

frequently asked questions



contents

1. Benefits / Drawbacks

2. Range

3. Battery

4. Charging

5. Driving

6. Performance

7. Safety

8. Maintenance

9. Insurance

10. Grants

11. Tax

12. Electric Vans

13. Warranties

14. Environment

considering an EV

If you are considering an electric vehicle for the first time, we understand that you might have some questions. As experts in electric vehicles, we are here to help you transition smoothly.

This document covers many of the questions that we are typically asked by drivers, although you may have more. If that's the case, please contact us and we will be pleased to answer any questions you may have.

1. benefits

What are the main benefits of owning an electric vehicle (EV)?

Lower carbon footprint

Even though an EV creates a higher carbon footprint than an ICE vehicle in its manufacturing process (largely due to the battery manufacture), the overall carbon footprint, including driving the vehicle, can be up to 50% lower than ICE over the lifetime you have the vehicle. This reduction can be even greater if the electricity used to charge the vehicle is created from renewable sources such as solar and wind energy.

Potential cost savings

When the running costs and tax efficiencies of an EV are compared with Internal Combustion Engine (ICE) vehicles, the savings of running an EV can be considerable. These depend on the type of vehicle chosen, and the number of miles driven – more mileage in an EV delivers a greater saving.

Increased interior space

Due to the removal of traditional vehicle engine components such as the transmission tunnel and the engine, EVs can offer a more spacious interior driving experience.

benefits...

Instant torque and quiet interior

Electric motors power the vehicle, providing instant torque and removing the need to change gears, providing a quieter driving experience.

Re-generative braking

By harvesting the energy from braking this can be turned into supplementary range to help extend your journey distance.

Charging at home

If you have a driveway, charging your vehicle at home enables you to wake up with a full charge every morning without ever having to move from the comfort of your own home.

1. drawbacks

Are there drawbacks to owning an electric vehicle?

The range of an electric vehicle (the distance that can be travelled before having to recharge the battery) has traditionally been a concern, giving rise to the term 'range anxiety'. However, the latest developments in battery technologies mean that many of the EVs available in the UK are now a realistic proposition for most people. Many owners will find that they only need to charge their EV once a week.

For long distance journeys, a stop may be necessary to recharge the battery. This may require some advanced planning, but with over 16,000 public charging locations, and over 45,000 individual charging units (and growing rapidly), finding a convenient public charge continues to become easier. Many supermarkets, restaurant chains and retail outlets are installing EV chargepoints to allow their customers to charge as they shop/eat.

2. range

What factors affect range?

Range can be affected by a number of factors, including driving style, external temperature, operating the heating or cooling systems, driving up (or down) hills, payload and the speed at which you are driving.

If the battery runs out of charge, will the car just stop?

Once the battery is drained of energy, the vehicle will come to a complete halt – EVs do not coast. But before things get to that stage, you'll typically receive three or four separate and distinct alerts, including when there's typically 10% (depending on manufacturer) of charge left in the battery and when there's 0% of charge. You should always pull over before this second message to avoid running out of charge. You wouldn't let your petrol/diesel vehicle run out of fuel and it is the same discipline with EVs – running close to 0% charge should be avoided.

3. battery

What does kilowatt-hour (kWh) mean?

Kilowatt-hours are a measure of how much energy can be stored in a battery. A comparison for an ICE vehicle would be the size of the fuel tank in litres. For a given vehicle, a battery with greater capacity - more kWh - will have greater range.

Is the battery flammable?

An EV battery would only become flammable through misuse or outside intervention. Electric vehicle batteries are less flammable than petroleum or diesel and have safety systems that maintain safe temperatures.

Does temperature affect the battery?

Batteries can be stored as low as -40°C but must be plugged in and heated to -20°C before driving. In long-lasting hot or cold temperatures an electric vehicle's range is reduced because energy is required to keep the battery at an efficient operating temperature. Energy is also needed to warm up the cabin when the temperature is low. Using the cabin heating or cooling (A/C) functions while the vehicle is still charging – before you set off – will help maximise the battery range in your vehicle.

battery...

Does the battery get hot during operation?

EVs have an efficient thermal management system that maintains the temperature of the battery. An electric vehicle battery will, typically, be between 15°C and 30°C, which is considerably cooler than an internal combustion engine.

How are batteries disposed of/recycled?

