The biggest challenge for hydrogen is infrastructure. Admittedly, electric cars will need extra charging points in car parks and on streets—and if they are to compete with petrol cars they'll need the equivalent of filling stations, too. This will require political strategy and investment and it is by no means a problem solved. But unlike hydrogen, electric cars won't need an entirely new infrastructure to carry the fuel.

Then there's the question of storing the elusive hydrogen atoms. After you have used electricity or heat to split hydrogen from molecules of water or natural gas, you have a very large volume of the lightest element on earth. Even when it's compressed, you still have to carry a huge tank of fuel that is low in energy density.

What's more, no tank will hold hydrogen for long. The atoms are so tiny that they gradually wriggle through the gaps in steel.

So, if the hydrogen economy is in a slump, can electric cars carry us to an oil-free motoring future? It's not a trivial question—especially in Britain where laws mandating cuts in emissions of carbon dioxide through to 2050 won't be met unless the vehicle fleet swiftly goes low-carbon.

The biggest obstacles at the moment are cost and what motor folk call "range anxiety"—will I run out of charge on the motorway? The Chinese manufacturer BYD (Build Your Dreams), backed by the US billionaire Warren Buffett, is among the frontrunners of those tackling both obstacles. Soon it will demonstrate in Europe one "affordable" model with a claimed range of 186 miles and a 40-minute charge time, along with a dual-fuel SUV said to do 37 miles on a battery to allow commuting and another 308 miles with the petrol engine on board for long journeys.

Another way forward is being pioneered by Renault-Nissan's Better Place project, which will allow flip-out batteries to be stored at filling stations and popped into cars for an "instant" charge, (although this creates a large capital cost for garage owners).

Roy Williamson from Britain's Low Carbon Vehicle Partnership envisages that plug-in dual-fuel cars are the most likely way forward—maybe with rotary petrol engines or even jet engines to re-charge the batteries on a long journey. Even so, the cost of battery cars is a real drag on the progress of this technology.

The Chinese city of Guilin, faced with severe air pollution that is eating away its fabulous limestone crags, announced that it would license scooters only if they were electric. The electric scooter market has boomed and prices have plunged.

It needs a similarly dramatic initiative on a much bigger scale for battery-powered cars to create a Great Electric Economy.

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Get your solar panels while the subsidies last

Current incentives may be too good to survive, says **Miles Brignall**

If an investment scheme offered to pay £1,100 tax-free each year for the next 25 years, in return for an upfront payment of £12,500, the promoters would have people queuing round the block.

Yet that's pretty much the deal that has been on offer since last April, when the then-government revealed the return it would pay to those prepared to install electricity-generating solar panels on their south-facing roofs. The introduction of the so-called feed-in tariffs followed a campaign by environmental groups to promote an easily installed source of renewable electricity.

If you missed it, the offer runs like this. Pay £12,500 to install a typical 2.5kW solar photovoltaic (PV) system to your home, and you will initially be paid 41.3p per kilowatt hour (kWh) generated, dropping to 37.8p in 2013—whether you use the power or not. This might not sound much, but it's

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