

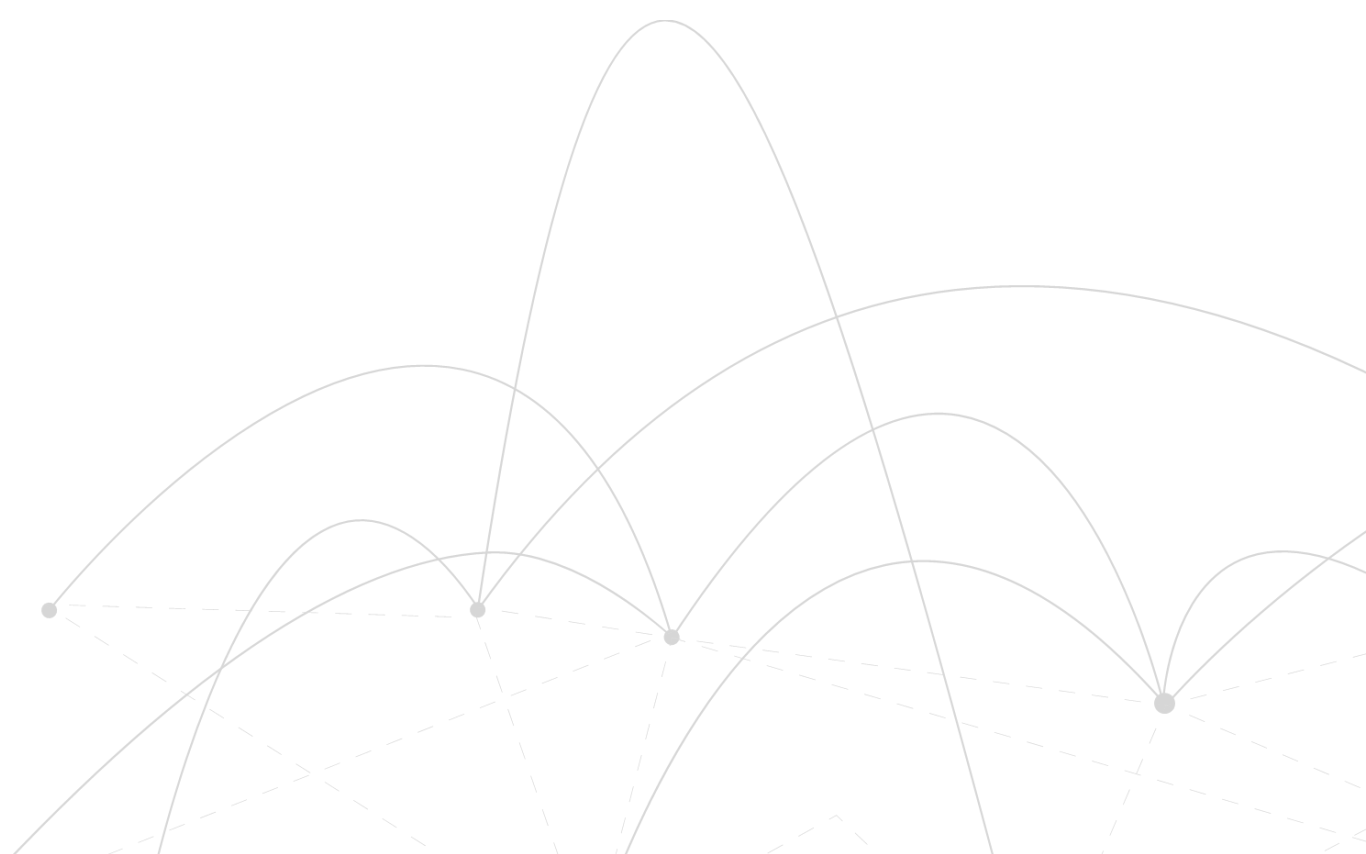
Future of Fuels Strategy Discussion Paper

Friday 2 April 2021



Contents

Introduction	3
Demonstration of concept.....	4
Financing alternatively powered heavy vehicles	4
Fuelling electric vehicles	5
Standards	9
Consistent taxation mechanisms for road access.....	9
Conclusion.....	10
Appendix 1 - Summary of Recommendations	11



Introduction

The Australian Logistics Council (**ALC**) welcomes the opportunity to make a submission on the *Future Fuels Strategy* discussion paper (**the discussion paper**).

It is important as it is the first paper published at this level that addresses the uptake of fuel cell and battery powered electric vehicles by the freight and logistics industry participants who deliver the Australian freight task.

ALC is the peak national body representing major companies participating in the freight logistics industry. ALC's policy focus is on delivering enhanced supply chain efficiency and safety.

Freight affects every Australian, every day, everywhere. Common goods purchased by Australians such as food, clothing, household appliances and medicine all need to be transported by freight operators.

