

18th July 2024

Ian Porter
First Assistant Secretary
Data, Release, Strategy and Net Zero
Department of Infrastructure, Transport, Regional Development, Communications and the Arts
Australian Government
GPO Box 594
CANBERRA ACT 2601

Dear Ian,

The Australian Hydrogen Council (AHC) welcomes the opportunity to engage with the development of Australia's low carbon liquid fuels opportunity under the Future Made in Australia package.

This submission is provided to two open consultations:

- Low Carbon Liquid Fuels Consultation Paper: *A Future Made in Australia: Unlocking Australia's low carbon liquid fuel opportunity*
- *The Transport and Infrastructure Net Zero Consultation Roadmap.*

AHC is the peak body for the hydrogen industry and our membership includes companies from across the hydrogen value chain. Our members are at the forefront of Australia's hydrogen industry, developing the technology, skills and partnerships necessary to ensure that hydrogen and its derivatives play a meaningful role in decarbonising Australian industry.

The proposed *Future Made in Australia Act* (FMIA) is a vital Australian Government response to changes in global supply chains and energy security, as well as a necessary step to reinvigorate Australian capabilities and grow economic complexity. The energy transition is hugely challenging but it also presents an important opportunity for Australia to develop competitive advantage in renewable energy production, technology and use within the global marketplace, as well as ensuring ongoing prosperity in our region.

In the 2024–25 Budget, five industries were announced as aligned with the National Interest Framework under the FMIA:

- Renewable hydrogen
- Critical minerals processing
- Green metals
- Low carbon liquid fuels
- Clean energy manufacturing, including battery and solar panel supply chains.

These industries are clearly vital for Australia's decarbonisation and sovereign capabilities. Hydrogen also plays a role in most of them. Beyond renewable hydrogen itself (to decarbonise the hard to electrify parts of our economy, and as a potential export), producing green metals includes hydrogen to make iron from our iron ore and alumina from our bauxite. And low carbon liquid fuels, such as sustainable aviation fuel (SAF), need hydrogen as a feedstock to support scale when there is insufficient biofuel. There will be other manufacturing opportunities as well, such as components and assembly for electrolyzers.

We are pleased to note that the Australian Government is considering support models for particular end uses, such as for green metals and low carbon liquid fuels. We support these demand side initiatives and see them as being matched with the Hydrogen Production Tax Incentive to simultaneously support demand and supply for priority industries. It is vital that the different initiatives can work together for those projects that are eligible.

On low carbon liquid fuels (LCLFs), we support the development of an Australian LCLF production industry and are open to a range of policy approaches.

In August 2023 we submitted a comprehensive position paper to the Australian Government on its revised National Hydrogen Strategy.¹ Among the 53 recommendations, we recommended that the Australian Government supports hydrogen in heavy road transport with a national ZLEV strategy, fleet trials, transition funds, and either a heavy vehicle fuel efficiency standard or sales target. The rationale for these perspectives is set out in that document, which we have provided as an appendix to this submission.

Our current view is that these positions are still reasonable, and that a desirable policy instrument for road transport could be a supply chain emissions target that addresses scope 3 emissions for major retailers that use heavy road transport. We expect this would mean minor cost pass through when spread across all consumers (assuming retailers sought to pass costs on).

The best approach for aviation would be mandates for future long-term use of SAF, and incentives to help producers and users close the commercial gap.

We also support the Australian Government's commitment to funding to develop a certification scheme for LCLF through an expansion of the Guarantee of Origin scheme, and its plan to build on ARENA's SAF Funding Initiative.

We will not comment further on the particular mechanisms to be used but instead will comment on the framing of the two papers and necessary steps for heavy road transport in particular.

Longer term decarbonisation still needs action now

We note that the language across the two consultation documents supports renewable diesel and SAF, treating them as largely (or potentially) equivalent, and the short to medium timelines (2030-2040) combine to a general prioritisation of biofuels. This is said to be because drop-in fuels are preferable and because biofuels are available now.

Prioritising biofuels for near term use is a reasonable perspective. However, we caution the Australian Government to not put off harder work to develop at-scale solutions. Biofuels are the transitional step for most liquid fuel uses while electrification and hydrogen capabilities are scaled up, and they will continue to play a vital long-term role for smaller scale use. In our view biofuels must be enabled but cannot *deprioritise* Australian Government efforts to develop policy to electrify, use batteries, and have the infrastructure and supply for when the demand requires it. This obviously varies by transport mode – where hydrogen is used it could be for hydrogen as a fuel (such as for heavy road freight) or hydrogen as feedstock (for future maritime or aviation fuels). In any event, building out hydrogen capability and infrastructure will take time and needs to start now to be ready for when it is required.

¹ AHC (2023) *A fit-for-purpose refreshed National Hydrogen Strategy: next steps for building Australia's hydrogen industry*, August, <https://h2council.com.au/ahc-publications/>.

