



PVS Group

A Simple Guide to Alternative Fuelled Vehicles

– Choosing, Buying and Running.

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Electric Vehicles – What you need to know.

EV – What is it?

EV = Electric Vehicle. This means that the vehicle will only run on a battery-operated motor. The batteries at the present are high performance lithium-ion and have zero tailpipe emissions.

EVs have been available for a few years now. They are becoming popular both in the private and commercial environment.

It is important to note that they do not have any combustion engine to charge the batteries or to drive the vehicle. These only allow you to charge from the electric grid, generally from a charging point or a 3 phased socket in the home.

How do I know its range?

Most manufacturers will provide you with the official range of the vehicle. Battery technology is improving and the range is increasing. Currently, vehicle range varies from around 200 to 400 miles. Generally, the greater the range, the more expensive the vehicle.

The range will also depend upon your driving style and the weather conditions. It is worth considering your daily mileage requirements and how you can manage charging the vehicle when needed.

How can I charge my EV?

If you have off street parking, then a home charge point, which is supported by a government grant towards the cost of installation to minimise your outlay, is probably the best option for charging your vehicle.

If this is not an option or you need to find a charge point on your route, you can find charge points on various web sites such as www.zap-map.com. This has lots of information about points available near you.

Businesses are now installing electric charge points. There are also sites around the UK that are open for businesses to use as meeting rooms or small offices. It is becoming more common for these to have charge points for you to use.

How can I fund my EV?

Currently, the Government will allow you to 'write down' your EV by 100% in the year it is bought. This will minimise your corporate tax bill and support your green agenda.

To allow you to do this, you will need to fund the vehicle via a finance lease or hire purchase arrangement that allows you to add the vehicle to your balance sheet.

What are the running costs like?

The cost to maintain the vehicle in its life is nearly 70% cheaper than a combustion engine. There are fewer moving parts on a EV to maintain. It is worth understanding what service outlets are near you to allow you to have the vehicle serviced and maintained.



Most manufacturers will provide a guarantee for the vehicle battery from 3 – 7 years but this is sometimes negotiable so ask the question. Given the limited time these have been around, we are still experiencing and evidencing the derogation on batteries through their 10 – 15-year life cycle.

Can PVS support my EV journey?

Yes, PVS is here to help any business or employee understand how you can put EVs on your fleet. We can support you with: -

- Operational fleet policies
- Procurement
- Charging infrastructure
- Funding your EV
- Maintaining your EV



Hybrid Vehicles – What you need to know.

Hybrid– What is it?

A hybrid vehicle uses both a conventional combustion engine (petrol or diesel) and an electric motor. The electric motor is used to provide additional power or, if allowed, will operate just on the electric motor for a very short period (mainly city/town driving).

The main manufacturer with Hybrid technology is Toyota however, there are other manufacturers such as Ford & Kia.

How do I know its range?

Most manufacturers will provide you with the official range of the vehicle. With the development of the batteries this has got better and will vary from 10 - 30 miles.

The range will depend on your driving style and the weather conditions. This vehicle is designed to run of the combustion engine with the EV motor supporting where it can or driving in and around urban areas.

Do I need to charge the Hybrid?

No. Most hybrid's are self-charging using regenerative braking, as an example, to recharge the battery. Plug in Hybrids (see PHEV) are home/EV charge post charging hybrid's and we talk about these within the PHEV section.

How can I fund my Hybrid?

You have the option to use any funding model for these vehicles. There are two main funding models:

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- Operating Lease – Contract Hire - you do not own the vehicle and will need to hand it back at the end of the lease. Be careful not to get stung with end of lease recharges due to the state of the vehicle on its return.
- Finance Lease – Hire Purchase or Finance Lease – you will own the vehicle once the finance is repaid.

Can PVS support my EV journey?

Yes. PVS is here to help any business or employee to understand how you can put alternative fuel strategy into your fleet, we can support with: -

- Operational fleet policies
- Procurement
- Charging infrastructure
- Funding your EV
- Maintaining your EV



Plug in Hybrid (PHEV) Vehicles – What You need to know

Plug in Hybrid PHEV– What is it?

