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A guide to owning an Electric Vehicle

The electric vehicle market is booming, with many people making the switch from petrol or diesel vehicles to electric and hybrid models. As the number of electric vehicle models widens, the driving range improves and prices drop making them more attractive, there are a variety of benefits for drivers making the switch. From the environmental impact to the savings you can make on fuel, tax and maintenance costs. This guide will identify some of the benefits of making the switch to electric and provide information on how you can ensure you are getting the most out of your electric vehicle.

THE BENEFITS OF SWITCHING TO ELECTRIC

Zero tailpipe emissions **-** by owning an electric vehicle you are helping to reduce pollution by emitting fewer greenhouse gasses and air pollutants (according to EDF Energy just 1 electric car on the roads can save an average of 1.5 million grams of CO2*), and with an increasing number of electric vehicle energy tariffs available you can charge your vehicle up knowing that the energy used is renewable too - win/win!

Lower running costs **–** electricity is still cheaper than fuel, so running an electric vehicle works out cheaper. It also has fewer mechanical parts meaning less can go wrong and repair costs are usually lower than a petrol or diesel car. There are tax benefits too - road tax for purely electric cars is currently £0. Some places offer free parking for electric vehicles too - worth looking out for!

Silence **–** Electric Vehicles are quiet – with no piston or engines moving at great speeds, electric vehicles are pretty much silent. You may notice wind and tyre noise but this is no louder than a conventional car it's just not being masked by the engine noise. Enjoy the peace and quiet!

Instant power **–** because there are no gears, electric vehicles are very efficient at delivering power to the motor and wheels and acceleration happens pretty much instantly.

Simple driving **–** there are no gears (well not in the traditional sense) – they have Drive (or Forwards) and Reverse – it's that simple!

Regenerative braking **–** when you lift your foot off the accelerator the car will begin to slow down using the friction in the braking system and returning some charge to the battery as it does so. On most electric vehicles, this feature can be adjusted or turned off if you don't like it!

Government grants **-** it is worth checking to see if you qualify for any of the Government grants or schemes that are in place to help people make the switch.

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CHARGING YOUR ELECTRIC VEHICLE

Before switching to electric it's important to understand what the charging options are:

(1) PUBLIC CHARGE POINTS

Range anxiety is a real concern for many and may even put people off making the switch to electric - have you got enough charge to make your destination? But with more than 42,000 public charge point connectors in over 15,500 locations (and increasing) across the UK and apps such as Zap-Map showing you the closest charge points to your location, you can rest assured you can make it to your destination, it just may require a bit of planning!

There have been huge advances in the charging infrastructure for electric vehicles and this will only continue to improve, many car parks, supermarkets and petrol stations now have public electric charge points. In fact, there are more public places to charge your vehicle than there are petrol stations!

The likelihood is that most of your charging will be done at home (see page 3 of this guide). However, it is inevitable that at some point you will need to use a public charge point.

SO, WHAT DO YOU NEED TO KNOW?

Most EVs and EV chargers in the UK are compatible. Some charge points are tethered which means that they already have the cable attached so you simply need to plug in your car. For untethered chargers, you will need to use the cable that is usually supplied with the car to charge.

The length of time it takes to charge your electric vehicle can vary between 30-60 minutes and 8-10 hours depending on your car battery size, how many miles you do between charges, your charging behaviours and the power rating of the charger you are using. But here is a good guide to the 3 types of charge:

- SLOW -

Typical Power Rating:

3kW

Typical Charging Time:

8-10 Hours

Typical Location:

Home & Workplaces

- FAST -

Typical Power Rating:

7kW / 22kW

Typical Charging Time:

3-4 hours

Typical Location:

Car parks, Supermarkets & Leisure centres

- RAPID -

Typical Power Rating:

43kW

Typical Charging Time:

30-60 minutes

Typical Location:

Motorway service stations, petrol stations & some supermarkets

Costs for using public charging points will vary (some may even be free!) and you can usually pay-as-you-go or via a subscription / app to a provider like BP Chargemaster POLAR; IONITY; Ecotricity; PodPoint; GeniePoint; InstaVolt and Osprey.

