

Hybrid cars more show than go!

Published in the Courier Mail on 6 Oct 2007

Hybrid cars, which have both petrol and electric motors can save fuel and reduce carbon dioxide emissions. This results from the use of an electric motor which acts as a generator and charges batteries while the car is slowing down. The petrol engine also shut down at times, such as when the car is stopped at traffic lights.

The new petrol saving cars from Honda and Toyota are also light weight, and have other features which help improve fuel efficiency. With test figures as low as 4.4 litres per 100 kilometres, the fuel savings compared to a similar size car is around 40%. However, the overall economics and savings on greenhouse gas emissions for hybrid cars is much less than this.

The first problem is that the hybrid car sold in Australia by Honda costs around \$6,000 extra, while the Toyota Prius costs around \$12,000 more than a comparable sedan. If you drive around 20,000 kilometres per year and save 3 litres per 100 km, it amounts to petrol savings of 600 litres, or a cost saving of around \$800 per year. It would take many years to recoup the extra cost of a hybrid car.

The fuel saving advantage for the hybrid car is mainly in city traffic and although they have good fuel consumption on the highway, a diesel car can be just as efficient and costs less to buy.

However, the main reason most people are buying hybrid cars is to reduce their output of greenhouse gases and help prevent global warming. A reduction of 600 litres of fuel is likely to amount to savings of 1.5 tonnes of carbon dioxide per year.

This sounds like a worthy reduction, but some of the carbon dioxide output is negated by the energy used to manufacture the car. The extra complexity of the hybrid car, particularly the manufacture of the batteries is likely to increase the output of greenhouse gases by 6 tonnes more than a conventional vehicle, which cancels out four years of savings. The recycling of the batteries in a hybrid car is likely to consume another year's worth of carbon dioxide savings.

The average life of a car in Australia is 18 years. The batteries in the hybrid cars are expected to last 8 to 10 years. It would be wasteful to dispose of the car at this time and new batteries, costing up to \$6,000, may be needed to extend the life of the hybrid car.

A comparison with other options shows the hybrid car is an expensive way to reduce carbon emissions. A reduction of 1.5 tonnes of carbon dioxide could be achieved by changing around 25 light bulbs from incandescent to energy saving bulbs. If each bulb saves 70 watts of electricity for 3.6 hours per day, the savings are 60 kg of carbon dioxide each year – and the total cost is less than \$200.

According to the Australian Greenhouse office, the average household emits around 14 tonnes of carbon dioxide, of which car emissions are around 4 tonnes. Significant reductions in household emissions are possible with energy saving practices and appliances, along with greater use of public transport and bicycles.

Electric cars or hybrid cars with a plug-in battery have minimal greenhouse gas savings unless the electricity comes from a green power source. These cars need larger batteries to store power from charging at night, which adds to the weight and cost of the car, while the carbon dioxide emitted by making larger batteries could negate a couple of years of emission savings.

A more useful option to reduce costs and greenhouse gas emissions is to power cars and trucks with natural gas. The carbon dioxide output from natural gas is 25% less than petrol, similar to the net savings from a hybrid car. Compressed natural gas is one third to half the cost of petrol in Queensland. As well as reducing greenhouse gas output, natural gas has much less exhaust emissions, which would result in cleaner air in big cities.

There are over 6 million vehicles using natural gas around the world, with the number growing rapidly each year. Australia is now exporting cheap gas to run vehicles in other countries, while we import expensive petrol. Oil is running out in Australia. We will soon be spending around \$5 billion each year on oil imports, while we have an abundance of cheap natural gas. Is that commonsense?