AUSTRALIAN HYDROGEN COUNCIL

6th October 2023

Barbara Blake
Director, Energy Strategy
Department of Energy, Environment and Climate Action
Victorian Government
8 Nicholson Street
East Melbourne VIC 3002

Dear Barbara,

Re: Victoria's Renewable Gas Consultation Paper

The Australian Hydrogen Council (AHC) is the peak body for the hydrogen industry, with over 100 members 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 plays a meaningful role in decarbonising Australian industry.

AHC welcomes the opportunity to respond to the Victoria's Renewable Gas consultation. Hydrogen will be necessary as a renewable gas in Victoria, especially to enable the decarbonisation of hard to abate sectors. However, hydrogen is far from commercial. Without significant planning, policy support and investment, the scale will not be available when needed.

AHC recently developed a paper[1] in response to the 2023 National Hydrogen Strategy consultation process. Our paper provides a comprehensive record of the current hydrogen policy state of play and provides recommendations for next steps. We highly suggest that the Victorian Renewable Gas team reviews the paper to engage with the issues and steps to get hydrogen to scale to support Australia's renewable gas needs in the energy transition. For initial reference, we have provided some of the relevant recommendations as an appendix to this letter.

For industrial heating, experts consider that electrification will be more cost effective than hydrogen and other alternatives to decarbonise many heating applications. However, technological constraints make electrification challenging for processes requiring more than 800°C. AHC has been working with the Australian Alliance for Energy Productivity (A2EP) to examine decarbonisation options for different high temperature heating applications, resulting in an industrial heating technical report.[2] We would also recommend that the Victorian Renewable Gas team engages with this paper.

Thank you again for the opportunity to engage with and inform Victoria's renewable gas strategy. If you wish to discuss any element of these papers in further detail, please contact me at ncerexhe@h2council.com.au.

Yours sincerely,
Natasha Cerexhe
Policy Officer
Australian Hydrogen Council

[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/.
[2] A2EP (2023) *Bringing the heat: Hydrogen's role in decarbonising Australian industrial process heat*, AHC, August, https://h2council.com.au/wp-content/uploads/2023/08/Bringing-the-heat-report-for-AHC-25-August-2023.pdf.

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APPENDIX A: AHC's response to the National Hydrogen Strategy Refresh – VIC renewable gas relevant recommendations.

Recommendation 6: Prioritise hard-to-abate and scalable domestic demand sources.

The Australian Government should prioritise growing demand for hydrogen in the applications that are more likely to require clean hydrogen to decarbonise, and more likely to achieve large scale. Ideally these should demonstrate an ability to open the market to other applications, through knowledge/technology sharing, geographic proximity, and/or cost reduction. Current evidence supports these industries as being:

- Chemicals, particularly ammonia and methanol
- Low emissions metals, particularly iron and alumina
- Heavy road transport
- High temperature process heating
- Marine and aviation, where hydrogen is a feedstock for future fuel
- Seasonal storage for the electricity market.

Recommendation 7: Support hydrogen for export as an energy vector and for value added products such as green iron.

In the absence of extraordinary evidence to the contrary, the Australian Government should continue to build an export market for hydrogen (and its derivatives) as an energy vector.

There is also a need to prioritise and plan for domestic use of hydrogen to build Australia's processing and manufacturing capabilities, which will provide new long-term value for the economy. The design of the funding support mechanism and guidelines for the Hydrogen Headstart program provide an opportunity to incorporate this thinking and set these priorities.

Recommendation 9: Set hydrogen targets for 2030 and 2040, with a range for 2050.

Based on modelling undertaken by/for the Net Zero Economy Agency and the revised NHIA, the Australian Government should decide and announce domestic and export targets for hydrogen production for 2030 and 2040. Consideration should be given to industry specific targets, for example dedicated hydrogen production to support green steel production. Given the uncertainty about 2050 capability, any target for 2050 could be a range or guide. These targets should be set out in the refreshed NHS and also drive further financial packages and investment attraction activities, to match goals and delivery mechanisms in direction, volume and timing.

