

THE FUTURE IS ELECTRIC



BMW 3 Series Plug-In Hybrid

2018 may well go down in history as the beginning of the end for the internal combustion engine on our roads!

Difficult to believe?

Worries about air pollution (and Nottingham is high on the list of offenders), VW's "diesel-gate" scandal, and concerns over possible future government action have all contributed towards a move away from diesel power.

There are already more than 335,000 electric vehicles on Britain's roads. Whether powered completely by batteries, or utilising a hybrid or plug-in hybrid system, they now account for a surprising 5% of new vehicle sales.

2018 will see virtually every major car manufacturer either selling an electric vehicle (EV) or announcing future models.

Volvo Cars' president and chief executive, Hakan Samuelsson, has already announced that all new Volvo models from 2019 will enjoy some form of electric propulsion, either as hybrids that will retain a conventional petrol or diesel engine, or as purely electric models.

Depending on customer demand, when this generation of models reaches the end of its cycle in the mid-2020s, then the last ever Volvo car with a petrol or diesel motor could roll off the production lines, possibly coinciding with Volvo's centenary year of 2027.

Jaguar's chief executive also said recently "one thing is clear, the future is electric" as he announced that by 2020 the luxury car maker would produce only electric or hybrid cars!

Many makers such as BMW, Mercedes, Kia, VW, Nissan, Hyundai, Tesla and Renault are already selling EVs, and demand has been surprising even the electric transport enthusiasts. In the last couple of weeks, VW has temporarily stopped taking new orders for the their Golf GTE plug-in hybrid "due to an unprecedented number of orders" which had been producing waiting lists of up to 6 months!



All Electric Nissan Leaf

Currently potential buyers of EVs have three choices:

Fully electric cars which rely solely on a high capacity rechargeable battery for all their power. Potential purchasers often quote worries about running out of power as a reason for not buying (known as "range anxiety"). In fact an example of a mid range / mid price car such as the new 2018 Nissan Leaf quotes a range of 235 miles (probably 150+ in a British winter). Recharging from a home point will take about 8

hours, but if you're recharging from a high power public point, you could get an 80% top-up in as little as 40 minutes! Just long enough to visit the toilet and get a cup of coffee on the motorway.

Hybrid cars such as the well established Toyota Prius adds a small battery/motor combination to a petrol engine, and manages to reclaim most of the energy that is wasted in a conventional car when breaking or coasting down hills. This reclaimed energy is stored in the battery and used to power the car when starting or driving slowly. Overall this reduces the use of the petrol engine and improves the overall fuel economy. As the vehicle uses petrol for most of its energy, the range is limited only by the size of the fuel tank.

The third category is the Plug-in Hybrid. This is very similar to the standard hybrid but has a larger battery which is intended to be charged from a home or public charge point.

Typically, the car would start each journey with a battery range of around 20 miles, which at normal day electricity rate would cost about £1 (or 50p on night rates). If the journey exceeds the battery range a petrol engine silently kicks in to take over.

Just like a standard hybrid, even when running on the petrol engine, the battery will recover energy from breaking and downhill running, reducing overall petrol consumption.



Toyota Prius Hybrid

Whilst fully electric and plug-in hybrids can be charged from a standard 13A socket, a dedicated car charge point is a better option, and the government will help with the cost of installation. Currently with the government grant a domestic charging point costs around £280. There are even research schemes such as the one operated by Western Power along with Electric Nation, where you could get one installed free of charge.



VW GTE Plug-In Hybrid

Unless you're a dyed in the wool petrol-head who loves to hear the roar of the exhaust, it's difficult not to be swayed by the silent drive and the smooth and instant acceleration from the electric motor of an EV – something that many of us will be experiencing in the next few years.

More on electric vehicles next month.

Sparky