A plug-in hybrid vehicle uses both a conventional combustion engine (petrol or diesel) and an electric motor which is bigger than a conventional Hybrid. The electric motor is used to provide additional power or will allow the vehicle to operate on the electric motor for a very short period (mainly city/town driving) 15 – 40 miles depending on make and model.

Plug-in hybrids (PHEVs), which charge via a plug, are becoming more popular. Most owners charge theirs at home overnight, or at work, using a special 'wallbox' and lead supplied either by the car maker or one that is tethered to the wallbox (you can charge with a normal three-pin plug but it will take longer).

Major car brands are offering PHEV – Audi, BMW, Ford, Mercedes, Peugeot & Vauxhall. Many are petrol based engines but some vehicles are coming through with Diesel engines like Mercedes or Kia.

How do I know its range?

Most manufacturers will provide you with the official range of the vehicle. With the development of the batteries this has got better and will vary from 15 - 40 miles.

The range will depend on your driving style and the weather conditions. This vehicle is designed to run from the combustion engine with the EV motor supporting where it can or driving in and around urban areas.

Do I need to charge the PHEV?

Yes, when your vehicle is delivered it will be supplied with charging cables to allow this to happen. If you have off street parking, then a home charge point which is supported by a government grant towards the cost of installation to minimise your outlay is probably the best route to charging your vehicle.

If this is not an option or you need to find a charge point on your route, you can find charge points on various web sites, an interesting one to use is www.zap-map.com this has lots of information about points available near you.

Businesses are now installing electric charge points. There are also sites around the UK that are open for businesses to use as meeting rooms or small offices. It is becoming more common for these to have charge points for you to use.

How can I fund my PHEV?

You have the option to use any funding model for these vehicles. There are two main funding models:

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- Operating Lease – Contract Hire - you do not own the vehicle and will need to hand it back at the end of the lease. Be careful not to get stung with end of lease recharges due to the state of the vehicle on its return.



- Finance Lease – Hire Purchase or Finance Lease – you will own the vehicle once the finance is repaid.

Can PVS support my EV journey?

Yes, PVS is here to help any business or employee to understand how you can put alternative fuel strategy into your fleet, we can support from: -

- Operational fleet policies
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PVS Group Acronym Cipher

As with most markets with high end technology, acronyms are common place. Here is the PVS acronym buster...

AFV -Alternative Fuel Vehicle is a vehicle that runs on a fuel other than "traditional" fossil fuels or has complementary fuel technology more commonly called 'Dual Fuel'.

BEV -Battery Electric Vehicle is a type of electric vehicle (EV) that uses energy stored in rechargeable battery packs for propulsion.

DFV -Dual-Fuel Vehicle is a vehicle that has two separate fuel systems that work at separate times, usually alternative fuel and conventional fossil fuel.

EV -Electric Vehicle is any vehicle that uses one or more electric motors or traction motors for propulsion.

H2V -Hydrogen Vehicle is a vehicle that uses hydrogen as its onboard fuel for propulsion.

HEV -Hybrid Electric Vehicle is a vehicle which combines a conventional internal combustion engine (ICE) with an electric propulsion system.

HDEV -Hybrid Diesel Electric Vehicle is a vehicle which combines a diesel internal combustion engine (ICE) with an electric propulsion system.

ICE -Internal Combustion Engine is an engine that converts the chemical energy liberated through combustion of fuel, into a mechanical energy that is used to propel the vehicle.

PEV -Plug-in Electric Vehicle is any vehicle that can be recharged from any external source of electricity, and the electricity is stored in the battery packs, to propel an Electric Vehicle.

PHEV -Plug-in Hybrid Electric Vehicle is any vehicle that combines an electric vehicle battery from any external source of electricity, and an internal combustion engine for propulsion.

ULEV -Ultra Low Electric Vehicle is the term used to describe any vehicle that uses low carbon technologies and emits less than 75g of CO₂/km from the tailpipe.

ZEV -Zero Emission Vehicle is a vehicle classification is based on a vehicle that produces no emissions from the on-board source of power