

# Thinking of going electric?

A beginner's guide



# Introduction

Looking for more information on buying or leasing an electric vehicle (EV)? Whether you're planning to go green or just conducting initial research, here is a guide that will answer all your questions about owning an EV.

## Types of EVs

An electric vehicle can either be completely electric, i.e. powered by battery alone, or a hybrid. The latter has a battery supplemented with a conventional internal combustion engine (ICE), and is known as a Plug-in Hybrid Electric Vehicle (PHEV).

A Battery Electric Vehicle (BEV or EV) does not have any exhaust emissions. A PHEV, on the other hand, will release CO<sub>2</sub> when using an ICE instead of the battery. However, it does give you more range than a similar EV.

There are a number of options available if you do want to go green, and more will be released in the near future. In fact, as electric technology evolves, you can get EVs that can now match or exceed the acceleration and top speed of conventionally fuelled vehicles.

## Running costs of electric vs. petrol or diesel

Both electric and conventional ICE vehicles need fuel and maintenance. However, in the case of EVs, both cost you less than conventional vehicles. EVs tend to have fewer moving parts, which in turn means they don't need as much servicing.

The fuel for electric vehicles is electricity, which is much cheaper than petrol or diesel. You can charge your vehicle's battery overnight while at home, at work, or at public charging points, spending a fraction of what you would spend on fossil fuels.

The only real expense with EVs and PHEVs is the battery, which needs to be replaced around every 5-8 years. The cost of an EV battery currently is at least as much as an entire conventional engine, but again, savings can be made by renting the battery or asking the manufacturer if they offer subsidised replacement of batteries.

## Range of an EV

The range of an EV is the distance it can go without running out of charge. Typically, EVs need to recharge at around 100 miles, but there are vehicles available with a much longer range.

An important thing to note is that the range of your EV can be significantly affected by the weather as well as how you drive. Very hot or cold weather and aggressive driving with sudden acceleration and braking will reduce your vehicle's range.

## How often should you charge your EV?

A fully-electric vehicle (one that does not have an ICE engine or a range extending generator) will need to be charged regularly. However, how often you need to recharge it will depend on your commute or your driving needs.

How quickly you can charge up your vehicle's battery will also depend on the type of charging. Domestic chargers typically charge at 240 volts, and on a 13-amp socket, you can expect your EV to recharge in around 6 to 10 hours.

Fast or High Performance Charging (HPC), available at most public charging points, gives you much faster recharging, using industrial strength connectors. You can expect to charge your battery from 0 to 80% in around 30-45 minutes.

As of now, EVs cannot charge faster than this. However, this is expected to change significantly in the near future.

## Battery life & warranty

Electric vehicle manufacturers typically offer a warranty to cover the battery and the components of electric drive. While it depends on the dealer, you can expect anything from 5-8 years' warranty cover.

However, you need to note that this doesn't cover standard wear and tear, and your battery will gradually grow less efficient as it goes.

## Defending electric vehicles

If you choose to go electric, the first thing you will notice is the drastic reduction in fuel costs. Fuel for an EV costs less than a fifth per mile than petrol vehicles. Plus, you pay less road tax, as there are no, or significantly lower, emissions.

Some will be quick to point out that an EV is not completely 'green' as its fuel is being generated by power stations running on coal or gas. However, if you're committed to the environment, you can always switch to a 'green' household energy supplier!

Additionally, while electricity providers may be releasing harmful emissions, at least you personally won't be.

People also claim that the batteries in an EV cause environmental damage. However, newer EVs come with batteries that can be recycled, either partially or (in most cases) fully.

Since batteries are the most expensive component of your green vehicle, manufacturers will have recycling plans in place, as it would contain expensive components and elements that could be repurposed and reused.

Some argue that you will need to replace your battery after 5-10 years (or after a few thousand charges). This is true, as vehicle batteries hold less and less charge as they age. In this case, you can either check to see if your manufacturer offers a subsidised replacement or check if they offer battery leasing. This way, you 'rent' the battery and don't have to worry about its cost.

Alternatively, you could also sell your vehicle before it's time for changing the battery. Yes, the value would have gone down, but isn't that true for all vehicles?

Another fear people have with EVs, as mentioned previously, is worries around range, or 'range anxiety', as it is called. With an EV, people complain that you can only go less than 100 miles before having to refuel.

However, if you look at a typical person's commute, it is very often much less than 100 miles. Unless you are driving large distances in a day, you will get ample time to get home and recharge overnight.

Of course, there are people who do need more range than EVs can offer. If you're one of them, you might want to consider the following options:

- Range-extended EV: This is a vehicle that has an Auxiliary Power Booster (APB), which is an on-board petrol or diesel generator that provides extra electricity to extend the range. It can be recharged by plugging in like an EV, or by using normal fuel for the generator.
- PHEV: A PHEV supplements the vehicle's battery with conventional fuel. If the battery runs out of charge, the vehicle smoothly switches over to the ICE engine. Again, this type of vehicle can be refuelled using both electricity and conventional fuel.
- Hybrid vehicle: A hybrid vehicle uses a conventional engine that is supplemented by an electric motor. In this case, the vehicle uses regenerative braking to charge the electric motor. However, this vehicle only uses normal fuels and cannot be charged by plugging in.

### Is an electric vehicle right for me?

While a fully-electric vehicle (BEV or EV) might not be for everyone, here are some questions that could help you decide if you should opt for one or not.

- Do you have easy access to a power socket for charging your vehicle, or a place where you can install it?
- Are your journeys typically short and fall within the range of 40 miles in a day?
- If your priority is going 'green', is your power company generating electricity cleanly? (You might want to note that even if it isn't, electricity is much cleaner than burning fossil fuels!)

If you've answered yes to most of these questions, an EV is the right choice for you.

If you answered no to most of them, then you can still choose a greener option – PHEVs instead of EVs. These are perfect for you if:

- You make longer journeys, more than 50 miles, on a daily basis.
- You don't have off-road parking or access to a charge point.
- You worry about range anxiety and need a vehicle that you can rely on in case of an unexpectedly long journey.

At **sgfleet**, we are committed to the environment. If you have any additional questions about EV ownership or leasing, and what it entails, please get in touch with us by calling 0344 854 5161 or emailing us at [uk.enquiries@sgfleet.com](mailto:uk.enquiries@sgfleet.com).