



Super opportunity to embrace fuels of the future

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Readers of my vintage may recall pulling into a petrol station and being asked by the fresh-faced teen at his after school job, “Super or Unleaded?” For those of us driving vehicles sold in Australia before 1986, at some point the realisation would come that one day we wouldn’t be asked this question and that our vehicles would become obsolete.

Whether the demise of the full-service petrol station was before or after leaded, or ‘Super’, petrol was phased out, I can’t recall however, as a society we adapted to both of these significant changes to our motoring landscape.

Nearly 20 years since the last drop of leaded petrol was pumped into someone’s Kingswood we are facing another change regarding what we pump or plug into our vehicles. We are seeing the beginning of the end of a reliance on fossil fuels for transportation. In recognition of the coming revolution, the Federal Government has released its *Future Fuels Discussion Paper* to explore opportunities to reduce emissions and increase the productivity of Australia’s vehicle fleet.

Electric vehicles are becoming more conspicuous on our roads. Although these are still largely the domain of early adopters who are in a position to spend a bit extra on their vehicle, the Federal Government are investigating how to facilitate the development and deployment of other low emissions technologies such as hydrogen fuel cell electric vehicles (FCEVs).

While a handful of FCEVs do exist in Australia, they have not yet been embraced in the same way as their battery powered counterparts. This is for a number of reasons. The immediate barrier is that FCEVs need refuelling infrastructure which does not exist in Australia outside of a few demonstration projects. This can be resolved with government investment in infrastructure.

Read more: [Toyota unveils new hydrogen facility in Victoria that will pave the way for uptake of Mirai’s](#)

A further matter to be addressed is community understanding and acceptance of hydrogen as an energy carrier. Trendsetting motorists may currently gravitate towards the Tesla, Leaf or i3, but there is no question that there is a place on Australian roads for FCEVs for domestic and commercial applications. We need to engage the public on the possibilities.

In its discussion paper, the Federal Government is seeking stakeholder input on how best to facilitate the integration of battery and fuel cell electric vehicles into our transport mix, and as I explain below, its broad approach seems like a reasonable start.

Locating electric vehicle charging and hydrogen refuelling infrastructure where it is needed.

In May 2018, the Tesla Owners Club of Australia completed its goal of having charging infrastructure at least every 100km around Australia and through the red centre. While this obviously symbolic mission does not ensure that all owners have convenient access to charging infrastructure (outside their own 240v AC connection) it demonstrates that once demand is stimulated supply will follow. Now FCEVs face the same chicken and egg scenario.

The *Future Fuels Discussion Paper* is looking at ways to coordinate private and public investment to enable the efficient rollout of charging and refuelling infrastructure. Given the suitability of FCEVs for heavy transport applications, it seems as though an early focus on routes between major population centres may be an appropriate first step, complemented by infrastructure to service back to base operations for fleet applications. Once the tyranny of distance is overcome in this manner, the challenge of convenience can be addressed. The Future Fuels Fund has a focus on investing in charging and refuelling infrastructure in 'blackspots' in anticipation of the network growing as private investment becomes commercially viable.

Early focus on commercial fleets

In its paper, the Australian Government proposes to focus on encouraging commercial fleet owners to adopt new technologies. This seems reasonable as refuelling infrastructure can then be located where there is a ready made demand in the form of a significant number of vehicles. This approach will also assist corporate entities to achieve any decarbonisation goals they have announced.

One of the main barriers to this approach; however, is the potential stranded asset risk that owners and operators will face at the end of the fleet life cycle. An active market for pre-owned internal combustion engine fleet vehicles already exists, and while the government's focus on fleets to create the supply side of similar market for FCEVs, the demand side must exist in order to convince fleet owners that they will not be stuck with a museum piece at the end of their asset's service.

A relatively accessible network of refuelling infrastructure is likely to address this issue by ensuring that FCEVs are a realistic choice for everyday motorists however this issue of secondary markets for potential early adopters of FCEVs is an issue that warrants further attention.

Improving information for motorists and fleets

Like the transition away from leaded petrol, the move towards future fuels will likely have consumers unsure of what the change means for them. Prospective vehicle purchasers who are more or less conversant in fuel economy on a km/L basis or engine size based on the number of cylinders will require a new language to navigate the car market of the near future.

Myths and misconceptions must be addressed, and an easily understood basis for comparing vehicle performance and efficiency will need to be developed. Ensuring that motorists have the information they need will help them to make the right choices and will drive the uptake of battery electric vehicles and FCEVs.

Battery electric vehicles have established a firm foothold in Australia and around the world, and FCEVs can provide another means to achieve decarbonisation in our transport sector. With appropriate policy, planning and support from governments, battery vehicles and FCEVs can co-exist to provide consumers with greater choice and businesses with increased flexibility and efficiency.

If the right incentives are created, and the needs of consumers considered, Australians will embrace new transport technologies rather than fear the change. And in the future, while some people's fond reminiscences about internal combustion engines may conjure images of the smiling petrol station attendant, many will think back to their neighbour's V8 revving at 6.00am and be thankful that we made the transition.

The Department of Industry, Science, Energy and Resources is inviting stakeholders to comment on its Future Fuels Discussion Paper until 2nd April.

About the author

Joe Kremzer is the Australian Hydrogen Council's (AHC) General Manager Policy.

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