



EVs: Cleaner, Cheaper, Quieter

Electric Vehicles (EVs) produce no exhaust emissions, are quieter, and cost significantly less to run and maintain than petrol or diesel cars. With home charging, renewable energy options, and nearly 120,000 public charging points in the UK, owning an EV is easier than ever — and even longer journeys are supported by a growing rapid charging network. In 2025 almost 25% of new car registrations were EVs.

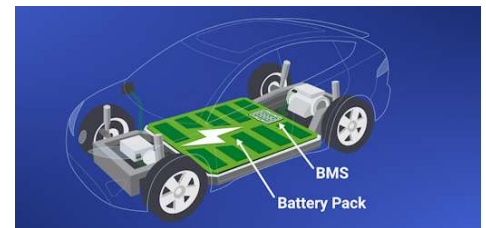
Fuel costs can be as low as 2p/mile (vs 15p/mile for petrol car) and servicing is much cheaper too. 90,000 public charging stations in the UK (vs 2000 petrol garages). Refuel at home overnight while sleeping or on the road while shopping or having a meal.



BEVs are better for the local environment in that they are significantly quieter, and they do not have exhaust emissions of carbon monoxide (CO), nitrogen oxides (NOx), volatile organic compounds (VOCs) and particulate matter (PM). As a consequent, they are ULEZ (Ultra-low emission Zone) compliant.

If you have a home charger, a BEV allows you to fill up with 100% renewable energy either from your own home solar PV systems or through off peak low-cost renewable electricity tariffs. These tariffs can result in running costs for as low as 2p/mile.

<https://octopusev.com/ev-hub/guide-to-energy-tariffs-for-electric-cars>



BEVs also come with a lower risk of fire when compared to their combustion counterparts.

BEVs offer advantages in providing: a more comfortable driving experience; less time refuelling; faster acceleration; fewer moving parts (hence less consumable spares); and significantly lower running and servicing costs than comparable ICE vehicles.

Initially BEVs came with a price premium over an equivalent ICE car, however many more BEVs have entered the second hand markets providing quite a few bargains.

Check out the following website / You Tube channels for the latest news and advice.



AutoTrader <https://www.autotrader.co.uk/>

EVM : <https://www.youtube.com/@ElectricVehicleMan>

Electrifying: <https://www.youtube.com/@Electrifyingcom>

Fully Charged:

<https://www.youtube.com/@fullychargedshow>

Carwow: <https://www.carwow.co.uk/>



Electric Vehicles – Charging (1)

Charging is different from refuelling a car and, with 4 simple steps, your charging experience should mean you spend less time charging your EV than you used to do filling your ICE car with petrol!!!

1 Get yourself a base

When you have an EV, you need a charging base. A base is where you charge regularly, it's always available to you while your vehicle is parked anyway. This should use domestic electricity which is much cheaper than public chargers. There are 4 basic options:

AT HOME – ON YOUR DRIVEWAY

Install a specific EV charger installed with a type 2 connector for regular charging of your car's battery. Although it is possible to charge your vehicle with a 3 pin plug charger, if you are staying at friends or family where you can plug in overnight.

CAUTION – Remember that charging with a 3-pin plug takes significantly longer, as the power output is only 2.3 kW and not 7 kW from a standard type 2 home charger.

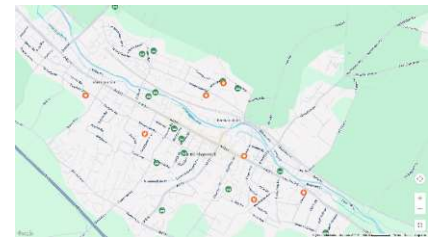


IF YOU DO NOT HAVE A DRIVEWAY



One company Kerbo has come up with a solution for houses where owner can park outside on the street. Here they create a channel in the pavement where a cable can safely lie without obstruction. Kerbo even organise the planning permission with the local authority. However, the local authority needs to sign up. Currently Herts CC do not support this scheme although many councils do. Please lobby your Town and County Councillors to encourage them to support this initiative. <https://www.kerbocharge.com/>

Another option is an EV charge sharing service where EV owners with driveway chargers can hire out their charger to EV owners without driveways. (image right shows a map of driveways and drivers in the Berkhamsted community) for Co-Charger <https://co-charger.com/> or Just Park with has a dedicated section for EV charging. <https://www.justpark.com/ev/justcharge>



Some EV drivers are also able to do their regular charge at their place of work.

