AUSTRALIAN ENERGY COUNCIL

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Zero emissions vehicles – Part of our transition to a net zero emissions economy

The Australian Energy Council (the '***AEC***') welcomes the opportunity to make a submission to the DELWP on its zero emissions vehicles strategy.

The AEC is the industry body representing 23 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia and sell gas and electricity to over 10 million homes and businesses.

Encouraging uptake of zero emissions vehicles

Governments have a role to play in supporting the uptake of zero emissions vehicles (ZEV) through incentives such as stamp duty and registration concessions, and the Government fleet targets. Whilst stationary energy emissions are best addressed nationally, there are likely to be significant benefits in state-based action in the land transport sector. This is because:

- Land transport infrastructure and regulation is almost entirely the responsibility of sub-national jurisdictions;
- Unlike stationary energy, Victorian transport emissions are on a consistently strong growth path and show no sign of peaking in a business-as-usual future;
- The transport sector is likely to be more responsive to direct state and local government actions, through its existing regulatory role, such as vehicle registration and parking controls. These roles are likely to be more effective in encouraging improved consumer choices than the Commonwealth's more indirect role in fuel excise and vehicle standards. Furthermore, local actions are unlikely to have the distortionary effects in the transport sector that a state-based action might have on the National Electricity Market;

Government actions in the land transport sector to reduce liquid fuel consumption are frequently shown to have negative costs to users, by overcoming informational and other barriers[1].

Financial incentives will remain a crucial driver to reduce cost differentials in most ZEV markets.[2] The ACT continued to outperform other jurisdictions in EV purchasing correlated to the largest stamp duty and registration discount nationally.[3] Revenue impacts from concessions requires consideration, though cost

[1] *Pathways to a Low Carbon Economy, Version 2 of the Greenhouse Gas Abatement Curve*, https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/sustainability/cost%20curve%20pdfs/pathways_lowcarbon_economy_version2.ashx Exhibit 8.6.4

[2] *Funding the transition to zero emissions vehicles*, International Council on Clean Transportation (ICCT), https://theicct.org/publications/funding-ZEV-transition

[3] *The state of electric vehicles in Australia*, Electric Vehicle Council and ClimateWorks, June 2018

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between EVs and internal combustion engine vehicles (ICEVs) is expected to reach parity by as early as 2024.[4] Government fleets can stimulate ZEV uptake by new fleet purchases of ZEVs. This both normalizes ZEVs and creates a second-hand market for depreciated EVs that would provide an additional avenue for private ownership. The question of targets has been the subject of parliamentary review in 2018.

International experience demonstrates a strong correlation between public charging infrastructure and the uptake of EVs.[5] The availability of fast charging has the most influence on EV adoption. Fast charging has a greater impact on both electricity supply and distribution. Policies that encourage EV owners to charge vehicles outside peak demand periods, and to encourage EV charging providers to optimize grid utilization, would be supported by the AEC. The Australian Renewable Energy Agency (ARENA) through its Distributed Energy Implementation Program (DEIP) has the EV Grid Integration Working Group that is examining these issues. The EV Grid Integration Working Group has six work streams that includes two examining residential tariffs and incentives and also high capacity tariffs and incentives. We encourage the Victorian Government not to establish structures through its ZEV program that will duplicate or dilute the industry resources available to the DEIP.

We believe that during the early stages of the EV market in Australia, fast charging infrastructure is likely to present a challenging business model for private sector investment, as EV ownership is low. Grant programs can ensure both sufficient and efficient investment in fast charging infrastructure and the Governments agreement with Chargefox is a good example of what can be achieved[6]. However studies have shown that public charging stations at less than 60km interval[7] are required to for drivers to both complete journeys beyond the range of their vehicle, and feel secure travelling longer distances and further from their usual charging location.

Changes to the generation fleet

With respect to vehicle electrification, fears that it will shift liquid fuel emissions into electricity emissions[8], is not well founded. This is because:

- Electric vehicles are considerably more energy-efficient in an urban setting than conventional vehicles and therefore less emissive even if supplied with fossil-fuelled electricity; [9]

- Victorian electricity generation emissions intensity has already fallen considerably from its historical level, and this improvement will continue under any scenario;[10]

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[4] *Electric car price tag shrinks along with the battery cost*, Bloomberg, April 2019
https://www.bloomberg.com/opinion/articles/2019-04-12/electric-vehicle-battery-shrinks-and-so-does-the-total-cost
[5] *Roll-out of public EV charging infrastructure in the EU*, Transport and Environment, September 2018
https://www.euractiv.com/wp-content/uploads/sites/2/2018/09/Charging-Infrastructure-Report_September-2018_FINAL.pdf
[6] *Victoria charging ahead with electric vehicles*, Department of the Premier, press release, 25 October 2018
https://www.premier.vic.gov.au/victoria-charging-ahead-with-electric-vehicles/
[7] The Transport and Environment study identified that there are around 2,550 rapid charging sites installed on European main roads with a total of about 5,000 chargers. This is equivalent, in average, to one site with two chargers placed every 60 km in average on EU motorways for every direction on the highway. https://www.euractiv.com/wp-content/uploads/sites/2/2018/09/Charging-Infrastructure-Report_September-2018_FINAL.pdf
[8] *Electric vehicles have higher carbon emissions*, The Australian,
https://www.theaustralian.com.au/subscribe/news/1/?sourceCode=TAWEB_WRE170_a&dest=https%3A%2F%2Fwww.theaustralian.com.au%2Fnation%2Fpolitics%2Felectric-vehicles-have-higher-carbon-emissions%2Fnews-story%2F1d64815feb92b2d5a81324971fa96547&memtype=anonymous&mode=premium
[9] *Clean Green Machines, the truth about electric vehicle emissions*, The Conversation,
https://theconversation.com/clean-green-machines-the-truth-about-electric-vehicle-emissions-122619
[10] Ibid

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- New demand from electric vehicles will be met by marginal electricity generation over time. Coal plants are presently being retired at their ends of life and not being replaced. It can therefore be reasonably assumed that all additional marginal demand will be met by new renewable and low-emissions gas-fired generation.

Any questions about our submission should be addressed to David Markham by email to david.markham@energycouncil.com.au or by telephone on (03) 9205 3107.

Yours sincerely,

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