Submission to the Australian Government Department of Climate Change, Energy, the Environment and Water in response to the: National Electric Vehicle Strategy consultation paper

Patrick O'Callaghan
The Australian Institute for Business and Economics

We structure the present submission by responding directly to the questions posed in the (consultation) paper. The first three questions are:

1. *Do you agree with the objectives and do you think they will achieve our proposed goals? Are there other objectives we should consider?*

2. *What are the implications if other countries accelerate EV uptake faster than Australia?*

3. *What are suitable indicators to measure if we are on track to achieve our goals and objectives?*

Basic economic principles tell us that the host of policies that we choose to implement in Australia should result in market participants internalising the social cost of their actions in relation to climate change. In this setting, one difficulty that arises is that, individually, our actions are insignificant, even though collectively we change the climate. This difficulty is nowhere more evident than in the case of global vehicle emissions. Even at the Australian level, since 1.1% (2019 data) of global vehicle sales are in Australia, our actions will not have a major impact on climate change. Our policies are instead guided by the principle that we wish to be active participants in the global transition to net zero, not only because it is the right thing to do, but also because our economy may stand to benefit in a variety of ways many of which are listed in section 1.2 of the paper.

The potential benefits of the transition that are most closely related to the EVs are the following: health benefits of lower emissions; increased supply of suitable minerals for batteries; a new manufacturing base for batteries and other vehicle components that vertically integrates the EV supply chain.

Example. *An example of successful vertical integration and our capacity to supply, not only raw but,* refined materials *for batteries can be found in*

Gladstone, Queensland. In 2020, Alpha HPA commenced a project to produce high purity alumina (aluminium oxide) for batteries. The new process uses standard alumina that has been refined in Gladstone, Central Queensland since the 1960s when deposits of bauxite (the raw material for alumina) were discovered in Weipa, Far North Queensland. Moreover, this alumina uses Bauxite that is mined in Weipa, North Queensland.

A second, no less important, basic economic principle is that, in transforming our economy, we should strive to do so in the most economically efficient way. The economically efficient way to achieve global net-zero emissions by 2050 is via a uniform carbon price (UCP).[1] A UCP would provide an essential signal to guide economic agents to act in the collective interest. It would also reduce the need for sector and region-specific subsidies, taxes and regulations that distort agent behaviour and raise the cost of transition. In the absence of deeper international coordination, a global UCP is unattainable in the near future. Nonetheless, the over-arching goal of Australian government policy should still be to coordinate across divisions, be they departmental, sectoral or regional, and strive to implement policies that are congruent with a *national UCP*.

In relation to Q1: In a nutshell: the main goal/objective should be to ensure EV-related policies put us on a path towards a national UCP.

In relation to Q2: Battery technology is unlike other green technologies (such as solar panels and wind turbines) in that

- will evolve substantially over the coming decades if it is to support not only EVs, but also houses, industry and the grid itself.
- Australia has an existing comparative advantage in both the raw (and the refined) materials for batteries.

This presents a significant opportunity, and although Australia would not be a first-mover, innovation that leads to vertical integration in the future has the potential to, not only generate new jobs, but also secure existing jobs in the same supply chain (as highlighted in the alumina example above.

[1] `https://www.nature.com/articles/526315a`
`https://www.frbsf.org/economic-research/wp-content/uploads/sites/4/gollier_reguant_climate_chapter.pdf`

Below, we discuss further the pricing difficulties that may arise in the absence of international coordination on policies that rapidly increase demand for EVs.

In relation to Q3: a national UCP would provide the most appropriate normative benchmark relative to which we should seek to measure and judge our policies. Identifying suitable indicators to benchmark current and future policies to a national UCP would be easier once an estimate of the optimal national UCP is established. Agreement on an optimal national UCP based on research is a necessary first step.

Against this backdrop, we now address the three proposed objectives on page 6 (and associated questions 4 to 20 in sections 3.1, 3.2 and 3.3) of the consultation paper.

Demand objective: encourage rapid increase in demand for EVs. This objective will face the obstacle of increasing EV prices in the short term.

If policies are to encourage a rapid increase demand, then they also need to encourage an equally rapid increase in supply. Otherwise, this objective carries the risk of increasing prices of EVs relative to ICEs: precisely the price signal we wish to avoid sending to future buyers. Since only a little over one percent of vehicles produced globally are sold to Australia, a rapid increase in Australian demand alone is unlikely to have a significant impact on manufacturers' prices of EVs.[2] Of course, we are not alone in seeking rapid increases in demand, so, in the absence of international coordination, such policies will collectively lead to large price increases and outsized profits for manufacturers. Over time at the global level, this will encourage new and existing manufacturers of EVs to expand production. The increase in supply should finally lead to a fall in prices and allow us to achieve the goal of increasing demand. What is not clear is whether this global process would be rapid.

