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RACQ submission to Prime Minister's Task Group on Energy Efficiency

The RACQ represents 1.2 million motoring members and seeks to maintain the viability of motor vehicle transport on their behalf. As such, the RACQ welcomes strategies to improve the energy efficiency, energy security and sustainability of the transport sector. Current arrangements are demonstrably not sufficient as fuel efficiency of new vehicles in Australia has improved only marginally over the last two decades.

The RACQ made comprehensive submissions addressing these issues to the *Australian Transport Council / Environment Protection and Heritage Council – Vehicle Fuel Efficiency Working Group* and the *Review of the Queensland Government Climate Change Strategy* in late 2008. These submissions, and an *Electric Vehicles Fact Sheet*, are available at: www.racq.com.au/motoring/advocacy_for_motorists

Electric Vehicles

This submission is brief and focuses on the introduction of electric vehicles (EVs) as a major opportunity in the transport sector to facilitate a step change in energy efficiency, energy security and greenhouse emissions. EVs facilitate the use of domestic-sourced renewable electricity rather than imported and refined oil products used for Internal Combustion Engine (ICE) vehicles. This change in energy source can reduce greenhouse emissions and improve energy security substantially.

Performance Indicators

The appropriate performance indicators for the transport sector are 'total' and 'per capita' transport emissions or energy use by fuel type. This captures all transport modes and fuels as well as indicating the impact of population growth. A meaningful measure of progress is average new car fuel efficiency compared with the existing fleet. In the near future, measures of the extent of electric vehicle market share, and potentially the proportion contracted to use renewable electricity only, could be an additional measure of progress.

Co-benefits

EVs do not directly emit any air pollutants or toxic air emissions. Local air quality is a major environmental issue in urban areas, so the substantial reduction in air emissions is a co-benefit associated with a large market share for EVs.

An increasing proportion of Australia's liquid fuel use is imported. The utilisation of domestic-sourced electricity for EVs would replace petrol and diesel, thus improving our energy security.



Regulatory barriers

Australian regulations and standards have not yet addressed the potential introduction of EVs. Motor vehicle design rules and other transport legislation needs to be reviewed and adapted in response to safety requirements and operating characteristics of high voltage electricity in vehicles.

The legislative environment around the electricity generation, transmission and distribution industries also needs to be reviewed to consider the best means to facilitate safe, efficient and flexible means of charging EVs. A legislative framework is required to address ownership of 'smart grid' connections and consumer protection, scheme costs and billing arrangements associated with more complex flows of electricity between the grid, house, other grid connections (e.g. workplace, shopping centre) and vehicle.

Behavioural/decision making barriers

EVs are a major technology change in the mature motor vehicle market. They have lower operating costs than ICE vehicles but are expected to have higher capital costs, particularly for the early-adopter phase. Government should introduce a form of purchase incentive to encourage faster market penetration of EVs. Higher import volumes would lead to a quicker reduction in price premium. A purchase incentive may even encourage an Australian manufacturer to build EVs locally.

Peak demand issues

Most motor vehicles are garaged overnight and able to be charged when the electricity transmission grid is underutilised. EV batteries store a substantial amount of energy, some of which can potentially be returned to a household in times of peak electricity demand. This smoother demand profile could reduce the need for additional electricity transmission infrastructure and increase its productivity.

Energy production efficiency

The EV battery storage capacity and availability profiles for charging could be a good match for intermittent wind power generation that may otherwise be wasted in low demand times, such as overnight. The introduction of EVs could therefore increase the adoption or penetration of wind renewable electricity.

Electric vehicles should be considered by this Task Group as a major step change opportunity for the transport sector.

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