Renewable diesel and SAF work on different timeframes

Renewable diesel and SAF (whether biofuel or hydrogen-based) have been merged in the discussions in the papers but it is important to note that these are not equivalent in terms of their long-term value to Australia's transport decarbonisation efforts. Renewable diesel is expected to have a shorter-term role in heavy road transport and will be used more in regional and rural areas, for vehicles that are not yet ready for retirement, and while the technology and refuelling/recharging networks are being rolled out. In contrast, SAF is a genuinely long-term play.

We suggest that the Australian Government should assess how quickly road vehicle fleets might need to turn over to reasonably meet emissions objectives and consider the demand side mechanisms to encourage this. Any LCLF incentive needs to encourage consumer technology shifts to the longer term low and zero emissions technologies. This seems most promising for battery and fuel cell electric road and rail transport. Government-funded renewable diesel incentives would then be suitable for a specific transition period while it may be needed.

Australia cannot afford to delay the build of hydrogen infrastructure

Australia currently has seven hydrogen refuelling stations opened and another 25 in development or construction.² However, the significant Australian Government trial that the industry has been calling for to derisk investment, the Hydrogen Highways initiative, continues to be pushed back and delayed. (We note that the 2024-25 federal budget allocated \$75 million over four years to the Hydrogen Highways initiative;³ however, the original application results were expected in early 2023, and the industry has no greater clarity on the proposed process.)

We have argued for some time that there needs to be pilots and trials of vehicles on Australian roads to be able to inform freight and logistics firms' assessments of total cost of ownership, or TCO. The Hydrogen Highways project was supposed to provide this information. The ongoing delay just furthers the problem that offtake cannot be agreed when no one can be sure of the total cost of a fleet replacement to hydrogen fuel cell heavy vehicles.

This example also demonstrates why activating hydrogen capability cannot be delayed to the moment that the LCLF industry needs it; there is urgency to test the technology in use in Australia so that there is total cost of ownership assurance, the OEMs have the time and confidence to manufacture or retrofit fuel cell heavy vehicles at scale, and Australia can progress beyond trials. This is a multi-year endeavour and the Australian Government has a necessary role here to prioritise establishing the hydrogen refuelling infrastructure, helping to accelerate the timeline and derisk fleet transition.

We note that the recently announced Hydrogen Production Tax Incentive is currently proposed to only apply to production facilities that have a minimum capacity on 10MW, which would not cover most hydrogen refuelling stations currently in development, therefore making them ineligible.⁴ Furthermore, this credit is only expected to apply from 2027-28 which does not incentivise the scale up of hydrogen refuelling stations that will be required to derisk range anxiety and encourage vehicle supply in Australia.

² HyResource (2024) *Projects spreadsheet*, CSIRO, accessed 1 July 2024, <https://research.csiro.au/hyresource/projects/projects-spreadsheet/>.

³ Treasury (2024) *Budget 2024-25, Federal financial relations: budget paper no. 3*, Australian Government, 14 May, https://budget.gov.au/content/bp3/download/bp3_2024-25.pdf.

⁴ Treasury (2024) *Hydrogen production tax incentive*, Australian Government, <https://treasury.gov.au/consultation/c2024-541265>.

Similarly for maritime, we will need to prepare for the planning and infrastructure requirements across Australian ports. Considering the lack of availability of space at existing Australian ports, and that Australia will generally be the taker of shipping company appetites for fuels, the Australian Government may need to nominate the best locations for specific segments of the maritime transition. This will also aid planning for the broader energy transition, as there is currently insufficient space for each port to cater for multiple bunkering fuels alongside large-scale imports of equipment such as wind turbines. Timely analysis and decision making must be undertaken to determine the target ports if we are to meet the ambitious whole of economy decarbonisation targets under the Paris agreements, International Maritime Organisation, and national legislation. We also discussed the need for port infrastructure in our position paper, as appended, and we have since submitted to the MERNAP consultations.

Planning for fuel security

Biofuels are of course not all the same; this is a diverse family of feedstocks with their own different emissions characteristics. One thing all biofuels have in common, besides drop-in capabilities, is natural constraints on production. Waste streams are certainly constrained, and crop requirements for land and water can reach the point where biofuel production starts to compete with food.⁵ Additionally, there are implications for biodiversity and fertility of land where rising impacts of climate change are expected to already be impacting crop yield. These are finite and vital resources that need to be managed carefully and responsibly.

To add complexity, there will be competition for biofuels for the hard to abate transport modes, particularly in aviation and maritime, where the demand will outweigh the possible supply of biofuels. These modes of transport must strategically sequence their decarbonisation and the feedstocks each can potentially use. We need greater clarity on the natural constraints of biofuels and this is a matter not only of fuel security but also food security.

We are supportive of a LCLF industry in Australia and welcome demand side incentives and policy mandates. These then need to sit alongside investment and infrastructure in the long-term net zero fuel solutions, such as hydrogen.

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Yours sincerely,

Fiona Simon
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Australian Hydrogen Council

⁵ CSIRO (2023) *Sustainable Aviation Fuel Roadmap*, <https://www.csiro.au/en/research/technology-space/energy/sustainable-aviation-fuel>.