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(2) HOME CHARGING

Most electric vehicle owners would prefer to charge their vehicle at home – probably about 80% of your charging can be done at home overnight. Home charging can be done via:

- A conventional three-pin plug

- A dedicated home charging point

CHARGING VIA A CONVENTIONAL 3 PIN PLUG

Your electric vehicle should come with a cable and adapter so you can plug into a standard 3kW three-pin socket at home. The downside of this option is that it is very slow compared to having a dedicated charging point installed at your home.

CHARGING VIA A DEDICATED HOME CHARGE POINT

These chargers will charge your EV up to 10 times faster than a three-pin plug (dependent on your vehicle's capabilities and your home electricity supply). Most home chargers run at 7.4kW and will typically charge an EV from 0 - 80% in under 10 hours. Most of the time you will just need to top up the charge for a few hours 2 or 3 times a week.

To get a home charger fitted you must have designated, off-street parking where the charging cable will not cross a pedestrian pavement.

There is a huge choice of different home chargers available from different suppliers offering different features, sizes, shapes and styles. Before installation can take place, it is likely that you would have a site survey to assess what would be best for you and your property.

BENEFITS OF INSTALLING A HOME CHARGER

Fast and reliable

You decide when to charge your car

Built-in safety features

Weather-proof (withstands all sorts of British weather)

No more petrol station trips!

GREEN ENERGY TARIFFS

You've gone to the trouble of being greener by getting an electric vehicle, so why wouldn't you switch to a green energy tariff to charge it?

Many energy suppliers, like Octopus, EDF, E ON and OVO, are offering specific EV tariffs, which not only use green energy from renewable resources but also offer EV owners a lower rate between certain time periods. These rates and time periods vary by supplier so you may wish to shop around to find what best works for you.

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CARING FOR YOUR EV'S BATTERY

Electric vehicles use Lithium Ion-batteries, like those in your laptop or smartphone, and over time these tend to have some degradation. Data over the past 10 years suggests battery health decreases by about 10% over five or six years but with battery technology improving rapidly in the last few years this figure is expected to get better.

HOW TO PROLONG THE LIFE OF YOUR BATTERY

Minimise use of rapid chargers **-** Rapid charging may seem like the best option, and it is if you are requiring a top-up mid-journey, however, rapid charges should not be used all the time, as over time they degrade the battery quicker than a slower charge. Rapid chargers should only be used when essential. Charging your car slower overnight is much better for the health of the battery.

Keep the battery between 20% and 80% charge **-** the optimal charge of an EV battery is between 20% and 80%. Many cars allow you to set the charger limit to 80% charge and try and keep it above 20% charged if you can.

Only charge fully for long trips **-** Charging the car fully does not degrade the battery unless you were to keep it at 100% all the time. So, where possible, only charge to 100% if you really need it (ie, for long journeys). The in-built navigation system will tell you if you can reach your destination with your current charge.

MAXIMISE YOUR EV'S RANGE AND PERFORMANCE - TOP TIPS

Avoid harsh braking **-** Regenerative braking is maximised by reducing the use of conventional friction brakes. The most effective way to increase regenerative braking is by anticipating further ahead to avoid unnecessarily harsh accelerating and braking, this also helps conserve momentum and keep your EV performing efficiently.

Driving style **-** The faster you drive the more work your electric motor has to do, eating into the energy consumption of your vehicle, impacting performance and range. Simply put, slow, smooth driving maximises your range, while high speeds and heavy braking zap it.

Minimise heating and air conditioning **-** Ancillary features use the battery too and although some are essential for driving - lights, indicators, windscreen wipers, others such as heating and air conditioning, can add in excess of 10% to the energy drawn from the battery so drivers should consider their use in moderation.

Headwind and heavy load **-** having a headwind or heavy load in your car will also impact energy consumption and the range of your vehicle.

Don't leave the car parked in one spot for too long **-** If you can't take your EV for a drive, then do the next best thing and move it on the driveway or change where you've parked it. This helps prevent flat spots in tyres which can affect efficiency and range. Regular short trips are also good to the health of the vehicle.

Eco features - Make sure you read up on and use your EV's eco-features (depending on models), which can ensure smarter and more efficient driving.