The time that batteries spend in an EV is often just the beginning of their useful life. Once removed from a car, most batteries will still be fit for other purposes like energy storage in the electricity network, or in the home – a growing area of demand.

When batteries do reach the end of their working life, they'll be recycled, which typically involves separating out valuable materials such as cobalt and lithium salts, stainless steel, copper, aluminium, and plastic. At the moment, around 75% of the materials in an EV battery pack can be recycled and with EVs expected to undergo an explosion in popularity over the next decade or so, vehicle manufacturers are looking to further enhance this.

Volkswagen recently announced a pilot plant for battery recycling which will work towards a target of recycling 97% of battery components. In this process, batteries will be shredded, dried, then sieved to recover valuable materials that can be used to make new batteries.

4. charging

How do you charge an electric vehicle?

Just like with any other electrical appliance, it really is as simple as plugging your vehicle in to a charging point. As well as your home charging point, you can charge up at public charging stations. You can use sites like Zap Map to locate charging points across the UK, while some workplaces also have them. The connector types vary a little, so Zap Map enables you to filter this to find charge points compatible with your EV.

How much does it cost to charge an electric vehicle?

The price of electricity fluctuates according to market influences. To calculate the cost for a full charge, simply multiply the rate you are charged per kWh by the battery capacity of your vehicle.

Can EVs be driven with a charging cable still plugged in?

No, EVs cannot be driven while a charging cable is plugged in. A dashboard warning light will appear, asking you to unplug before the vehicle can move.

charging...

Why is the first 80 per cent charge faster than the final 20 per cent?

You'll find the rate of battery charge is influenced by the chemistry and physics of the battery itself. The battery management system controls the rate at which electricity comes into the vehicle – to preserve the battery when it is at low states of charge and high states of charge. To preserve the health of the battery, it is best to keep the 'State of Charge' between 20% and 80%.

How many days can an electric vehicle be left without charging? For instance, can I leave it parked at the airport?

Most electric vehicles can be left unattended for at least six months, however plugging in once a month is optimal. The battery management system is electronically controlled and uses very little energy. EVs, like any vehicle, also have a 12V battery to power internal features such as central locking, electric seats, entertainment and interior lighting. This 12V battery can go flat just like in any car and should therefore be monitored carefully during long periods of downtime.

charging...

What are 'destination charging' and 'journey charging'?

Destination charging refers to charging stations that can be found at local shopping centres, hotels, gyms and other destinations you may visit for extended periods of time.

Journey charging refers to charging stations at service stations or dedicated electric vehicle charging stations, which provide the maximum charge in the shortest time.

Can the National Grid handle the increasing number of electric vehicles?

Motor manufacturers are working with governments and energy providers to ensure that increases in electric vehicle usage do not cause issues with electricity networks.

The National Grid has publicly confirmed that they have no concerns over whether they will be able to cope with mass EV adoption, citing that energy efficiency (LED lightbulbs, energy efficient white goods in the house etc) over the past 15-20 years has improved so much that there is a remaining capacity to accommodate such activity. It is fair to say that some local areas that require extensive rapid EV charging capability may need to upgrade their local electricity supply to facilitate this.

5. driving

How does the 'feel' of an electric vehicle differ?

The first thing you'll notice when driving an electric vehicle is the silence. Apart from a faint hum when accelerating, the only noises come from the wind and tyres.

Acceleration is also instant, so electric vehicles will feel much quicker than you may have thought. Take care with this acceleration, though, as it will of course affect the range you can get out of the vehicle, in the same way that fuel consumption in an ICE vehicle is affected by faster driving.

Electric vehicles are very easy to drive. Gears are automatic, while regenerative braking slows the vehicle when you lift off the accelerator to top-up the batteries. The result can be 'one-pedal' driving around town.

What is regenerative braking?

Electric motors consume energy to provide motion. When this motion is no longer required, for example when the vehicle is slowing, the braking force can be harnessed to reverse the action of the motor and generate electricity. The electricity generated can be fed back to the battery, extending the vehicle's range.

6. performance

How does the handling compare to 'conventional' vehicles?

Electric vehicles generate maximum torque from standstill, delivering impressive acceleration. The battery's location, between the two axles, also provides a lower centre of gravity and an even weight distribution for improved handling. And, without the need to package a big engine in the front, the wheels can be positioned nearer to the outermost corners of the vehicle enhancing stability and steering feel.

