



Going Electric – a quick guide

Everything you need to know about EVs

Contents

Since the Ford Model T was introduced in 1908, drivers worldwide have become accustomed to internal combustion engines (ICE).

At Lease Electric, we recognise that transitioning to an electric vehicle (EV) can seem overwhelming. Whether you need a compact electric vehicle for city commutes or a spacious electric SUV, we offer a diverse selection to meet your needs. Our team is ready to provide all the information you need to make an informed choice and guide you through the process of leasing your new electric car.

To help you make the switch, we have prepared this brief guide:

- About Electric Vehicles
- Range - How far do you need to travel?
- Charging - types, time, costs and location
- Reliability, Maintenance and Safety
- Benefits of going electric



About EVs: The growing demand

Manufacturers are responding to increasing consumer demand by designing EVs suitable for a wide range of drivers. At the end of January 2024, there were approximately 1 million fully electric cars on UK roads.

From EVs designed for commuters living in busy city centres, to seven seaters designed with family road trips in mind and vans perfect for local delivery drivers the variety of EV models is expanding at a rapid rate.



ORA 03

261 miles

15%-80% Charge (60kW) 43 mins



Kia EV 9 (7 seater)

308 miles

10%-80% Charge (350kW) 24 mins



Vauxhall Combo Cargo L2

175 miles

0%-80% Charge (100kW) 30mins



About EVs: What to read

When you're searching for a new vehicle, its important to consider the various options available to you. Reading EV descriptions, standard features, and technical data can give you lots of useful information.

Descriptions

EV descriptions provide a quick glance at the vehicle. From the manufacturer, to the number of doors helping you to narrow down which variant is right for you.

VOLKSWAGEN

Manufacturer

ID.5

Model

128kW

Motor Size

Tech Pro

Trim

77kWh

Battery Size

5dr

No. Doors
(inc. boot)

Auto

Transmission

Options

Options often include interior and exterior features, paint work and trim. Depending on if the vehicle is a Stock or Factory order, you might have a variety of options available to you.

Standard Equipment

This lists everything that comes as standard with each particular EV. This can include everything from the infotainment system and heated seats to the safety and driver assistance features.

Technical Data

Includes important information about the EV from battery capacity and maximum charging speed, to weight, dimensions and capacities.



About EVs: Key Terminology

Since Anti-lock Braking Systems were introduced in the 1970s, referring to the system as ABS has become the norm, however, with the introduction of electric vehicles in recent years a whole new set of acronyms and abbreviations have started to appear.

To help you navigate manufacturer descriptions, technical data and reviews this table explains some of the most important terminology you're likely to come across in your search for your new EV.

There is a detailed Terminology Guide available on our website that covers vehicle types, charging, chargers, connectors, vehicle descriptions, motors, batteries and general terminology used within the industry. If you'd like to read this guide, [click here](#).

Battery Capacity	Every EV comes with a different battery capacity i.e. the size of the physical battery. The higher the kWh, the further you can travel. So put simply, the bigger the battery capacity, the longer the range.
WLTP	The Worldwide Harmonized Light Vehicle Test Procedure is used to measure the fuel consumption and CO2 emissions from passenger cars and vans. The testing is conducted in a laboratory across different temperatures to reflect driving conditions. In 2018, WLTP became mandatory for measuring the CO2 emissions and EV ranges on all new cars in the EU.
Real World Range	Real World Range is the actual range of an EV, however, there are many factors that affect the range of an electric vehicle. Warmer temperatures with sunshine are going to be kinder to your EV's battery range than winter. Also consider road conditions, weight of the car and your driving behaviour.
Kilowatt (kW)	Kilowatts are often used to measure the power created by a motor or engine, which you'll see in the description of an electric car derivative. A kW can also be used to describe how quickly a charging point can fill up a battery.
Kilowatt Hour (kWh)	A kilowatt-hour is a unit of measurement for calculating how much electricity you've used and how large a battery is. It is the mpg equivalent for electric cars.
CCS Connector	CCS stands for Combined Charging System and is the standard for rapid charging electric vehicles in the UK & EU.
Type 2 Connector	A charging plug that has 7 pins and a flat edge. This type of charger is becoming the standard on most new electric vehicles. This connector is found at most charge points.



