

## Why are Electric cars not “The Answer”?

It's a slightly complex argument.

Electric vehicles of course work. We see them on television and on the golf course, around college campuses, in big airports. The power company, Meridian, had some on loan. They did not drive them in the winter, they have no on-board heating or de-misting.



Electric cars don't work like petrol cars. We don't see anyone manufacturing or driving around electric cars that have the same duty cycle or characteristics as petrol cars. Electric cars that resemble petrol cars are not and will never be available in the same quantity or in the same price range as petrol cars have been.

Why? Batteries: Since the 1980's the Electrochemical Society has had thousands of top scientists from around the world meeting every year to discuss advances in battery technology. NiMH, Li-ion, these are all some of those advances. They have made our hand-held devices much lighter and more reliable and re-chargeable. If Mitsubishi made 100,000 electric vehicles, enough for CHCH, it would require the entire global lithium supply. Nothing left for laptops, phones, cameras... The battery pack for an electric vehicle the size of a Smart Car costs about \$80,000NZ. That is after the technology has fully matured. 15 years ago it would have cost \$200,000NZ.

The golf cart version of an electric vehicle uses lead acid batteries and costs between \$5000-\$15,000 USD depending on the features. They go 30km/h, and about 50km, unless you go up hills.

The infrastructure of urban and rural areas built after 1970 in New Zealand was built for the performance and characteristics of petrol cars that are low enough cost that everyone has one.

So, the answer is not, that electric cars won't work. It is that they won't replace petrol cars.

Picture your city with no petrol cars, only electric trolleys, bikes, golf carts and good walking shoes. What is different about that place? Where are things located? How do people live? Where do they get their goods? It is the changes in infrastructure from the petrol car system to the electric golf cart/trolley/bike system that need to be the focus of investment of the second half of the oil endowment. The touting of electric cars is aimed at generating an illusion of substitution so that the road building and urban sprawl developments, petrol sales, car sales... that are making people so much money continue un-disturbed. Do you hear anyone (besides me) talking about re-developing our cities and infrastructure? Let's get as excited about that as people are getting about electric cars.

Susan Krumdieck, Nov 2009