



EVERYTHING YOU WANTED TO KNOW ABOUT ELECTRIC VEHICLES BUT WERE AFRAID TO ASK

Chapter 3 – Navigating Electric Vehicle choices

Electric Vehicles (EVs) cover various types, from fully electric models to those that use batteries to enhance efficiency or performance. Explore this guide to find out more.

Vehicle Range-Extended M H E V Electric

Electric H E V Electric **Electric** Hydrogen R E - E V

Plug-in Hybrid B E V **Vehicle** Mild-Hybrid Electric

Vehicle Vehicle Hybrid Battery Vehicles

 F C E V Electric P H E V Electric



▲ Battery Electric Vehicle (BEV)

A BEV is probably the first thing that springs to mind when you think of an Electric Vehicle. Rather than a petrol or diesel engine, they feature an electric motor powered by batteries which can be recharged at home using a domestic socket or dedicated home charge point and, on the move, using the public charging network. They are zero emissions, so have no exhaust pipe.

Popular BEV models:



Tesla Y



Kia e-Nero



Vauxhall Corsa-e



Fiat 500e

Popular PHEV models:



DS 4 E-TENSE



Kia Sportage PHEV



Ford Escape PHEV



Citroën C5 Aircross

▲ Plug-in Hybrid Electric Vehicle (PHEV)

A PHEV uses batteries to power an electric motor, and either petrol or diesel fuel to power an engine.

The batteries can be charged in the same way as a BEV – by plugging in - although you shouldn't expect much more than 40 miles of electric range, depending on the vehicle.

Many people see PHEVs as a stepping-stone on the road to going pure electric and a PHEV will typically start in electric mode and run on electricity until the battery pack is depleted. You can also choose to save the electric range for urban use.

▲ Hybrid Electric Vehicle (HEV)

Hybrid Electric Vehicles (HEVs), often shortened to hybrids or referred to as 'self-charging hybrids' are powered by electricity and a petrol or diesel engine.

Unlike a PHEV, a HEV cannot be plugged into the mains as the engine is still the main power source. The battery is significantly smaller but still producing less CO2 than a petrol or diesel model, so there are still tax benefits associated with them.

Popular HEV models:



Nissan Juke



Dacia Jogger



New Peugeot 3008



Toyota Yaris



▲ Mild-Hybrid Electric Vehicles (MHEV)

Some manufacturers mistakenly refer to mild electric vehicles, also known as mild-hybrids, as hybrid vehicles. They aren't hybrids in the traditional sense though most owners will be unaware that they're driving a MHEV.

Despite having 'electric' in the name, these aren't really EVs. A mild-hybrid vehicle features a small battery pack with an integrated starter-generator which is designed to improve efficiency and to deliver a tiny boost in acceleration.

Fuel economy is improved and there's a small reduction in CO2 emissions.

Popular MHEV models:



Suzuki Swift



Ford Puma



Alfa Romeo Tonale



Audi Q7

Popular RE-EV models:



Mazda MX-30

▲ Range-Extended Electric Vehicle (RE-EV)

A range-extended electric vehicle, commonly known as a range extender, features a small petrol or diesel engine to produce electricity. This is used to recharge the batteries and extend the vehicle's range, enabling you to travel further once the batteries have run out. The big difference between a range-extended electric vehicle and a hybrid is that the petrol or diesel engine never drives the wheels – that's the job of the electric motor.

▲ Hydrogen Electric Vehicle (FCEV)

A fuel cell electric vehicle (FCEV) is powered by hydrogen. When you mix hydrogen with oxygen you create electricity, which can be used to power vehicles. They take no longer to refuel than a conventional vehicle and only emit water from the exhaust. On paper, a FCEV is the best alternative to a BEV. However, only a few manufacturers have invested in the technology, so choice is extremely limited and currently only includes

Popular FCEV models:



Toyota Mirai



Honda Clarity



Vauxhall Vivaro





Together, we will shape tomorrow's mobility.

Ready to explore deeper?

To continue your electric journey, download and explore the next chapters of our series **"Everything you ever wanted to know about Electric Vehicles but were afraid to ask"** and discover additional valuable insights and information about Electric Vehicles:

- ↓ [Chapter 1 - From pump to plug: what you need to know first](#)
- ↓ [Chapter 2 - Top 5 reasons to lease an Electric Vehicle](#)
- ↓ [Chapter 3 - Navigating Electric Vehicle choices](#)
- ↓ [Chapter 4 - From kW to range: Electric Vehicle glossary](#)
- ↓ [Chapter 5 - Charging made simple: options, speeds, and solutions](#)
- ↓ [Chapter 6 - Service & Maintenance](#)
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- ↓ [Chapter 8 - Myth-busting: the truth about Electric Vehicles](#)