What are hybrid cars and how do they work?

Hybrid cars, also known as hybrid-electric vehicles (HEVs), differ from other vehicles in that they use more than one means of propulsion: a petrol or diesel engine along with an electric motor.

In recent years, hybrid cars have become increasingly popular – mainly due to their environmentally friendly benefits and fuel efficiency. The combination of technologies in electric vehicles means that they consume less fuel, subsequently emitting less CO2 than a car with a conventional petrol or diesel engine.

At Motorfinity, we have exclusive offers on new hybrids and EVs for key workers, including NHS staff, police officers, the armed forces, teachers, carers and more.

How do hybrid cars work?
The core technology behind a hybrid car is the combination of an internal combustion engine (ICE) and an electric motor. The ICE is used to propel the car, while the electric motor provides an additional source of power and helps to improve fuel efficiency. The electric motor is powered by a battery, which is recharged through regenerative braking and ICE.

When the car is at a stop or moving slowly, it can operate solely on electric power with no emissions. This is known as "electric-only mode". When reaching higher speeds, the ICE kicks in to provide the additional power it requires. This is known as "hybrid mode", which allows the car to achieve better fuel efficiency than a traditional petrol-only car.

What are the different types of hybrid cars?
There are three main types of hybrid cars: mild hybrids, full hybrids, and plug-in hybrids.

Mild hybrid electric vehicles (MHEVs) have a small electric motor and battery that assist the internal combustion engine. The engine does most of the work, but the electric motor can kick in during cruising, coasting, or braking. It provides the initial energy to get you going, then the engine and motor work simultaneously to help you accelerate. Although an MHEV is a bit more fuel efficient than an all-petrol vehicle, it isn't as economical as the full hybrid electric vehicle.

Full hybrids possess the same electrical components as mild hybrids, but with larger and stronger electric motors and batteries. This means they take more of the work from the ICE and can operate on electric power alone for a short distance. Similarly, to mild hybrids, full hybrids cannot be charged from an external power source. Instead, they recharge from the engine and the power from the regenerative braking system.

Plug-in hybrid vehicles have larger batteries that can be charged via an electric outlet. Typically, they run on electric power until the battery is nearly depleted, then

the car automatically switches over to use the ICE to finish the journey. They can operate on electric power alone for longer distances than other hybrid models, ultimately making them the most fuel-efficient hybrid option with the greatest electric-only range.

Advantages of hybrid cars

The most obvious benefit of hybrid cars is their improved fuel efficiency. Because the electric motor provides additional power and support, the internal combustion engine doesn't need to work as hard, which subsequently reduces fuel consumption.

As previously mentioned, hybrid cars produce fewer emissions than traditionally fuelled cars, which is ultimately better for the environment and the country's efforts to meet emission targets.

Another advantage of hybrid vehicles is that they can operate on electric power alone at low speeds. This means that they can achieve zero emissions whilst driving in city traffic and car parks, which is particularly beneficial in areas with strict emissions regulations. Hybrid car owners may receive additional benefits, including a lower first year of road tax, cheaper company car tax and possibly avoiding congestion charges.

Hybrid cars are generally more reliable than conventionally engined cars. The electric motor and battery are simpler and less prone to failure than traditional mechanical parts, meaning hybrid cars typically require less maintenance and have a longer lifespan.

Disadvantages of hybrid cars

Hybrid cars tend to be more expensive than traditionally fuelled cars for several reasons. Hybrid cars feature advanced technology such as electric motors, batteries and power electronics. The battery is one of the most important and costly components of a hybrid car, significantly adding to the overall cost of the vehicle. Additionally, developing hybrid vehicles requires thorough technical research and specialised manufacturing processes and equipment, which can also contribute to the overall cost.

Although the prices of hybrid vehicles may seem daunting, Motorfinity offers exclusive car discounts to essential workers. If you're a key worker, you can enjoy deals on brand new hybrid and electric vehicles from various manufacturers at unbeatable prices. Browse our selection of new discounted hybrid and electric cars.

Want to learn more about our offers and hybrid vehicles for sale? Get in touch with the team at Motorfinity today.