

# Why do so few people buy electric cars?



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The government's enthusiasm for electric cars is well known. The whole EU has embarked on a huge top down reform of the motor industry, seeking to transform it from a range of vehicles based on modern low emission diesels and petrol vehicles to one based on new electric cars. So far in most countries including the UK customers have not been impressed by the electric cars on offer, so their market share languishes around 3-4% of the total market, with under 1% of the total stock electric. Meanwhile threats of more bans and taxes to come have put many people off buying a new conventional car at all.

There seem to be several worries that people have about electric vehicles. The first is range. Present electric cars have varied ranges from say 70 miles to perhaps 200. A modern diesel or petrol car has a reliable range of more than 400 miles or up to four times as much as the electric substitute. People are particularly worried about range on an electric car given the issues over the time it takes to charge them and access to charging points.

A petrol or diesel car does not induce range anxiety because there are so many filling stations available. You pass them on most journeys. It takes less than five minutes to fill and pay and regain full range again. In contrast it may take hours to recharge a battery car, with fast partial charges taking maybe 30 minutes once you have access to a fast charge point. If you want to do a 400 mile journey in an electric car it will take considerably longer than in a petrol or diesel which can get there on a single tank of fuel, given the need to stop off more than once to recharge the battery.

People also worry about battery life. There are manufacturers that will guarantee a battery for 60,000 miles or even for 100,000 miles, but doubts linger about the possibility that a large and expensive battery will require replacing well before the engine and vehicle are in need of replacement or major overhaul. A battery deteriorates, making it more difficult to recharge and undermining its power delivery and therefore range of the vehicle before the owner gives in and buys a new one or before the manufacturer agrees the battery needs replacement.

Some worry about the green impact of these machines. How will the state require people to dispose of or recycle the metals used in the manufacture of the battery? How much energy is used in the manufacture of the vehicle and its battery?

Some think governments will turn to taxing the electric car once more are bought, as they will miss the large revenue streams that come from VED and fuel tax on conventional vehicles. People are naturally distrustful of governments offering low tax and subsidy just to get people started.

It is true the electric car will stop all exhaust particulate emissions, which is good news. Increasingly however particulates come from tyre wear and brake pad use, not from exhaust emission given the big work done to clean up the back of a diesel. Electric cars will still generate tyre and brake particles.

How long will it be before there are electric cars that a majority of the car buying public want to buy? What will they look like and how will their specification be different from today?