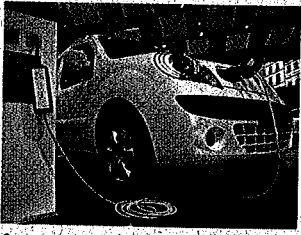


Highly charged motoring

Electric cars, though a welcome development, are neither as useful nor as green as their proponents claim



DESIGNED especially for city and suburban motoring, this handsome automobile is smooth, quiet and easy to drive, and being powered by electricity it can be charged up at home. Tempting? The sales pitch is not for one of the new electric cars

from General Motors, Nissan or Renault, but for a 1905 Victoria Phaeton from Studebaker of South Bend, Indiana.

Electric cars have come and gone over the years. Usually an oil crisis has given them a boost; this time it is a combination of oil prices, fears about energy security and climate change.

A decade ago the Toyota Prius took hybrid cars into the mainstream. Two years ago Elon Musk's Tesla all-electric sports car made them sexy. Now the big car firms are pushing all-electric cars for the mass market. At the Paris Motor Show this week they unveiled electric vehicles of all shapes and sizes. Some go on sale in the next few months.

This represents a huge leap forward for the industry, but the showroom patter will be misleading, for two reasons. First, although electric cars are nippy, stylish and as easy to drive as conventional vehicles, electric motoring has some distinct disadvantages. Second, they are not really as green as their promoters claim.

The idea of recharging an electric car at home for only a few dollars and never again having to visit a filling station is enticing. For most journeys, the limitations of battery capacity are irrelevant. As salesmen will be quick to point out, 99% of the time people do only short runs—the daily commute, trips to the shops and to pick up the children—all of which are well within the range of most electric cars.

But that final 1% of journeys presumably includes the summer holiday when people pile into the car and head off for the coast. Hopping on the train laden with suitcases and children may not be an attractive alternative. And even the relatively short ranges that salesmen advertise may be optimistic. On a cold, wet night when lots of electrical systems are running and the vehicle is laden with passengers and luggage, a car may lose around a third of its supposed range.

The joy of petrol

Carmakers are taking different approaches to these limitations. The Nissan Leaf or Renault Fluence are powered only by a battery. Once they have travelled 160km (100 miles) or so, the battery needs recharging, which can take some eight hours. By contrast, the Chevrolet Volt's battery has less than half that range, but it carries a petrol generator which gives the car another 480km. Micro cars with just two seats and ranges of only around 50km are also coming: they will charge quickly and ▶

▶ work well in crowded cities. But for a combination of cheapness and efficiency, a petrol-powered car is hard to beat.

And what of electric cars' environmental credentials? Electric cars are being hugely subsidised by taxpayers—£5,000 (\$7,940) in Britain and up to \$7,500 in America—on the ground that they are zero-emission vehicles. Makers of electric cars claim that this is an efficient way to reduce greenhouse-gas emissions. Road transport accounts for a tenth of such emissions worldwide; the sorts of biofuels currently in use are not much greener than petrol; and next-generation biofuels are proving slow to come to the market.

Although electric cars may not themselves produce greenhouse gases, generating the electricity they use does. How green they are depends on the fuel mix at the power plants in the country in which they are driven. An electric car in Britain today, for instance, produces around 20% less in CO₂ emissions than a car with a petrol engine. Even if the generating mix gets

greener, electric vehicles are so expensive to produce, that they will still be a relatively costly way of abating CO₂ emissions. Sceptics therefore doubt that the subsidy is a good use of public money. According to Richard Pike, chief executive of the Royal Society of Chemistry, replacing all of Britain's cars with subsidised electric cars would cost the taxpayer £150 billion and, with Britain's current fuel mix, cut CO₂ emissions from cars by about 2%. For the same money, Britain could replace its entire power-generation stock with solar cells and cut its emissions by a third.

The only efficient way to cut greenhouse-gas emissions is to impose a carbon tax. If electric cars are a good way of reducing emissions, a carbon tax will enable them to flourish. Taxes, of course, are not as popular as subsidies. But subsidies are almost always a waste of public resources. At this particular time, throwing more taxpayers' money at the car industry seems a daft thing to do. ■

Zimbabwe

Call Robert Mugabe's bluff

Lift the sanctions if Zimbabwe's venally clever leader agrees to have a properly monitored election



ONE of the most disheartening things about Zimbabwe is that its repellent leader, Robert Mugabe, though loathed by many—probably most—people in his own country, is widely

for Democratic Change (MDC), Mr Tsvangirai actually won a general election, against all odds, in March 2008. He also won the first round of a presidential contest and would have displaced Mr Mugabe but for a campaign of terror against the MDC that forced its candidate to withdraw. Western governments say they will lift the sanctions only if Mr Mugabe meets