In light of this, a more direct approach would be to encourage new and existing manufacturers to increase their rate of production and innovation. Since Australia is unlikely to play a major role in the manufacturing and

[2]In contrast, if Australian dealers are free to set local prices, then local prices are likely to be sensitive to any rapid increases in demand.

Supply objective: increase supply of affordable and accessible EVs to meet demand across all segments. We broadly agree with this objective. We recommend that this is achieved by

(a) opening up the market to independent importers of new and used cars: this would encourage new market entrants and competition to benefit of lower EV prices.

(b) bringing Australian fuel efficiency standards into line with other major markets so as to avoid distortions.

The main potential adverse effect of such a policy is the following. If car prices (ICE and EV) fall relative to energy-efficient modes of collective transport, then this might lead to an increase in car usage and an inefficient increase in energy. The resulting upward pressure on electricity prices might then slow the process of electrification more broadly.

Infrastructure objective: Establish the systems and infrastructure to enable the rapid uptake of EVs. In the absence of a coordinated international approach, the most effective way to increase demand is to subsidise purchases of EVs. Such subsidies carry additional benefits in markets with domestic production (Zheng et al). This is because the subsidy surplus flows, not only to the consumer, but also to the manufacturer. In the case of EVs, much of the surplus will be passed on to foreign manufacturers.

Furthermore, coordination is needed to ensure that there are no major knock-on effects outside the sector. We will discuss further the conditions under which it is possible to achieve an increase in Australian demand without significant increases to EV prices below.

Objective: *In achieving the objectives of the Strategy, we will address barriers to EV uptake such as:*

Barrier to uptake: Limited availability of affordable EV models across all vehicle types

Range anxiety due to gaps in EV charging networks and hydrogen refuelling infrastructure Information for consumers.

4. Are there other measures by governments and industry that could increase affordability and accessibility of EVs to help drive demand?

5. Over what timeframe should we be incentivising low emission vehicles as we transition to zero emission vehicles?

6. What information could help increase demand and is Government or industry best placed to inform Australians about EVs?

We are seeking views on how vehicle fuel efficiency standards could be implemented in Australia. If these standards are implemented, they will need to be designed specifically for Australia. However, evidence also suggests that standards that lack ambition will continue to leave Australia at the back of the queue for cheaper, cleaner new vehicles. Feedback is sought on options for a robust model. We will draw from the experience in other markets and consider Australia's unique circumstances.

Vehicle fuel efficiency standards need to be:

Effective in reducing transport emissions

Equitable so all Australians can access the vehicles they need for work and leisure

Transparent and well explained to avoid unintended consequences

Credible and robust by drawing on expert analysis and experience

Enable vehicles with the best emissions and safety technology to be available to Australians. Initially, we are seeking views on:

7. Are vehicle fuel efficiency standards an effective mechanism to reduce passenger and light commercial fleet emissions?

8. Would vehicle fuel efficiency standards incentivise global manufacturers to send EVs and lower emission vehicles to Australia?

9. In addition to vehicle fuel efficiency standards for passenger and light commercial vehicles, would vehicle fuel efficiency standards be an appropriate mechanism to increase the supply of heavy vehicle classes to Australia?

10. What design features should the Government consider in more detail for vehicle fuel efficiency standards, including level of ambition, who they should apply to, commencement date, penalties and enforcement?

11. What policies and/or industry actions could complement vehicle fuel efficiency standards to help increase supply of EVs to Australia and electrify the Australian fleet?

12. Do we need different measures to ensure all segments of the road transport sector are able to reduce emissions and, if so, what government and industry measures might well support the uptake of electric bikes, micro-mobility and motorbikes?

13. How could we best increase the number of affordable second hand EVs?

14. Should the Government consider ways to increase the supply of second hand EVs independently imported to the Australian market? Could the safety and consumer risks of this approach be mitigated?

15. What actions can governments and industry take to strengthen our competitiveness and innovate across the full lifecycle of the EV value chain?

16. How can we expand our existing domestic heavy vehicle manufacturing and assembly capability?

17. Is it viable to extend Australian domestic manufacturing and assembly capability to other vehicle classes?

18. Are there other proposals that could help drive demand for EVs and provide a revenue source to help fund road infrastructure?

19. What more needs to be done nationally to ensure we deliver a nationally comprehensive framework for EVs?

20. How can we best make sure all Australians get access to the opportunities and benefits from the transition?