Recommendation 15: Create Hydrogen Economic Zones to support regional hydrogen initiatives and connect the relevant supply, demand, infrastructure and workforce.

The Net Zero Economy Agency should oversee the development of Hydrogen Economic Zones that link hydrogen production targets to locations via hydrogen economic zones that incorporate REZs and ports, as well as likely requirements for hydrogen storage, CCS, refuelling, pipelines, and workforce.

This work should adopt work already undertaken by the jurisdictions.

Recommendation 20: Develop consistent energy planning scenarios and cost recovery mechanisms by connecting AEMO, AEMC and energy regulators with the Net Zero Economy Agency and the refreshed NHS.

The Net Zero Economy Agency should engage closely with energy bodies to coordinate energy transition scenario assessments and regulatory practice. Priorities include:

- Linking AEMO's ISP with the Australian Government net zero programme (which includes Hydrogen Economic Zones) and with REZ jurisdictional planning.
- Connecting discussions on grid stability and long-term storage with hydrogen storage policy.
- Linking AEMC rulemaking and regulators' compliance enforcement with net zero policy to ensure infrastructure can be paid for, and via the right mechanisms. Importantly, the Australian Government should set policy that ensures initiatives to build the market (both capital and operational) are not passed through to small energy users via bills for essential services. See Recommendation 45.
- Encouraging jurisdictional governments to provide exemptions on TUoS charges for hydrogen projects, and concessions on state schemes that add cost.

Recommendation 21: Remain open to blue hydrogen for regions that can support it without unnecessarily delaying renewable hydrogen developments.

The Australian Government should remain open to blue hydrogen projects for regions that can support it without unnecessarily delaying renewable/green hydrogen developments.

In practice, the issue is not one of colour but of emissions intensity, supported by robust measurement and reporting.

Recommendation 23: Develop a national assessment of hydrogen pipeline corridors, easements and route alignment.

DCCEEW should engage with pipeline companies, AEMO and the AER to analyse and report back on:

- The location of easements, and particularly as they relate to Hydrogen Economic Zones
- The fitness for purpose of the easements from a regulatory, safety and community acceptance perspective, and any unnecessary regulatory barriers that should be addressed.
- If more easements are required, where and by when.

This work should be able to address the refreshed NHS targets and policy priorities, and it should inform further policy on necessary coordination, co-funding and regulation.

Recommendation 45: Work with AEMC and AER on cost and price models to ensure affordable energy bills.

DCCEEW should coordinate activity with the AEMC and AER not only on maintaining a separation of new hydrogen policy initiatives from small customer energy bills, but also to maintain visibility over key future assets required for hydrogen and the effect of hydrogen on electricity and gas asset values, maintenance and growth.

Recommendation 49: Attract private investment for hard-to-abate industrial processes.

Noting the need for funding to align with analyses addressed in Recommendations 3-5 and any targets set, the Australian Government should:

- Fund a hydrogen readiness programme of at least A$1 billion for capital expenditure on industrial processes that cannot readily be electrified, including (and not exclusively) for the production of steel, ammonia, methanol, and alumina/aluminium.
- Continue to use ARENA (and CEFC where possible) to underwrite demand through a revenue support mechanism (such as contract for difference) intended to incentivise domestic production of critical chemicals and metals, including (and not exclusively) for the production of steel, ammonia, methanol, and alumina/aluminium. Funding should be aligned with funding from state/territory governments.

Funding should be prioritised for projects that protect or create local jobs and have a detailed plan for skilling and re-skilling. Applicants should be required to share non-commercially sensitive information to support industry knowledge development – this could be assisted by engaging with industry associations to support delivery.

To mitigate and reduce the costs associated with project development (such as transmission costs), the Australian and state governments could collaborate to further incentivise co-location of chemical production within Hydrogen Economic Zones, and within proximity to other industrial infrastructure such as ports.

Recommendation 50: Develop bespoke packages for other early adopters in high temperature process heating.

Target government support packages for early adopters who need to switch to hydrogen for high temperature heating but cannot access support under Recommendation 49. This should include:

- Financial support through tax and/or targeted market mechanisms.
- Increased ARENA funding for trials and demonstrations.