Range

Many drivers considering an EV worry that an EV won't provide them with enough range, or that they will have to regularly stop to recharge whilst completing their usual daily / weekly tasks.

According to the Society of Motor Manufacturers and Traders, the average electric range for new EVs launched in 2023 was nearly 300 miles, with an increasing number of manufacturers working to introduce models with ranges in excess of 300 miles.

As 99% of car journeys in England are under 100 miles, most could be made by an EV without needing to recharge.

When working out the range you need the most important question is – how far do you travel?

Consider your daily commute, regular trips and then consider how often you travel longer distances.

For example, if you commute 30 miles each day for work, 5 days a week, that's 150 miles a week. Add in a trip to the local super market, 10 miles, visiting family or friends 20 miles and other leisure activities, say 30 miles a week – you'd cover at least 210 miles a week.

EVs such as the Cupra Born and the Mini Countryman could cover these journeys with just a single charge.



EV Charging: Types

There are various types of chargers available to EV drivers.

You can only charge a vehicle's battery at the maximum charge rate the vehicle can accept. For example; if your vehicle's max charge rate is 7kW, you won't charge any faster by using a 22kW chargepoint.

You can safely plug your EV into a charger with a higher rate than your maximum charging rate, as the points will automatically reduce their charging speed to match your vehicles needs.

Maximum charging rates can be found on the Lease Electric website in the Technical Data section for each vehicle.

Charger types

Slow charger	Slow chargers typically performs at 3kW. This is generally associated with charging via a 3-pin plug
Fast Charger	The most common type of charger provides speeds between 7kW and 22 kW AC. These are mostly home charge points but also can be found at public charging networks in areas where drivers will leave their car for a significant amount of time, such as a shopping centre.
Rapid Charger*	A type of charging station, typically capable of charging at 50kW-100 kW. These charging stations are typically located at service stations.
Ultra Rapid Charger*	These types of chargers are even faster than rapid chargers, most are rated at a minimum of 100 kW, although there are some charge points appearing to be 350 kW chargers.

*DC Chargers restrict charging speeds once the vehicle reaches 80% in order to protect the battery.



EV Charging: Time

Charging time depends on the type of charger being used, and the battery capacity of the EV.

Using this calculation will give you an estimated charging time to charge from 0-100% = **Battery Capacity (kWh) ÷ Charging Speed (kW)**. However, it's often recommended to charge to 80%. Chargers restrict charging speeds once the vehicle reaches 80% in order to protect the battery, charging from 10-80% often takes as long as charging from 80-100%.



Kia EV6

166 kW GT Line S 77.4kWh
Maximum charge rate 350kW



0% - 100%
7kW = 11hours

10-80%
350kW = 18mins

Most manufacturers will display charging times for 10% to 80%. Chargers restrict charging speeds once the vehicle reaches 80% in order to protect the battery.



EV Charging: Cost

Charging an EV comes at a cost, so how do these costs fair in comparison to fuelling an ICE?

In many cases, EVs continue to benefit from significant savings on the cost of fuel. Charging a medium-sized electric car at home can cost around half the price of filling up an equivalent petrol vehicle.

As of January 2024, charging at home costs averaged 8p per mile while a diesel or petrol vehicle can cost around 13p to 17p per mile to fuel. Some suppliers continue to offer tariffs enabling drivers to charge their EVs at under 3p per mile (EDF Energy, GoElectric Overnight with Pod Point = 8.49p per kWh) .

On average, Zapmap charging data shows that the cost of charging an EV on the public network is roughly equivalent to fuelling an equivalent petrol car.

Cost Comparison May 2024



VW ID.3
150kW Pro S 77kWh 5dr Auto
347 miles (WLTP Combined)



VW Polo
Life 1.0 80PS 5-speed Manual 5 Door
52.8mpg (WLTP Combined)

Pence Per Mile = (Electricity rate in pence per kWh ÷ 100) x (Battery Capacity in kWh) ÷ Mileage	Pence Per Mile = (Price per litre ÷ 100) ÷ (MPG ÷ 0.22)
Home Charger Tariff - EDF Energy Go Electric with Pod Point: 8.49p per kWh 2 pence per mile	UK-wide Unleaded Price: 149.96p 13 pence per mile
Average Public Charging Tariff Ultra Rapid Charger (100kWh +) : 78.64p per kWh 17 Pence per mile	UK-wide Unleaded Price - Motorway: 170.12p 15 pence per mile

Source: [Electric Vehicles: costs, charging and infrastructure](#). 05.02.24
Pod Point & EDF Energy. 13.05.2024
RAC Petrol and Diesel Prices 14.05.24
RAC Electric car charging prices at public rapid chargers 14.05.24





Lease Electric have partnered with Pod Point, to ensure charging is accessible for our EV customers.