7. safety

Are EVs safe in a flood?

In general, electric vehicles are as safe as all other vehicles when going through deep water. The battery pack is sealed off, as is the drive train (e.g. the electric motor and controller). So, electrocution isn't a risk when taking an EV through deep water. Indeed, many electric vehicles have been driven through fairly deep water as part of their exhaustive testing. This water is deeper than most conventional vehicles could drive through, and the electric vehicles handled it well.

It is never recommended to drive any vehicle persistently through deep water, but EV manufacturers claim that some EVs are actually better equipped for floods. The BMW i3 manual says:

“Drive through calm water only and only if it is not deeper than 9.8 inches/25 cm and at this height, no faster than walking speed, up to 3 mph/5 km/h.”

safety...

Are EV's safe?

All EVs are designed and engineered to meet the most stringent global safety standards. In fact under Euro NCAP testing conditions, 7 of the 10 safest vehicles tested in 2022 were EVs and in awards in each vehicle category (small, medium, large etc), every category winner was an EV.

Can I use an electric vehicle in a car wash?

Yes. Electric vehicles are designed and tested to the same standards as conventional combustion engine vehicles, so taking them through a car wash is no different to taking an ICE vehicle through.

Can electric vehicles be charged in the rain?

Yes. Customers and bystanders are not exposed to any risk of electric shock.

8. maintenance

Are electric vehicles difficult to maintain?

Compared to a vehicle with an internal combustion engine, electric vehicles require less maintenance as they have fewer moving parts. In other words, there is less that can wear out.

Does an electric vehicle need a regular MOT?

You don't escape the MOT test by choosing an EV. Like all vehicles, EVs have to pass an annual road-worthiness inspection after they are three years old. The main difference is that there is no emissions test, so that's one less area to potentially fail on.

Can an electric vehicle be towed if there is an electrical fault or the battery has no remaining charge?

No – this will damage the motor in the vehicle. If the vehicle needs to be removed from the road, it must be lifted up and carried away. Alternatively, the AA has developed what is called a 'free-wheeling castor' that attaches to the back wheels of an EV and allows it to be towed – but the towing equipment must not be attached to the wheels of the vehicle – the castor operates freely from the wheels and this allows towing to take place.

9. insurance

How much are EVs to insure?

EVs can be a little more expensive to insure than comparatively sized traditional vehicles. The key reason for this is that they can be more expensive to repair, especially if the battery is damaged. There are a number of other factors that affect the insurance rating, as with other vehicles (your age, mileage, location etc) so you should check with your insurer that they can/will insure EVs.

10. grants

What grants are available on the purchase price of EVs?

The upfront price of new electric vehicles can be higher than a comparable petrol or diesel car. To help overcome this, the government introduced a plug-in grant to help buyers offset some of the cost of a new EVs. For cars, this grant was removed in 2022, so there is now no government grant to support the purchase of Electric Cars

There is still a grant that can be applied to, vans, motorcycles, mopeds, taxis and large trucks. Information relating to these grants can be found on the gov.uk website - <https://www.gov.uk/plug-in-vehicle-grants>

Where a grant still applies, if you lease or rent your vehicles, leasing companies will reflect the value of the grant in the rental figure, so there is nothing you need to do to claim the grant.

grants...

What grants are available for charge points?

Grants for home chargepoints for homeowners were removed in 2022. However, if you live in a flat, or rent your accommodation, you can still qualify for a homecharge grant.

The homecharge grant is currently worth £350. The grant can only be claimed whilst the scheme exists.

If you are installing charge points in a work as benefit for staff or visitors to your business, then you will qualify for a workplace charge scheme grant.

The workplace charge scheme grant is currently worth £350 per charge point. A business could claim a grant on up to 40 charge points. Therefore, the grant has a maximum value of £14000. The charge points could be installed in a phased way, but the grant can only be claimed whilst the scheme exists.

If you install a charge point for commercial benefit, then you will not be able to claim any government grant.

grants...

I bought a used EV, can I get a grant for a charging point?

Yes, as long as you live in a flat or rent your accommodation, your used vehicle will qualify for £350 grant support under the homecharge scheme.

