

9 September 2020

## Emerging new bus technology - transition to new energy propulsion

I am going to make a call and predict that the widespread use of electric buses will take some time to achieve based on the core fact that we are still buying low emission diesel buses as our core 'transporter' today because the fact remains - they are so economic and emission efficient.

It is evident that state and territory governments are looking with increasing interest at electric bus fleets to operate their public transport and school services. Why wouldn't they? – all have signed up to net zero emissions by 2050 – all are close enough, or will be soon, dealing with an ageing bus fleet.

With a number of electric trials underway around Australia, we may start to see some solid commitment by governments to move to fully electric fleets. NSW took an early lead in October last year committing to transition 8,000 buses to fully electric to support their state goals of net zero emission by 2050. On 9 September 2020, the ACT Labor government, ahead of the territory election in October, launched their plan to achieve a zero-emission bus fleet by 2040. If ACT Labor win the upcoming election this will see, in their first term, the purchase of 90 electric buses, the build of a zero-emission bus depot and upgrade of the Woden depot with electric bus infrastructure. The Victorian government is currently committed to procure 50 hybrid electric buses to be delivered by 2022.

I am inclined to think that bus technology may be fully electric (in a 30 year time frame) based on a transition that takes into account the Australian circumstance when it comes to the existing (clean) diesel fleet and a range of other factors (such as increases in the price of diesel).

The decision to move to hybrid technology by the Victorian government in June last year, in some way reflects the realities of the Australian bus market place and the challenges of introducing a fully electric bus fleet in the context of a low emission Euro VI diesel bus that delivers significant reliability and whole of life benefits and surprisingly to some, emission benefits.

The take up of electric 'alternative propulsion' buses by states and territories requires a transitional approach taking into consideration a number of key issues.

1. The existing Australian bus fleet has an average age of 12 years or less in most states and territories with an expected full bus life of 20 to 25 years. A national maximum age of 25 years should be considered with a compulsory bus frame test at age 20 years.
2. Modern diesel is extremely competitive in a whole of life and emissions sense, especially when compared to the cost of new electric buses.

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## View from Canberra

3. Battery range, life and cost and meeting duty cycles remain massive challenges for buses and the delivery of services, and limits vehicle use flexibility.
4. Re-charging infrastructure and availability whether depot based or on-road and the possible impact on base load power when re-charging large numbers of vehicles at one time.
5. Lack of incentives to encourage procurement of electric vehicles and invest in electric charging infrastructure.
6. Road infrastructure impacts of increased bus gross vehicle mass as a result of batteries.

It is important that any transitional approach in the adoption of fully electric bus technology should take into account:

- the current historical investment in the diesel bus fleet and whole of life asset values
- existing government fleet replacement programs continue based on whole of life cost efficiency
- acceptance that clean diesel and self-charging hybrid electric/diesel buses continue to provide positive outcomes in terms of transport and energy security.

As electric bus technology is greatly affected by operating conditions and duty cycles, it is critical that all governments undertake local controlled and detailed testing to ensure that any such technology will provide the required outcomes.

It is important to note that the federal government is in a tricky position with the adoption by all states and territories of zero emissions. There is no doubt, the political party holding the Australian Government now or in 2050, will need to be looking closely at the part it will play. Many of you who know me and my style, will also know that I will be 'fully charged' at the national level to engage a sensible federal government support scheme that aims to incentivise by way of investment allowance, accelerated depreciation, up front capital differential payment and provides support for local manufacturing capability to manufacture hybrid and electric vehicles.

Keep safe and well. Keep informed at the Industry Hub: [ozebus.com.au/covid](http://ozebus.com.au/covid).

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