As one of the earliest providers of electric vehicle charging in the UK they have developed an expert network of qualified electricians, alongside an intuitive app and easy to use smart chargers for homes and workplaces.

In partnership with POD Point, our customers will be given the opportunity to switch their residential energy tariff onto one of the EDF Energy GoElectric zero-carbon tariffs. All the GoElectric tariffs provide 100% renewable electricity and are available either as a single rate tariff or two different off-peak tariffs, with overnight electricity rates as low as 8.49p per Kilowatt-hour (kWh).

To find out more about Pod Point, the Pod Point App, the Solo 3 Chargers, work place and commercial charging solutions please [click here](#).



EV Charging: Stations

One of the most common sources of anxiety surrounding EVs is 'Charging Anxiety'. For many, the thought of public charging raises concerns over location, reliability, access and safety.

At the end of March 2024, there were 59,590 electric vehicle charging points, across 32,322 charging stations across the UK.

In the UK, PAS 1899:2022 provides specifications guidance to support the building of an inclusive and accessible electric vehicle charging infrastructure in the UK. Guidelines include:

- Lighting
- Security Cameras
- Distance between spaces
- Weight of connectors

It is always recommended that you plan your journeys. Should you need to stop to top up, using apps such as Zapmap will allow you to find chargers that are enroute. Zapmap shares information such as:

- Location
- Cost
- Speed
- Devices / Connectors
- Payment method
- Reviews





EV Reliability

With the development of technology, cars are more resilient and reliable than ever.

Despite common fears that EVs may be less reliable when compared to well established ICE vehicles, this is not the case. EVs use a battery and motor instead of an engine, have fewer moving parts and there are less things on an electric vehicle that can go wrong.

In June 2023, the AA shared that EV Breakdowns year to date equated to just 2.86% of their total breakdown workload including petrol and diesel vehicles.

Through Lease Electric's Salary Sacrifice Scheme, drivers benefit from having Breakdown Cover included for the duration of their agreement.



EV Maintenance

From routine services, MOTs, tyres and general wear and tear, when you're considering a new car, it's important to factor in maintenance costs.

Generally speaking, an EV will require less maintenance than a traditional ICE vehicle, due to the simplicity of the battery and motor system and the introduction of regenerative braking.