Similarly, the freight supply chain provides the materials to build and operate critical community infrastructure – roads, hospitals and schools – which are fundamental to our society.

An inefficient and unproductive national supply chain can ultimately result in lost export income, reduced employment, higher consumer prices and Australia becoming less competitive in the global market.

ALC is committed to encouraging Australia's freight and supply chain to support the adoption of alternatively powered vehicles where appropriate to do so. It is important that policy makers remain technology-agnostic, to enable the market to develop and commercialise the most efficient zero and low emissions technologies.

As the CSIRO indicated in its [*National Hydrogen Roadmap*](#):

In the passenger vehicle market, fuel cell electric vehicles (FCEV) represent a potentially more favourable option (compared with battery electric vehicles (BEVs)) for consumers that travel longer distances (i.e. 400-600km without refuelling) and expect shorter refuelling times. For heavier vehicles such as buses and trucks with stringent payloads, the relative weight of hydrogen (compared with batteries) also allows for greater distances travelled without the need for refuelling. The primary barriers to market however are the current capital cost of FCEVs and lack of infrastructure supporting their use.¹

The issues identified by the CSIRO are now discussed.

¹ <https://www.csiro.au/en/work-with-us/services/consultancy-strategic-advice-services/csiro-futures/futures-reports/hydrogen-roadmap> :60

Demonstration of concept

As the [Aurecon Group](#) has observed:

Implementation of pilot projects

A critical step in the implementation of this technology will be the trials, demonstrations and pilots that can bring the hydrogen for transport vision to life.

Aurecon's study identified that the four preferred modes of transport for hydrogen pilots would be: fleet vehicles, buses, trucks and materials handling. These transport modes offer the best opportunity to provide the transport sector with insights into [transforming the energy market](#) with hydrogen for transport and, more broadly, a hydrogen economy.²

ALC members advise that Australia is behind that of the West Coast of the USA in encouraging the development of trials, such as those being undertaken at the [Port of Oakland](#).³

A number of trial opportunities are identified on page 51 of the [Hydrogen for Transport Report](#)⁴ prepared for the COAG Energy Ministers' Council of both fuel cell and battery electric vehicles.

The Government should continue identifying opportunities to demonstrate the benefits of using electric vehicles in delivering the Australian freight task.

Financing alternatively powered heavy vehicles

The Federal Government has ruled out direct financial subsidies of zero-emission vehicle technologies. The reality remains, however, that the cost differential to conventional internal combustion engine (ICE) vehicles is a considerable impediment to early adoption by commercial freight operators.

One way of creating an incentive to purchase electric vehicles (over and above the provision of grants or subsidies) could be the provision of a loan facility.

The [National Housing Infrastructure Facility](#)⁵ has been established to provide (in particular) equity finance to help support critical housing-enabling infrastructure

² <https://www.aurecongroup.com/projects/transport/hydrogen-for-transport-report-australia>

³ <https://www.portofoakland.com/press-releases/port-oakland-freight-hauler-testing-two-electric-big-rigs/>

⁴ <https://energyministers.gov.au/sites/prod.energycouncil/files/publications/documents/nhs-hydrogen-for-transport-report-2019.pdf>

⁵ <https://www.nhfc.gov.au/media/1086/final-nhif-guidelines.pdf>

products that may not have proceeded or would only have proceeded at a much later date.

This is also an approach [the ACT Government is considering](#) to encourage the uptake of consumer electric vehicles⁶ and would appear to be an appropriate policy lever if there is a wish to increase the use electric vehicles in the freight and logistics sector so Australia can meet international emission obligations.

The Government should consider the establishment of a finance facility to encourage early uptake of electric vehicles in the Australian freight and logistics sector.

Fuelling electric vehicles

The discussion paper frames the issue well where it says on pages 10 and 11:

Commercial vehicles, including trucks and buses, will have varying infrastructure needs depending on the technology adopted. As new models enter the Australian market, light commercial vehicles such as vans and utilities could use passenger electric vehicle charging infrastructure. However drivers may be concerned about certainty of access. Buses, rigid trucks and long haul trucks will need dedicated public charging infrastructure, due to their larger batteries. Charging stations will need to set up along major transport routes and regional centres to leverage existing network capacity and support greater range.

ALC confirms the need to ensure the availability of charging/refuelling stations for both battery and hydrogen fuel cell powered electric vehicles.

This is particularly the case with fuel cell vehicles, noting that the first publicly available hydrogen refuelling station opened as recently as [26 March 2021](#).⁷

However, the placement of refuelling stations must be strategic.

For example, ALC members report that ports are not places to locate a refuelling location because of the amount of movement at these locations and so the placement of refuelling infrastructure at a port as suggested on page 10 of the discussion paper may not be the most appropriate.