2 Know your car's REAL Range

You need to know how far the car can realistically travel. As with a combustion car, if you drive like a rally driver, you will deplete your battery charge a lot quicker than a careful driver who keeps to the speed limit. Actual range is also affected by weather conditions, so the range in winter will be less than in the summer. Just like traditional fuel consumption claims, car adverts and salesmen quote unrealistic values for EV range such as (WLTP) based upon idealised lab test conditions and not real-world driving. Before buying a BEV get a realistic understanding of the true values of range in the real world from an independent source such as the EV Database. <https://ev-database.org/> As an example, is the advertised Renault Megane E-Tech showing a WLTP range of 285 miles, but a more accurate figure would be closer to 230 miles when a mixture of town and motorway driving is considered.

Real Range Estimation

between 165 - 350 mi

City - Cold Weather *	230 mi	City - Mild Weather *	350 mi
Highway - Cold Weather *	165 mi	Highway - Mild Weather *	215 mi
Combined - Cold Weather *	195 mi	Combined - Mild Weather *	275 mi

Indication of real-world range in several situations. Cold weather: 'worst-case' based on -10°C and use of heating. Mild weather: 'best-case' based on 23°C and no use of A/C. For 'Highway' figures a constant speed of 70 mph is assumed. The actual range will depend on speed, style of driving, weather and route conditions.

3 Understanding Public Charging

This is the area which causes the most fear and uncertainty to people, often referred to as “range anxiety”. If you charge at your base for 95% of the time like most people you will only ever use public charging on the odd occasion when you travel over 150 miles. In the UK the average driver really exceeds 40 miles within a day.

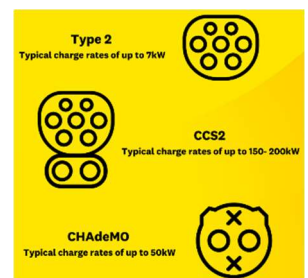
Public chargers are everywhere in the UK. According to Zap Map, in April 2025, the UK has 79,654 electric vehicle charging points across 39,427 charging locations (28% increase in the last 12 months). With over 1,480,000 BEVs on the road in the UK, this equates to 1 public charger for every 18 cars. <https://www.zap-map.com/ev-stats/how-many-charging-points>

For a map of charger locations within the UK and Ireland, see the Zapmap mobile app or website. <https://www.zap-map.com/> This app also tells the driver whether the charger is working and if there is already a vehicle connected. For route planning, the mobile app and website. A Better Route Planner (ABRP) provides details of where to stop for charging and how long you need to stay. <https://abetterrouteplanner.com/> Some charging companies like Applegreen, Pod Point, BP Pulse, Instavolt, Osprey, and Gridserve have set up charging hubs with multiple charging bays. Whilst Tesla vehicles have their own supercharging network.

TWO TYPES OF PUBLIC CHARGING:

AC “fast charging” (7 kW) takes around 5 to 8 hours to charge up a vehicle from 0% battery. This will be the charging source where you need to bring your own cable (untethered). An example in Dacorum of these type of chargers are the Tesco’s PodPoint charger in Tring.

DC “Rapid Charging” (50 to 350 kW) takes around 20 to 60 minutes to charge up a vehicle from 20 to 80%. These chargers can be found in St John Car Park in Berkhamsted. Most vehicles in Europe have a CCS connection where the top part is for the AC charging and the full part is for rapid charging. CHAdeMO is mainly associated with Japanese EVs, such as the Nissan Leaf.



ACTIVATING A PUBLIC CHARGER

Activating a charger can seem a daunting process at first as it is different to purchasing petrol and paying for it at a kiosk. Some chargers like Pod Point use a mobile app to start a charge. Others use specialist credit cards like Ionity. In the last few years new chargers have installed payment pads for contactless payment similar to the ones used on railway station ticket machines. The Octopus Electroverse scheme provides an RFID card linked to a debit or credit card and is accepted by most of the EV chargers within the UK and Europe. <https://electroverse.com/> Similar to ZapMap, Electroverse provides route planners and EV charging maps for the UK, Ireland and Continental Europe.

4 Remember the 80% Rule

You may have noticed that manufacturers quote the BEV rapid charging times in terms of “up to 80% charge”.

When DC charging (rapid charging) it’s all about the power of the charger: the higher the kW rating, the quicker your EV battery will charge. However, after an EV battery reaches 80% state of charge, the charging rate falls dramatically (this is an inbuilt battery protection feature). For example, in a modern EV when you arrive at a charger with your EV battery at 20% it will take around 40 minutes to get this up to 80%, less at high power charging sites. To get the remaining charge from 80% to 100% may take another 40 minutes.

Therefore, it’s sometimes quicker on longer trips to do two shorter charging stops than one long stop to charge up to 100%.

On route charging planner apps like ABRP it will tell you if a shorter two stop strategy is will may make your journey quicker than a longer full charge.

Source <https://www.gridserve.com/what-is-an-electric-car-charging-curve/>

Understanding the **charging curve**
Explaining charging power peaks and State of Charge