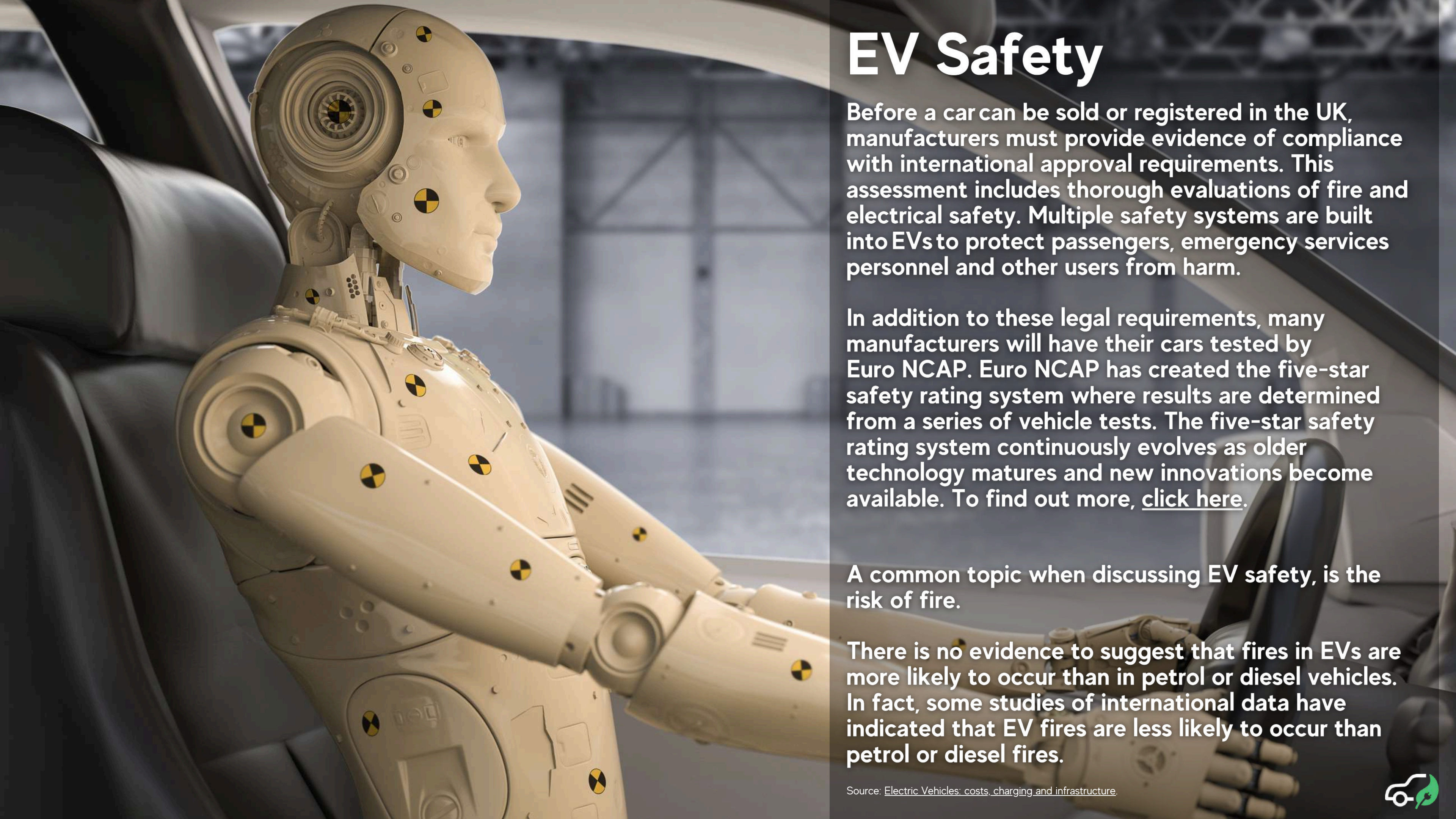
If you choose to lease a new vehicle, under the terms and conditions of your finance agreement you are required to regularly service and maintain your vehicle in accordance with the Manufacturer's recommendations.

Depending on the length of your lease, you may also need to have an MOT.

Through Lease Electric's Salary Sacrifice Scheme, drivers benefit from having a maintenance package included. Our maintenance packages cover:

- Routine servicing
- Maintenance not covered by the manufacturer's warranty (subject to fair wear and tear)
- MOTs (if applicable)
- Replacement tyres (subject to fair wear and tear)





EV Safety

Before a car can be sold or registered in the UK, manufacturers must provide evidence of compliance with international approval requirements. This assessment includes thorough evaluations of fire and electrical safety. Multiple safety systems are built into EVs to protect passengers, emergency services personnel and other users from harm.

In addition to these legal requirements, many manufacturers will have their cars tested by Euro NCAP. Euro NCAP has created the five-star safety rating system where results are determined from a series of vehicle tests. The five-star safety rating system continuously evolves as older technology matures and new innovations become available. To find out more, [click here](#).

A common topic when discussing EV safety, is the risk of fire.

There is no evidence to suggest that fires in EVs are more likely to occur than in petrol or diesel vehicles. In fact, some studies of international data have indicated that EV fires are less likely to occur than petrol or diesel fires.

Source: [Electric Vehicles: costs, charging and infrastructure](#).



FAQ's

We understand that when you're considering an Electric Vehicle, you'll have lots of questions.

We have addressed a range of common queries, busted some of the most common myths and answered our most frequently asked questions about electric vehicles, and our environmental impact on our website.

FAQs

EV Terminology

Climate Positive

If you can't find the answer to your question, or would like to talk to a member of our team, please contact us!



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