Instead, ALC members suggest the more strategic proposal would be to incentivise 'back to base' refuelling so there is a capacity to refuel or recharge at or very near the places where vehicles are based. This infrastructure will be fundamental for

⁶ <https://www.abc.net.au/news/2021-01-21/act-electric-vehicles-free-rego-solar-panel-loans-in-budget/13077258>

⁷ https://www.cmtedd.act.gov.au/open_government/inform/act_government_media_releases/rattenbury/2021/australias-first-public-hydrogen-refuelling-station-opens-in-canberra?utm_source=miragenews&utm_medium=miragenews&utm_campaign=news

fledgling early fleets, which will heavily rely on back to base refuelling given the lack of public refuelling or recharging facilities. Privately run and operated back to base infrastructure should be eligible for government grants under the Future Fuels Package.

This would include incorporating large scale solar panels on the rooves of warehouses and other facilities to recharge battery powered electric vehicles.

Consideration should be given to providing incentives for installing refuelling and recharging infrastructure at places where vehicles are based.

This will mean that for battery powered electric vehicles, the integrity of the electricity grid (particularly substations serving significant transport infrastructure where vehicles may be refuelled overnight) must be capable of handling increased demand.

This was an issue that has been constantly identified at Technology Summits conducted by ALC.

Unreliability of power supplies will prejudice the early uptake of alternatively powered vehicles.

An audit of substations serving places where fleets of battery powered transport vehicles are expected to be recharged should be conducted as a matter of priority.

With respect to fuel cell electric vehicles, as the CSIRO said in its [National Hydrogen Roadmap](#):

An economically sustainable hydrogen industry will exist across multiple sectors and have a broad range of infrastructure requirements. For instance, a single hydrogen project may need access to electricity and water networks as well as pipeline easements in order to simultaneously provide for a series of transport operations.

Federal, State and Local government entities typically have their own portfolio of priorities and time spent by technology proponents in acquiring multiple approvals can constrain development and increase costs. An inter/intragovernmental authority with the power to make decisions within a reasonable time frame will therefore be important in facilitating industry growth. This could provide a 'one-stop-shop' for gathering all the required licences for a specific hydrogen project. It could also serve as an important signal to potential global investors that Australia is utilising appropriate governance structures in developing the local industry.⁸

⁸ <https://www.csiro.au/en/work-with-us/services/consultancy-strategic-advice-services/csiro-futures/futures-reports/hydrogen-roadmap>: 10

The *Roadmap* also noted that a lack of infrastructure is a barrier to support increased use of fuel cell electric vehicles.⁹

This raises two issues.

Firstly, it is important the infrastructure is there to allow the efficient transport of hydrogen that is not completely reliant on movement by road.

A general study of the infrastructure available to efficiently move hydrogen fuel sources should be conducted.

The second issue relates to planning.

Whilst it is unlikely Australia's federal system would permit a single consent authority to develop a hydrogen approval authority as suggested above, jurisdictional planning instruments must ensure:

- (a) a spread of charging and refuelling stations in urban areas;
- (b) 'back to base' charging and fuelling infrastructure is not impeded; and
- (c) infrastructure for the movement and storage of hydrogen is permitted.

The Australian Government has recently published [Draft National Urban Freight Planning Principles](#)¹⁰ that are intended to be included in the planning documentation generated by States and Territories. They are one of the important outputs from the National Freight and Supply Chain Strategy – a process championed by ALC.

The first iteration of the Principles is to be presented to the Infrastructure and Transport Meeting of Ministers (**ITMM**) during June 2021.

The next iteration of these Principles should ensure:

- (a) a spread of charging and refuelling stations in urban areas;**
- (b) 'back to base' charging and fuelling infrastructure is not impeded; and**
- (c) infrastructure for the movement and storage of hydrogen is permitted.**

⁹ Ibid p.60

¹⁰ <https://www.freightaustralia.gov.au/sites/default/files/documents/draft-national-urban-freight-planning-principles.pdf>

Uptake of alternatively powered vehicles would also be enhanced if the location of fuelling infrastructure is clearly mapped.

A National Location Registry is a digital registry where information about physical pickup and delivery location is digitally stored.

A pilot for such a Registry forms part of the Government's National Freight Data Hub concept being developed as part of the National Freight and Supply Chain Strategy.¹¹

The Registry could be used to provide industry participants information about where vehicles can be fuelled or recharged.

This form of knowledge may increase uptake of alternatively fuelled vehicles.

The location of recharging stations and hydrogen refuelling sites should form part of the National Location Registry being developed as part of the National Freight and Supply Chain Strategy.

Finally, the uptake of fuel cell electric vehicles may be influenced by the establishment in Australia of a hydrogen industry in Australia.

As the Australian Renewable Energy Agency [has said](#):

Like the rest of the world, the main use of hydrogen in Australia is as a raw material for industrial processes.

