

APPENDIX F

[Electric and hybrid cars | Ultimate beginner's guide | The AA](#)

Hybrid cars work by having both a battery-powered electric motor and a petrol or diesel internal combustion engine.

Most will be able to drive with zero-emissions (electric only), but how far depends on the size of the battery and whether you can plug-in to recharge. To get the best out of a hybrid, you'd ideally use electric for short journeys or when you're driving in urban areas. You'd rely on the combustion engine for longer journeys or if the battery's low on charge.

There are 4 main types:

- **Mild hybrid electric vehicle** – these are sometimes called electrified vehicles or battery assisted hybrid vehicles. They use an electric motor and battery to assist the combustion engine but have no zero-emission (electric only) capability.
- **Hybrid electric vehicles (HEVs)** – there are different types of HEVs – series and parallel. They're all capable of some zero-emission (electric only) driving, and many qualify as ultra low emission vehicles (ULEVs). You can't charge HEV batteries externally. Instead, they rely on electricity generated by braking, cruising and the petrol or diesel engine.
- **Plug-in hybrid electric vehicles (PHEVs)** – these have bigger batteries and can be plugged in to charge externally. PHEVs offer a longer, more practical zero-emissions (electric-only) range than HEVs. Depending on your lifestyle, you might find that you only use the combustion engine for occasional longer journeys.
- **Range-extended electric vehicles (REEVs)** – the wheels are driven directly by electric motors and the battery can be charged by plugging in. But REEVs also have a small combustion engine. It runs a generator that produces electricity, so you can drive longer journeys without having to plug-in. Like HEVs and PHEVs, REEVs can be driven in 'electric only' mode.

What's the range of a hybrid car?

PHEVs currently have an electric (zero-emissions) range of up to around 30 miles but this is expected to rise over the next few years. Remember that they also have a petrol or diesel engine too, so range is effectively unlimited – assuming you can find a fuel station.