energy saving trust

Department for Transport

Could your next vehicle be an EV?

The sale of new petrol and diesel cars will end in 2030 and the sale of plug-in hybrid vehicles will cease in 2035. Electric vehicles are a clean alternative to petrol and diesel vehicles and the technology required – particularly for batteries and charging – is rapidly evolving.

01

Does your daily or annual mileage support a move to EV?

Most EVs on the market today have a range of 150 to 300 miles. If you consider the journeys you make on a regular basis you may well find that their range fits your needs. If you need to travel further afield more regularly then topping up at a rapid charger can replenish an EV battery up to 80% in around an hour. A quick top up to get you home can be achieved in as little as 20 minutes.

YES

- EST has created a tool to help you compare electric vehicles and find the right model for you.
- The Electric Vehicle Database is a useful guide to the current market and includes information on towing, range and efficiency amongst other things.
- Love my EV is a free and impartial EV comparison site to help you with your decision making process.

NOT SURE

- The switch to EV is a big decision to make and may not be right for everyone immediately. You may wish to consider using an app such as EV8 switch to help find out if transitioning to an EV is right for you.
- Are you a sole trader or SME? Do you need a more specialised vehicle for your work? There is a growing number of vans of all sizes coming on to the market all the time, EST has produced a useful guide on electric vans and a tool to help you find the right one.

MAYBE

- Need something smaller or more cost-effective? E-bikes are an excellent solution for shorter journeys or quick commutes, read more here from 'Which?'. For businesses, the developing e-cargo bike market means there are a range of different options available too.
- If you aren't ready to take the plunge yet, or there is nothing available on the market to suit your needs, then a lower emission vehicle may be the next best thing. EST has produced a guide to purchasing a fuel-efficient vehicle.

02

Do you have access to off-street parking at home?

Approximately 60% of households have a driveway of some description so home charging will likely continue to be the main source of EV charging for the majority of drivers. However, for the 40% of residents without access to off-street parking, a number of alternative solutions are available.

YES

I have my own drive way – You can slow charge from home using a standard 3 pin plug but charge time will be around 27 hours for an EV with a 62kWh battery! A 7kW home fast charging unit (the highest rate of charge available from most UK domestic supplies) will fully charge a 62kWh battery in around 9 hours. Zap-map has produced a useful tool to work out the costs of charging at home.

Home chargepoints should be smart enabled – This means that they can be programmed to charge an EV outside of peak electricity demand periods. It can also enable EV owners to take advantage of EV specific electricity tariffs which offer lower cost charging during off peak hours.

I live in a block of flats or rented accommodation – From April 2022, the OZEV homecharge grant scheme will be available to homeowners (and landlords) who live in flats and people in rental accommodation.

NO

I don't have any access to off-street parking – The number of publicly available fast and rapid chargepoints are increasing on an almost daily basis and many councils are facilitating the delivery of new chargepoints in their areas. Alternatively, there are opportunities to share charging equipment across your community courtesy of projects such as co-charger and zap-home.

I regularly commute to a single place of work – Does your employer provide EV charging for staff and/or fleet vehicles? The OZEV workplace grant scheme is available to enable employers to install chargepoints for staff and fleet use and electricity used to charge employees' vehicles is not seen as a benefit in kind by HMRC.

Can I run a cable across the pavement? Trailing a cable from your property across the pavement to charge an EV is not advisable due to the hazards this can pose for people using the pavement. Many councils actively recommend against this practice.

03

Are you looking to purchase outright or lease?
What timeframe are you considering for your next vehicle?

YES

Planning to purchase from a dealership? Ensure that they are an EV approved outlet as this means they have achieved a set of standards for all areas of automotive retail intended to recognise their excellence in the EV sector.

Alternative routes to a new EV. Heard about car subscriptions but not sure if it is for you? https://www.carsloth.com/advice/car-subscription-leasing-renting

Looking to purchase 2nd hand? There are lots of options out there from different battery sizes to battery lease vs owned outright. Where possible it is a good idea to approach one of the growing number of specialist independent EV retailers. There are a number of guides available such as this one from the RAC.

If you are a company car driver, an EV currently makes real financial sense as benefit-in-kind tax rates for zero emission vehicles are currently incredibly low and will continue to be so for the next few years, more information is available here.

NOT SURE

Not quite ready to take the plunge yet? If an EV isn't quite right for your needs now or you would like to see a greater choice of second hand vehicles, expect to see a significant increase in the number and range of EVs in the used market over the next few years.

EV jargon busting:

kWh – kilowatt hour. This a measure of energy and usually used to signify the 'size' of an EV battery. It is comparable to fuel tank size in a petrol or diesel car, the larger the number of kWh, more energy the battery can store and the longer the car's range will be. An electric vehicle will travel between 2 and 4 miles per kWh, depending on the size and weight of the car.

kW – kilowatt. This is a measure of power and is usually used when talking about EV charging technology; chargepoints are rated in kW and the higher the kW number, the faster it will be able to charge a vehicle. Ultimately it is the vehicle that determines the rate of charge that it will draw from the chargepoint.

EV – Electric Vehicle. Also sometimes referred to as BEV or battery electric vehicle.

PHEV – Plug-in Hybrid Electric Vehicle. A vehicle with both a conventional petrol or diesel engine and an electric motor and relatively small battery pack. Electric only range is generally between 20 and 50 miles with a further 300+ from the internal combustion engine.

