of less than 50g/km. 3. Be able to travel at least 96km (60 miles) without any emissions.

For more information, [click here](#).

h. Electric commercial vehicle grants

Grants – Trucks. Some vans can be sold at a 20% discount.

Small trucks: The maximum discount available is £16,000. These vehicles are sometimes called N2 vehicles. For grant eligibility, the vehicle must: 1. Be between 4,250kg and 12,000kg gross weight. 2. Have CO2 emissions of at least 50% less than the equivalent conventional Euro VI vehicle that can carry the same capacity. 3. Be able to travel at least 96km without emissions.

Large trucks: The maximum discount available is £25,000. These vehicles are sometimes called N3 vehicles. To be eligible for a grant, the vehicle must: 1. Be heavier than 12,000kg. have CO2 emissions of at least 50% less than the equivalent conventional Euro VI vehicle that can carry the same capacity. 2. Be able to travel at least 96km without emissions.

For more information, [click here](#).

3. Environmental, social and corporate governance (ESG)

Businesses can demonstrate environmental, social, and corporate governance (ESG) by switching to electric vehicles. Sections are:

- a. Environmental.
- b. Social and corporate governance.

a. Environmental

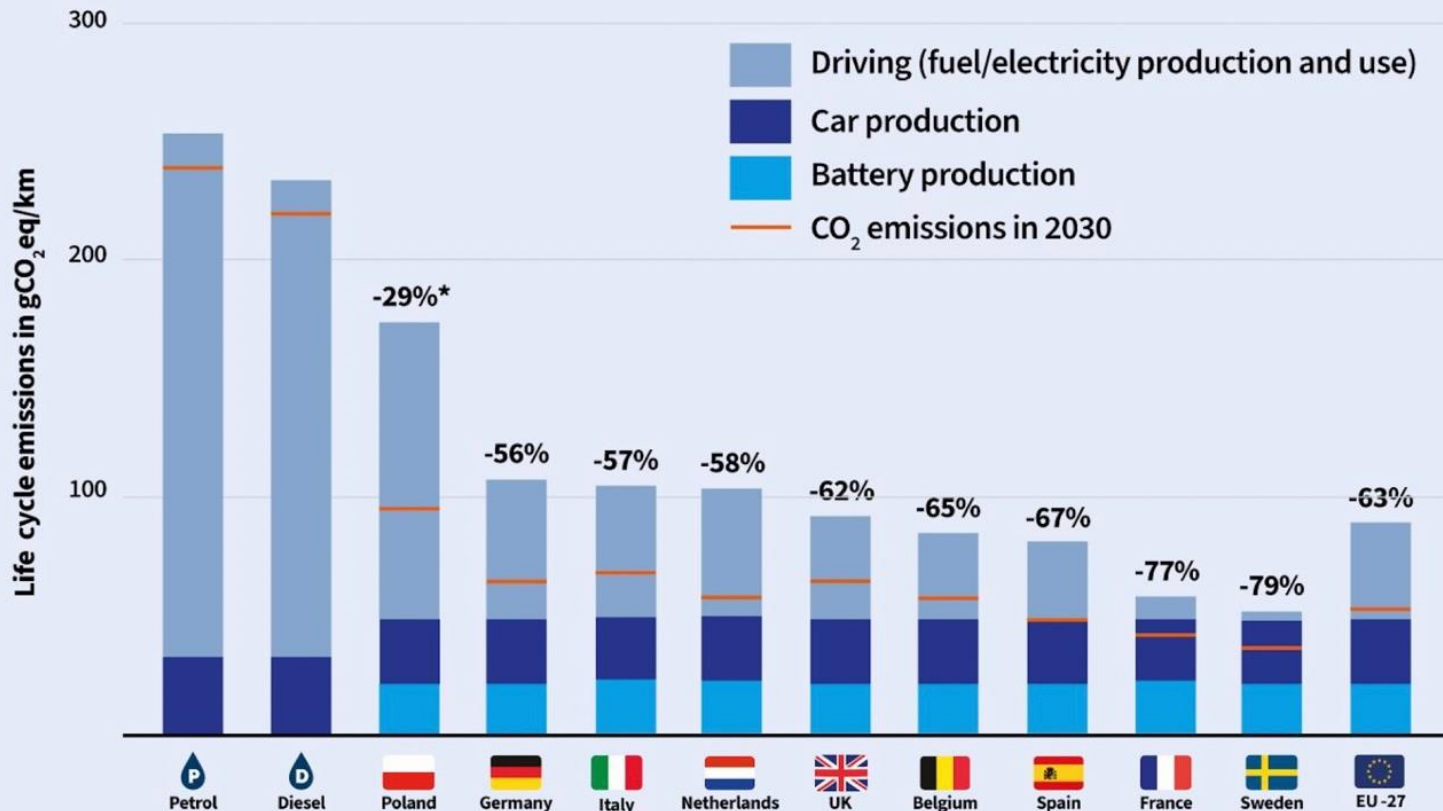
Climate change and net zero

Increasing numbers of businesses have net zero emission targets; switching to EVs can help an organisation achieve these targets quicker.

