

28<sup>th</sup> September 2023

Megan Scott  
Assistant Secretary, Maritime and Shipping  
Department of Infrastructure, Transport, Regional Development, Communications and the Arts  
Australian Government  
GPO Box 594  
CANBERRA ACT 2601

Dear Megan,

**Re: MERNAP Issues Paper: Regulation and Standards**

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 MERNAP consultation process. Hydrogen will be necessary as a feedstock for future shipping fuels but the industry is far from commercial. Without significant planning, policy support and investment the scale will not be available when the next generation ships are demanding it.

AHC recently developed a paper<sup>1</sup> 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 suggest that the MERNAP team reviews the paper to engage with the issues and steps to get hydrogen to scale to support shipping and ports in the energy transition. For initial reference, we have provided the relevant recommendations as an appendix to this letter.

Getting hydrogen to the scale required for future shipping fuels will be an enormous task, with competition for inputs at each point, and competition for the hydrogen from other sectors of the economy.

There is a need to plan and engage across portfolios in new ways. Energy, transport, environment, water, industry and workforce need to essentially work together on master planning for the next several decades for new technologies, new supply chains, new equipment and skilled up workers. As we note in our paper, we understand the challenges facing international shipping to include:

- Technological solutions being required (engines, turbines etc) that can operate effectively with new fuels. These solutions are not readily able to be retrofitted on existing costs, meaning that change is slower than ideal as a result of sunk costs in existing assets and the high costs associated with new build vessels.
- Supply chains for the secure, at scale, supply of the new fuels are undeveloped and the prices for offtake are uncompetitive with existing, incumbent fuels.

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<sup>1</sup> 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/>.

- Workers all along the supply chain as well as on the vessels are unprepared for working with the new fuels and globally accredited training is not yet available. Unions and the broader citizenry are unsure about the new fuels and bulk storage at ports close to residential centres.
- Infrastructure to meet future shipping needs is undeveloped, including ports with space for additional storage capacity and safety buffer zones, as well as any specialised delivery systems and trained workforce. Shipyards must have capacity for retrofits and new builds.

Bringing these issues together to plan is a complex task. This is why one of the key priorities and immediately actionable recommendations in our paper is the implementation of Hydrogen (or low carbon) Economic Zones. It is easier to manage and deliver complexity with some boundaries; Hydrogen Economic Zones go beyond Renewable Energy Zones to foster more intensive engagement between parties, such as ports, electricity and workforce planning.

Another key takeaway from our paper is the necessity for research and publicly available analysis. Linking this back to the MERNAP process, we advise that regulatory efforts are vital but should be based on international evidence. Australia is not going to lead the global shipping industry – in fact we will be a taker of shipping company appetites for fuels and for bunkering. We therefore advise against mandates that seek to pick fuel ‘winners’ or determine storage needs while these matters are still being determined by factors outside of our control.

However, this is not to advocate for passivity. Overall, there is a need for planning and collaboration both domestically and internationally to develop an intellectual and investment framework ready for the future market. There is much to do in understanding the options, and we recommend robust analysis and modelling be undertaken to determine what combination of factors would be in Australia’s interest and in what timeframe. There is a need to engage with shipping companies about their decarbonisation and bunkering plans. There is also a question of how shore power might affect electricity grid capabilities and costs – this would seem necessary to understand so as to not overload the grid as multiple modes of transport and industrial use shift to electrification.

Whether the dominant shipping fuel of the future is ammonia or methanol, hydrogen is a vital input. With this in mind, we encourage you to engage with the AHC as an ally in this space. We also recommend that the MERNAP team work closely with the National Hydrogen Strategy team within the Department of Climate Change, Energy, the Environment and Water to ensure that a coordinated approach is undertaken.

We thank you again for the opportunity to respond to this first Issues Paper and look forward to further consultation and developments.

If you wish to discuss any element of this in further detail, please contact me at [ncerexhe@h2council.com.au](mailto:ncerexhe@h2council.com.au).

Yours sincerely,

**Natasha Cerexhe**  
Policy Officer  
**Australian Hydrogen Council**

## APPENDIX A: AHC's response to the National Hydrogen Strategy Refresh – Maritime 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 12: Develop joint support packages between Australia and its trading partners to support trade in hydrogen and hydrogen derivatives.**

The Australian Government should develop bespoke joint support packages between Australia and its trading partners that underwrite trade and support necessary infrastructure.

These should also cover multilateral agreements to incentivise investment and collaboration, for example, between Australia as a producing country, Singapore as a key intermediary for shipping and the nations of North Asia as key customers for hydrogen, its derivatives and also products produced using hydrogen.

### **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 24: Develop a national assessment of port capability to meet the revised NHS objectives and targets.**

DCCEEW should engage with port corporations and peak bodies to analyse and report back on port capability for future exports, in line with the objectives and targets set by the revised NHS and connected with Hydrogen Economic Zones.

This should lead to an understanding of how ports can collaborate without triggering unforeseen regulatory hurdles and future government support for common use infrastructure.

**Recommendation 25: Select and support ports with existing industry connections to be demonstration ports.**

Australian governments should work with ports to identify appropriate demonstration sites for hydrogen development. To mirror international developments this could include ports that have existing industrial connections.

**Recommendation 26: Commit to a funding envelope for ports.**

The Australian Government should undertake to support port redevelopments to 2045. The national assessment will clarify what is required, but this is expected to be around A\$20-\$30 billion.

**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 51: Develop a national assessment of shipping routes and refuelling requirements.**

The Australian Government should engage with shipping companies operating in Australia and peak bodies to analyse and report back on:

- Current shipping routes.
- Shipping companies' views on fuels in which they are investing, the relative energy densities of options, and requirements to refuel (that is, the maximum journey length without bunkering requirements).
- Bunkering in Australia, to understand if products (including fuels) are to be transported from southern Australia, what the impact is on key matters such as the total journey length and requirement to refuel.
- Opportunities for demonstration projects at suitable ports.