Slow charging – this refers to any charging infrastructure, including a standard 230v domestic socket, that has a power rating of 3.6kW or less. Lamp column chargepoints tend to be around 5 kW.

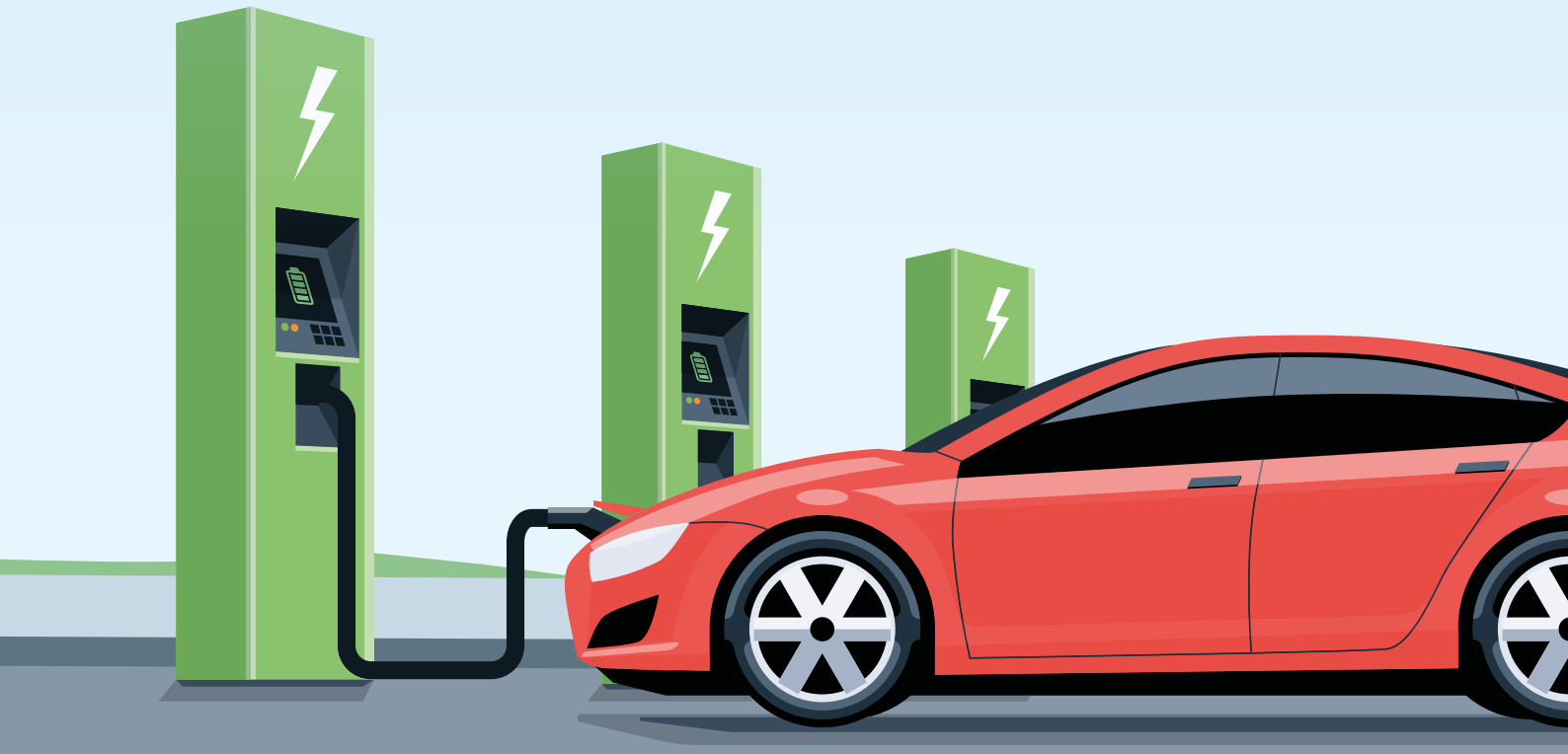
Fast charging – EV chargepoints rated from 7kW up to 22kW.

Rapid charging – higher powered chargepoints, usually 50kW. Ultra-rapid chargepoints are increasingly becoming available with power rating of 150kW and even 350kW which would add around 70-80 miles of range in as little as 5 minutes. Currently very few EVs on the market can charge at this rate. However there are a growing number that can charge at around 200kW on these chargers which equates to around ten miles range gained per minute on charge.

EV charging speed calculator: Battery size (kWh)/Charger power (kW) = Charging time (hours) (info from RAC)

AC – alternating current. The standard power supply provided by the electricity network to UK householders.

DC – direct current. Batteries must be charged using DC. EVs will convert AC power to DC via an onboard charger. Higher powered rapid chargers convert AC to DC and supply it direct to the car which is why they can charge at higher rates.



energy saving trust

Energy Saving Trust is an independent organisation dedicated to promoting energy efficiency, low carbon transport and sustainable energy use. We aim to address the climate emergency and deliver the wider benefits of clean energy as we transition to net zero.

We empower householders to make better choices, deliver transformative programmes for governments and support businesses with strategy, research and assurance – enabling everyone to play their part in building a sustainable future.

energysavingtrust.org.uk