Air quality

The death of the nine-year old girl, Ellah Kissi-Debrah, was attributed to air pollution and is a stark reminder that improvements in air quality must be made in our towns and cities. EVs have zero tailpipe emissions and therefore can contribute to local air quality improvements.

Today petrol and diesel cars emit almost 3 times more CO₂ than the average EU electric car



Scenario where average EU electricity is used to produce the batteries and the cars

Lifecycle CO₂ impacts

There are many reports that conclude that the overall lifecycle CO₂ impacts from electric vehicles are lower than those of petrol and diesel equivalents, despite the manufacturing stage of EVs being more carbon intensive, primarily due to battery production (significant research is currently being undertaken into the production of more sustainable batteries).

Figure 4: Lifetime CO₂ emission savings from electric cars in key EU countries

Lifestyle CO2 impacts

In terms of an example for a particular vehicle, the carbon footprint of the BMW iX2 xDrive30 is around 30 per cent lower than that of the new BMW X2 sDrive20i when charged using the current EU electricity mix. If renewable power is used for charging, its footprint is around 60 per cent lower.

For cars sold in 2022, a medium-sized EU-average electric car emits 75 gCO₂e/km over its lifetime, while a petrol car emits 241 gCO₂e/km, including all upstream emissions and end-of-life credits. This shows that BEVs emit about 3.2 times less than petrol cars. This translates to 18.9 tonnes of CO₂ emitted over its lifetime for a medium battery electric car in 2022 compared to 55.6 tonnes of CO₂ emitted over its lifetime for a medium petrol car, based on a battery made in the EU and the car being driven in the EU. That represents a saving of 36.7 tonnes of CO₂ for a battery electric car.

For more information, [click here](#).

b. Social and corporate governance

EVs are better (and easier) to drive than petrol and diesel vehicles. They are all automatic and have more torque (pulling power) available at lower speeds so are effortless to get moving from stationary. Research suggests that electric vehicles are less stressful to drive than diesel equivalents, and could have positive mental health benefits. Drivers have reported health impacts such as headaches from long periods of driving diesel vans, trucks and taxis, but that such health issues have disappeared after switching to electric vehicles.

For more information, [click here](#).

4. Latest EVs – commercial and domestic – and expected lifetimes

Sections are:

- a. Overview.
- b. Driving range.
- c. Batteries.

a. Overview

Sales of new petrol and diesel cars (including hybrids) in the UK will end in 2035. This date has been delayed from 2030 – although a change in government may see 2030 reinstated. Every year from now until the phase-out date for petrol and diesel car sales, an increasing percentage of cars that manufacturers sell in the UK have to be zero emission (at the tailpipe) – this figure is 22% for 2024. Many manufacturers have committed to sell only all-electric cars before 2035 – as early as 2030 in some cases. So the majority of industry investment is now almost exclusively in vehicles with electric powertrains.

With over one million EVs sold in the UK, we're now well beyond the stage where EVs are primarily bought by early adopters. Businesses all across the country are running electric fleets and benefitting from cost savings, reduced emissions and an improved driving experience for their employees. Virtually all car body styles are now available as electric models, electric vans now come in all shapes and sizes, and you can even buy electric trucks. More specialist vehicles – such as electric 4x4 pick-up trucks – are also coming to a showroom near you soon. For more information, [click here](#).

b. Driving range

The driving range of electric cars varies considerably depending on the size of the battery, but many of the latest electric cars can achieve ranges of 250-300 miles on a full charge – or even more in some cases.

Examples of official combined Worldwide Harmonised Light Vehicle Test Procedure (WLTP) driving ranges for the latest battery electric vehicles include up to 319 miles for the Hyundai Kona Electric, up to 347 miles for the Volkswagen ID.3 Pro S 77 kWh, and up to 406 miles for the Polestar 2 Long Range Single Motor.

In households with two cars, the first, or main, vehicle travels on average 37 miles per day, with the second vehicle travelling around 13 miles per day – so both cars could be EVs.

98% of all car journeys are under 50 miles which is well within the range of even the oldest EVs on the road today.

c. Batteries

Battery technology is improving all the time. Most manufacturers are currently offering 8-year warranties on batteries; Nissan is offering 8 years or 100,000 miles, and Hyundai offers 8 years and 125,000 miles. All EV batteries are made up of a series of cells which can be replaced.

We now have a wealth of data relating to the longevity of EV batteries, one study suggests that EVs could lose around 2.3% of range per year. This figure is based on older vehicles that don't have the latest battery management technology, even so this would suggest a vehicle with a 150-mile range would lose around 17 miles of range over 5 years, enabling batteries to outlast the economic usable life of a vehicle.