Renewable hydrogen use in Australia would help us to reduce emissions in those high-temperature industries as well as some transport sectors.

Several scientific and government reports have also found that hydrogen produced in Australia could be sold to the world. One report produced for us, [Opportunities for Australia from Hydrogen Exports](#), calculated that global demand for hydrogen exported from Australia could be over three million tonnes each year by 2040, which could be worth up to \$10 billion each year to the economy by that time.

Researchers at the CSIRO have produced a [National Hydrogen Roadmap](#) for the development of a hydrogen industry in Australia, and the nation's energy ministers are developing a [National Hydrogen Strategy](#).¹²

¹¹ <https://www.infrastructure.gov.au/transport/freight/national-freight-data-hub/index.aspx>

¹² <https://arena.gov.au/renewable-energy/hydrogen/#:~:text=Hydrogen%20in%20Australia&text=Renewable%20hydrogen%20use%20in%20Australia,be%20sold%20to%20the%20world.>

The creation of an onshore hydrogen industry will remove supply chain vulnerabilities that may currently exist through Australia's reliance on overseas liquid fuel sources. The country currently imports 90% of its needs.¹³ Whilst early investment into a domestic hydrogen industry in Australia is likely to focus on export opportunities, increasing production capacity should also take Australia's domestic needs into account.

A domestic hydrogen production capacity may influence the uptake of fuel cell electric vehicles.

Australia should develop a hydrogen production capacity as part of its National Hydrogen Strategy.

Standards

As indicated in the *Hydrogen for Transport Report* prepared for the COAG Energy Council there are only a few models of hydrogen fuel cell electric vehicles in production and available for purchase, and they are generally more expensive than petrol or diesel powered engines.

Costs are also exacerbated by Australia being a right-hand drive country.¹⁴ Australia is such a small market it cannot expect to develop specific standards or requirements without finding that either manufacturers will not enter into the market or that the additional compliance costs will mean that vehicles will be too costly to purchase.

Australia should adopt international design rules for electric vehicles.

Consistent taxation mechanisms for road access

Finally, the Victorian Government has introduced legislation for a distance-based charge for electric and plug-in hybrid vehicles from July 2021, to recover the road user charge component of federal excise paid by those using petrol and electric vehicles.

South Australia is also considering introduction of such a charge.

Australia is a national economy. Taxation mechanisms for road use should be uniform throughout the country.

¹³ <https://www.energy.gov.au/government-priorities/energy-security/australias-fuel-security-package>

¹⁴ <https://energyministers.gov.au/sites/prod.energycouncil/files/publications/documents/nhs-hydrogen-for-transport-report-2019.pdf>: 21

A hodgepodge of taxation regimes to recover road use charges will disincentivise uptake of electric vehicles.

It is imperative that the Federal Government lead the development of a national road user charging regime. Ideally, private and commercial vehicle operators across Australia should be subject to a single, centrally administered federal regime – especially given that the Commonwealth administers excise and the Heavy Vehicle User Charge. In the absence of this, it is critical that there is full consistency and inter-operability of regimes across state and territory jurisdictions.

Australian governments should be encouraged to develop a single road user charge for access to Australian roads.

Conclusion

ALC is grateful for this opportunity to provide a submission to the Future of Fuels Discussion Paper.

If you require any additional information, please feel free to contact Rachel Smith on 0433 569 301, or via email to policy@austlogistics.com.au.

Yours sincerely



Kirk Coningham OAM
Chief Executive Officer

Appendix - Summary of Recommendations

1. The Government should continue identifying opportunities to demonstrate the benefits of using electric vehicles in delivering the Australian freight task.
2. The Government should consider the establishment of a finance facility to encourage early uptake of electric vehicles in the Australian freight and logistics sector.
3. Consideration should be given to providing incentives for installing refuelling and recharging infrastructure at places where vehicles are based.
4. ALC confirms the need to ensure the availability of charging stations for both battery and fuel cell powered electric vehicles.
5. An audit of substations serving places where fleets of battery powered transport vehicles are expected to be recharged should be conducted as a matter of priority.
6. A general study of the infrastructure available to efficiently move hydrogen fuel sources should be conducted.
7. The next iteration of these Principles should ensure:
 - (a) a spread of charging and refuelling stations in urban areas;
 - (b) 'back to base' charging and fuelling infrastructure is not impeded; and
 - (c) infrastructure for the movement and storage of hydrogen is permitted.
8. The location of recharging stations and hydrogen refuelling sites should form part of the National Location Registry being developed as part of the National Freight and Supply Chain Strategy.
9. Australia should develop a hydrogen production capacity as part of its National Hydrogen Strategy.
10. Australia should adopt international design rules for electric vehicles.
11. Australian governments should be encouraged to develop a single road user charge for access to Australian roads.