CAN THE UK COPE WITH AN ELECTRIC VEHICLE REVOLUTION?

Demand for electric vehicles is gaining momentum – but in order to replace petrol and diesel fueled vehicles, the nation's electric infrastructure needs to be supercharged.

At the end of 2019 there were close to 265,000 electric vehicle (EV) models on the UK's roads, following a strong 12-month period that saw more than 72,700 EVs sold. Despite this uptick in the EV fleet, sales remain in the slow lane when compared to that of the petrol and diesel-fueled vehicle population. If the Government's ultra-low emission target – 'The Road to Zero strategy' is to be met by 2030, a lot more of us are going to have to be convinced that EV is the right path to take…

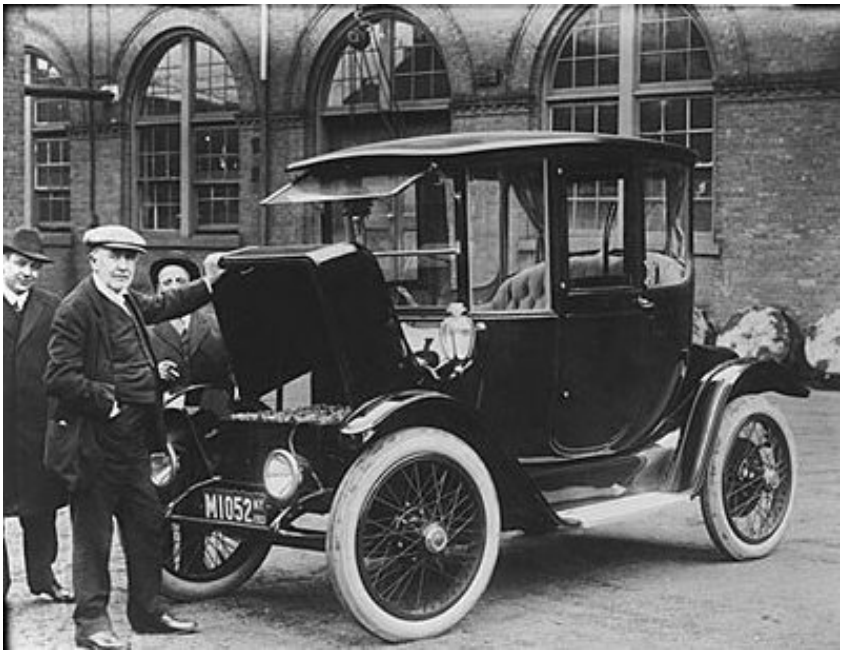

Photo: Edison and an electric car in 1914.

One of the main obstacles of purchase is not just the expense of buying an EV itself (they're not cheap) but also the lack of customer confidence in the technology. While they know EVs are better for the planet, companies haven't done enough to build faith in going solely electric. Instead there's an anxious hum around owning an EV that's much more than 'range anxiety'. It also covers other practicalities, such as where do I charge my car on a long journey? How long will it take to charge? How much additional time and miles will this add to my journey?

The cost of clean energy

While the number of charging points around the UK is growing, a report last year by London-based Capital Economics said that the UK will have to spend an eye watering £240 billion installing an average of 4,000 EV charging and heat pumps a day, if the government is to meet its target of cutting greenhouse gas emissions to 'net zero' by 2050. VINCI Energies, via its Actemium Coventry business unit, has been working within the EV charging infrastructure sector since 2011, and installed over 1,500 EV chargers across the UK. Actemium now specialises in advising and accompanying businesses to upgrade their fleets to electric vehicles, as well as implementing their required charging infrastructures to accommodate this transition.

Moreover, a far from trifling £48.5bn will be needed to upgrade electricity grids to cope with the extra demand. As it currently stands, even if a greater number of people did own EVs, it's possible the electricity grid wouldn't have enough energy in its system to charge them. VINCI Energies, via its Omexom business unit, works with transmission systems operators to upgrade the electricity network infrastructure so that it can cope with the surge in demand caused by the energy transition. This involves the refurbishment of existing lines; connection of new renewable energy onto the grid, as well as making the grid smarter so that it can efficiently and reliably store and distribute energy across the country.

According to Deloitte UK, the EV market is expected to reach tipping point in 2022, when the cost of ownership of battery operated vehicles (BOV) is on par with its internal combustion engine counterparts. This is also likely to be driven by the ban on selling new petrol, diesel or hybrid cars in the UK, which has recently been brought forward from 2040 to 2035, under the latest government plans, as well as access restrictions for these cars in major cities worldwide.

EVs need charging points: a chicken and egg dilemma

With the goal set, it is now up to manufacturers and the government to lead the general public along the electric superhighway to change. The automotive industry is investing heavily in this new technology, and a wave of new EV models are launching, with some of the world's biggest car manufacturers scrambling to lower carbon dioxide emissions of their products. Businesses have also an important role to play by investing in EV charging infrastructure and moving their fleet towards electric vehicles. Grants have also been offered to councils and businesses to install charging points in local communities and private car parks, hoping to preempt the forecasted rise of EVs. Moreover, the Government announced that employees with company cars that are purely electric or hybrid (able to travel 130 miles on a charge and emit less than 51 g/km) will pay no benefit-in-kind (BIK) tax in 2020/2021.

While we wait for the 'hockey stick' uptake that is expected when consumers become more comfortable with EVs and the infrastructure is in place to support them, municipalities can be the best adverts for EVs by providing

electric public transport. Cities such as Cardiff are already on board, and last September the Mayor of London, Sadiq Khan, announced that two of London's bus routes were to become exclusively electric. London currently has more than 200 electric buses, making it Europe's largest electric bus fleet, and this will grow significantly in 2020 as Transport for London (TfL) has awarded contracts to operators for a further 78 electric double-deck buses.

Actemium Coventry recently completed the installation of landside fast charging ABB pantograph systems in front of the Birmingham airport terminal to supply the new fleet of all-electric Volvo Buses – read more here

While there are undoubtedly social, economic and technical hurdles that need to be solved, there is a general consensus that EVs are the most sustainable transport solution of the future. Perhaps still only a small fraction of the total vehicle population, with a wider choice of products and the electric infrastructure to support them, EVs are nonetheless set to become the dominant form of transport in the decades to come.

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