



**Electric Cars  
8 April 2009**

Mrs PENFOLD (Flinders) (16:59): The combination of using and building electric vehicles, along with the development of renewable energy, would position South Australia as a world leader in taking action on climate and pollution challenges that face our world today. South Australians working towards Adelaide becoming an electric vehicle city by 2020 would be inspirational to people, both here in Australia and overseas, and would give the state an unprecedented stimulus that we would all enjoy.

We are constantly bombarded with talk about climate change and global warming and the absolute necessity to reduce carbon emissions if the planet and the life on it are to survive. Scarcely a day goes by without a comment from someone that vehicles running on fossil fuel are a major contributor to potential disaster and that electric vehicles are a most desirable alternative.

The technology exists to power cars and light vehicles by electricity, and we have a number of prototypes of electric vehicles both here in Australia and overseas. Two of these vehicles—the beautiful Tesla Roadster (belonging to the Internode broadband provider) and the much more affordable iMiEV (Mitsubishi innovative electric vehicle)—were on display at the recent Clipsal 500 race.

Adelaide could become a world leader in combatting carbon emissions by the state government and the Adelaide city and suburban councils working towards Adelaide becoming an electric vehicle city by 2020; and I was delighted to see the Lord Mayor of Adelaide, Michael Harbison, so enthusiastic about electric cars, stating in The Advertiser that he 'will consider providing recharging stations for electric cars across the city'.

Our state could make it a priority to use and build electric vehicles of all kinds—cars, vans, bikes, trams and even trains. This would position South Australia as a world leader in the reduction of CO<sub>2</sub> and the repair of the environment. About three tonnes of CO<sub>2</sub> is produced for each tonne of petrol or diesel consumed. In South Australia passenger cars travel an average of 12,400 kilometres per year, with a fuel economy of 14 litres per 100 kilometres or 1,736 litres per vehicle.

There are about 800,000 passenger vehicles, resulting in the consumption of more than 1.1 million tonnes of fuels and producing about 3.3 million tonnes of CO<sub>2</sub>. Electric vehicles produce almost no CO<sub>2</sub> emissions and the iMiEV costs less than 50¢ for a seven hour charge.

We are at or nearing peak oil, with most oil reserves in the volatile Middle East or problematic regions such as Russia and its adjoining countries or Venezuela, and the cost of fuel already is significant for most households and business budgets.

The price of our fossil fuels could easily increase from the current \$1.20 approximately to \$2 or \$3 per litre in the future, if it is not offset by an increasing Australian dollar. We do not yet have an available alternative to fossil fuels in sufficient quantities to provide for vehicles, and planes and shipping should be given priority.

Many biofuels impact adversely on food production. It is pointless to push biofuels and create an even bigger problem in a world food shortage. Car companies around the world are developing rechargeable electric cars using mains

power, and much of our mains power in South Australia is now coming from renewable wind energy. As technology improves, solar power, hot rocks and wave power will become more important. Graphite blocks can hold energy as heat to remove the fluctuations that might be experienced with wind and solar power.

One of the few bright spots of this year's Detroit motor show was the almost universal enthusiasm for hybrid and electric vehicles. Just about every car maker had a hybrid or an electric car on display. The federal government has announced that it will double its green power innovation fund to \$1.3 billion over 10 years. The government has pledged that it will give car makers a dollar for every \$3 that they spend on developing vehicles with a reduced environmental impact.

John Dee, founder and chairman of Planet Ark, said that if the Australian car industry handles the opportunity correctly, they will be better placed to participate in the transition to a low carbon pollution economy that has more need for fuel efficient cars.

It is only a few months since the government's decision to pump prime the greening of the Australian car sector got underway, with its \$35 million investment in Toyota's new hybrid Camry sedan. The federal government's investment was matched dollar for dollar by the Victorian government to support the building of the new Camry in that state.

A report in The Cairns Post in January this year described how Armidale in New South Wales is developing its own electric car industry. A company called Energetique is building a hi-tech electric car based on a Mazda 2 five-door hatch called the evMe. This car will sell for around \$70,000 in comparison with Victorian-based company Electric Blade Vehicles (BEV). BEV is building an electric version of the Hyundai Getz, called the Electron, and it sells for \$39,000. The evMe has a range of 250 kilometres on one charge, with a top speed restricted to 130 km/h. A liquid-cooled hybrid synchronised motor developed in Switzerland replaces the Mazda 2's 1.5 litre engine.

The evMe takes only two hours to recharge and can be recharged overnight. Energetique's Chief Executive Officer, Phil Coop, said that the cars are expensive because they have the latest generation electric technology from Europe and Asia. However, like computers and televisions, this price will come down as the industry matures. BYD, a Chinese battery maker, has branched out into electric cars in recent years.

BYD claims that its lithium ferrous phosphate battery technology can provide a range of more than 400 kilometres with as little as three hours of charging. America's famous Warren Buffett invested in this technology. BYD says that its batteries cost roughly half as much as its rival lithium-based designs. This would be a big breakthrough as the high cost of batteries is a large component in the overall price of all electric vehicles. For a state which has so much invested in the car industry and which depends for its economic stability, employment and revenue on the car industry, South Australia is sadly lacking in innovation in electric cars. While electric car prototypes and initial vehicles now being produced are expensive, prices will drop when manufacturers can move into economies of scale.

Also, it must be remembered that the fuel bill for an 'all electric' is non-existent (or almost non-existent), and the cost of power for recharge would be nominal. Electric vehicles would also help to make the users and our state largely self-sufficient and therefore more immune from the loss of fossil fuel supplies coming from overseas and interstate. Currently, no refineries are located in South Australia. Other side benefits to making Adelaide an electric car city would be a reduction in noise pollution and a reduction in cancer-causing fumes, particularly on the health of those living close to arterial roads.

There are numerous electric cars beyond the testing phase and either in production or planning production for an innovative state to choose one that suits our circumstances and conditions and for an enterprising manufacturer to come on board. Electric cars have the advantage of being able to recharge at home. Public recharging points would be necessary to cater for high-rise tenants, travellers, and so on. Current service and parking stations could be approved for the installation of power points, and shopping centres could install plug-in power points similar to those in caravan parks.

These installations would be at the expense of the providers and would not entail a cost to the government. An alternative system of replacing flat batteries with those already fully charged has also been suggested but could be more expensive to set up. Software whiz and electric-car visionary Shai Agassi of Israel has suggested such a project, which is planned to be in place in Israel by 2011. An expansion of renewable energy production in South Australia would cover the increased power usage. More wind on the West Coast of Eyre Peninsula (one of the four

best wind farm sites in the world), with a DC undersea cable linking existing and new wind energy supplies directly into Adelaide from the Port Lincoln substation, could supply the state's green power needs, including the green energy needed to power the Port Stanvac desalination plant.

I urge the government to put taxpayers' funds into real, large scale energy infrastructure instead of the current wind and solar gimmicks sitting mostly on the top of government buildings, and to support the use and construction of electric vehicles with the goal of making Adelaide an electric vehicle city of world renown by 2020.