Increasingly, batteries that have reached the end of their useful life in EVs are being re-used as storage batteries, and this will have a positive impact on the power generation network as it will allow energy to be stored off-grid for charging EVs and thus reducing the demand on the National Grid. New battery technologies are being developed which avoid the use of resources linked to environmental or social impacts.

5. EV charging and grants

Sections are:

- a. Overview.
- b. Charge point grants.

a. Overview

People who don't own an EV say they are anxious about charging, including finding chargepoints. However apps such as Zapmap make it easy to find chargepoints, and charging an EV is straightforward.

The number of public charge points – the publicly accessible charge point network – is growing rapidly. At the end of January 2024, there were 55,301 electric vehicle charging points across the UK, across 31,445 charging locations. This represents a 46% increase in the total number of charging devices since January 2023. As of January 2024, there were 10,541 rapid or ultra-rapid charging devices, across 5,076 charging locations in UK (source: Zapmap).

Many of the latest EVs can be charged from 10% to 80% in less than 30 minutes at an ultra-rapid charger (150 kW and above). A Kia EV6 with a 77.4kWh battery can charge at 233 kW – using a charger capable of delivering at least 233 kW, a 10% to 80% charge takes just 18 minutes (EV batteries charge more quickly when they have a low level of charge and they take longer to charge when they have a high level of charge – so 80% charging promoted rather than 100%).

a. Overview

Using a 7kW charger, a Kia EV6 would take 7 hours 20 minutes for a 10% to 100% charge. You will normally be offered a home chargepoint when you buy or lease a new EV. For more information, [click here](#).

Many organisations offer workplace charging for employees with EVs. Workplace charging infrastructure should be installed that is suitable for when EVs are at a site, such as 9am to 5pm, or possibly overnight for fleet vehicles, so rapid charging isn't necessarily essential. Charging should also be 'smart' – ie. using peak and off-peak pricing - and dynamic load management to charge the EVs that are most in need. New technologies such as vehicle to grid charging are being introduced – allowing vehicles to be charged when electricity prices and carbon are low (typically overnight), with the ability to put electricity back into the grid or building when electricity prices and carbon are high (typically during peak times). Fleets of vans / trucks may require rapid charging, with upgrades to the electricity supply required, however intelligent use of charging and battery storage provision could reduce the extent and cost of grid upgrades.

b. Charge point grants

Home charge grants are currently available for renters, flat owners and landlords, and very recently introduced is a grant opportunity for homeowners where they are looking to apply for cross pavement charging.

Electric vehicle chargepoint grant for renters or flat owners

Renters or flat owners can get either £350 or 75% off the cost to buy and install a socket, whichever amount is lower.

For more information, [click here](#).

b. Charge point grants

EV chargepoint and infrastructure grants for landlords

There are two grants that landlords can get for installing chargepoints for EVs at a property they own: 1. an EV chargepoint grant and 2. an EV infrastructure grant. An EV chargepoint grant provides money off the cost of installing an EV chargepoint socket. You can get either £350 or 75% off the cost to buy and install a socket, whichever amount is lower. Each financial year, you can get up to 200 grants for residential properties or 100 grants for commercial properties.

An EV infrastructure grant provides money off the cost of wider building and installation work that's needed to install multiple chargepoint sockets. The work can be for sockets you want to install now and in the future. For example, an EV infrastructure grant can cover things like wiring and posts. You can get up to £30,000 or 75% off the cost of the work. The amount depends on how many parking spaces involved. You can get up to 30 infrastructure grants each financial year. For more information, [click here](#).

b. Charge point grants

EV chargepoint and infrastructure grants for businesses and fleets

The Workplace Charging Scheme (WCS) is a grant to provide support towards the costs of the purchase, installation and infrastructure of EV chargepoints at eligible places of work. WCS provides support for organisations towards the cost of installing up to 40 electric vehicle chargepoint sockets at their sites. The scheme covers up to 75% of the total costs of the purchase and installation of EV chargepoints (including VAT), capped at a maximum of:£350 per socket with a maximum of 40 sockets across all sites per applicant.

EV charging infrastructure grant equates to £500 per parking bay for infrastructure in at least five bays and actual charger in at least one bay. Therefore grant value with one active charger and four bays with passive infrastructure = $£500 \times 5 + £350 = £2,850$.

The WCS grant is open to businesses, charities, public sector organisations and small accommodation businesses. **For more information on WCS scheme, [click here](#).**

b. Charge point grants

EV chargepoint and infrastructure grants for education

There is a separate scheme with a different grant amount for state-funded education institutions, with a grant value of up to 75% of total costs (or up to £2500) per socket. For more information on this specific grant, [click here](#).

Information correct at time of publishing; grants are subject to change.

**Contact David Thornton, Principal Transport Planner (EV)
for any additional information needed:
david.thornton@cheshirewest.gov.uk**