11. tax

Full electric vehicles are currently exempt from Vehicle Excise Duty (VED), but this will change in April 2025, when they will be required to pay VED at the prevailing rate. Drivers still have to pay Benefit-in-Kind (BiK) tax if they are going to run one as a company vehicle.

However, for the 2022/2023 financial year, the BiK rate for zero-emissions company cars was set at 2 per cent of the vehicle list price by the government, so there's very little to pay and this remains at 2 % in 2025. After 2025, rates increase by 1% until they reach 5% in 2027/2028, so company car tax on EVs will still be extremely competitive compared to ICE vehicles.

tax...

How does company-car tax work on electric vehicles?

There are two parts to company-car tax – what the company pays and what the employee pays – and the amounts depend on the car's value, its CO2 emissions and the income-tax bracket of the employee.

The amount the company has to pay is determined by the car's 'P11D' value (the value of the car including VAT, options and the delivery fee) and its CO2 emissions.

By contrast, the amount that the employee has to pay is slightly more complicated and is calculated using the following formula: (P11D value) x (BiK band) x (tax bracket).

For example, a Nissan Leaf 40kWh in Acenta trim has a P11D value of £29,390 and its BiK band for 2022/23 is 2 per cent. So, if you're a 20 per cent taxpayer, you'll pay £117.56 pa in BiK tax, whereas a 40 per cent earner will pay £235.12 in the same period.

For example, a Nissan Leaf 40kWh in Acenta trim has a P11D value of £29,790 and its BiK band for 2021/22 is 1 per cent. So, if you're a 20 per cent taxpayer, you'll pay £59.58 in BiK tax, whereas a 40 per cent earner will pay £119.16 in the same period.

tax...

Will the BiK rate for fully electric cars change?

The key to BiK tax is the BiK band, based on the CO2 emissions of the vehicle. The government sets this, and it is 2% for all fully electric cars in the 2022/23 tax year – and this rate is fixed until 2025.

In 2025, the BiK rate for these vehicles will rise to 3 per cent and will increase by 1% each year until 2027/2028 when it will be 5% so an electric company car will continue to be a very affordable pick.

12. electric vans

Are vans liable for company-car tax?

If a driver is given an electric van as a company vehicle, they pay a 'van benefit charge' instead of company-car tax. For the 2021/2022 tax year, BIK on electric vans is set at 0%

For vans there is no upper vehicle price limit and the vehicle must have emissions of less than 75g/km and zero emissions range of at least 10 miles.

13. warranties

Which EVs Offer the best warranties?

An EV's battery pack, arguably its most costly component, is typically covered for at least eight years or 100,000 miles. For its part, Hyundai extends this to lifetime coverage on the 2019 Kona Electric.

Be aware, however, that every new-vehicle warranty contains exceptions and exclusions.

For example, some manufacturers only cover an EV's battery pack against total failure, while others, including BMW, Nissan, Tesla (Model 3) and Volkswagen will replace it if it reaches a specified reduced capacity percentage, usually 60-70%, while under warranty.

Some brands will transfer whatever remains of the original warranty to a second owner, while others may impose limitations on this. For example, the 10-year powertrain warranty on Hyundai, and Kia models applies only to the original buyer, with a subsequent owner receiving whatever remains of five years' coverage from the date on which it was originally sold.

warranties...

Also, selected components, most notably tyres and dealer-installed accessories, can have separate warranties backed by the original-equipment manufacturers, and come with their own exclusions.

Be sure to check the fine print at the dealership or via the manufacturer's website (usually under an "owners" tab) to get the full story on any model you're considering.

14. environment

Are electric vehicles really better for the environment?

With no emissions out of an exhaust, electric vehicles are brilliant for reducing pollution in cities.

Forget the nasty particulates belched out by diesels, EVs (when driven) are as emissions-free as walking or cycling.

Detractors will point to the pollution created by producing electricity, but this varies widely depending on the type of power generation used. A wind farm is vastly cleaner than a coal-fired power station, for example.

However, even the 'dirtiest' electricity is still less damaging to the environment than hundreds of individual petrol or diesel engines.

Also, if environmental friendliness is high on your agenda, certain energy companies offer 'green' tariffs, using electricity produced from sustainable sources. Some charging units are also smart enough to prioritise energy taken from sustainable sources such as wind, water and solar energy.

contact us

sales@reflexvehiclehire.com

0330 460 9913

