

Transport and Infrastructure Net Zero Consultation Roadmap

Take the survey

Department of Climate Change, Energy, Environment and Water

Response received at:

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Yes
- 5 First name
Not answered
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- 9** Who are you answering on behalf of?
Organisation
- 10** Organisation name
NSW Ports
- 11** What best describes you or your organisation?
Not answered
- 12** What sector do you represent?
Not answered
- 13** What state or territory do you live in?
New South Wales
- 14** Postcode
2036
- 15** What area best describes where you live?
City
- 16** 1. Do you support the proposed guiding principles?
Not answered
- 17** 1.1 Please add details to your response.
Not answered
- 18** 2. Do you support the use of the avoid-shift-improve framework as a tool to identify opportunities for abatement?
Not answered

- 19** 2.1 Please add details to your response.
Not answered
- 20** 3. Do you agree the development of a national policy framework for active and public transport will support emissions reduction?
Not answered
- 21** 3.1 Please add details to your response.
Not answered
- 22** 4. What should be included in a national policy framework for active and public transport and how should it be developed?
Not answered
- 23** 5. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the movement of people contributes to transport emissions reduction?
Not answered
- 24** 6.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure that the movement of goods contributes to transport emissions reduction?
Not answered
- 25** 6.2. How would these actions address the identified challenges and opportunities for emissions reduction in the movement of goods?
Not answered
- 26** 7. Do you agree with the proposed net zero pathway for light road vehicles?
Not answered

- 27 7.1 Please add details to your response.
Not answered
- 28 8. The Australian Government is currently developing an Australian New Vehicle Efficiency Standard and has already begun to implement actions in the National Electric Vehicle Strategy.8.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce light vehicle emissions?
Not answered
- 29 8.2 How would these actions address the identified challenges and opportunities to reduce light vehicle emissions?
Not answered
- 30 9. Do you agree with the proposed net zero pathway for heavy road vehicles?
Not answered
- 31 9.1 Please add details to your response
Not answered
- 32 10. The proposed pathway for heavy road vehicles relies on a mix of battery electric, hydrogen fuel-cell and low carbon liquid fuels.Rank from 1 to 3, the order in which these should be prioritised for emissions reduction.
Not answered
- 33 10.1 Please add details to your response. Why did you rank them in that order?
Not answered
- 34 11. What role should low carbon liquid fuels play in the heavy vehicle

decarbonisation?

Not answered

- 35 12. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce heavy vehicle emissions?

Not answered

- 36 13. Do you agree with the proposed net zero pathway for rail?

Not answered

- 37 13.1 Please add details to your response.

Not answered

- 38 14. The proposed pathway for rail relies on a mix of battery electric, hydrogen fuel-cell and low carbon liquid fuels. Rank from 1 to 3, the order in which these should be prioritised for emissions reduction.

Not answered

- 39 14.1 Please add details to your response. Why did you rank them in that order?

Not answered

- 40 15. What role should low carbon liquid fuels play in rail decarbonisation?

Not answered

- 41 16. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce rail emissions?

Not answered

- 42 16.1 How would these actions address the identified challenges and

opportunities to reduce rail emissions?

Not answered

43 17. Do you agree with the proposed net zero pathway for maritime?

Not answered

44 17.1 Please add details to your response.

Not answered

45 18. The Australian Government is engaging in consultation as part of the development of the Maritime Emissions Reduction National Action Plan and those consultations will also inform the final Roadmap and Action Plan. 18.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce maritime emissions?

Not answered

46 18.2 How would these actions address the identified challenges and opportunities to reduce maritime emissions?

Not answered

47 19. Do you agree with the proposed net zero pathway for aviation?

Not answered

48 19.1 Please add details to your response.

Not answered

49 20. The Australian Government has already engaged in consultation on aviation decarbonisation through the development of the Aviation White Paper and those consultations will also inform final Roadmap and Action Plan.

Not answered

- 50 20.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce aviation emissions?
Not answered
- 51 21. Do you agree with the proposed net zero pathway for transport infrastructure?
Not answered
- 52 21.1 Please add details to your response.
Not answered
- 53 22. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce transport infrastructure emissions and ensure that transport infrastructure is ready for and enables low-emission transport modes?
Not answered
- 54 22.1 How would these actions address the identified challenges and opportunities to reduce transport infrastructure emissions?
Not answered
- 55 23. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the energy mix is ready to support transport emissions reduction?
Not answered
- 56 24. How should the use of low carbon liquid fuels (LCLFs) be prioritised across different transport modes over time to achieve maximum abatement?
Not answered

- 57 25. What are the best ways for the Australian Government to work collaboratively with industry, business, governments and communities to implement the proposed pathways?
Not answered
- 58 25.1 What are good domestic or international examples of partnership and collaboration on transport and transport infrastructure emissions reduction that could inform the final Roadmap and Action Plan?
Not answered
- 59 25.2 What opportunities can Government leverage to show leadership in Australia and internationally?
Not answered
- 60 26. What measures and metrics should be used to evaluate the final Transport and Infrastructure Net Zero Roadmap and Action Plan?
Not answered
- 61 26.1 What other data and evidence could governments use and how could this offer further insights on the pace, scale and location of transport emissions reduction pathways?
Not answered
- 62 27. Do you have any feedback on the proposed review process?
Not answered
- 63 28. Do you have any further feedback on the Consultation Roadmap and proposed pathways?
Not answered
- 64 28.1 Is there anything missing? Are the sections appropriately integrated? Is the Roadmap appropriately ambitious?
Not answered

65 29. Is there any further information or documentation that you wish to be considered with your submission?

Not answered

66 Would you like to upload a document?

Yes

67 Have you removed any identifying information from your submission?

Yes

68 Upload a submission

NSW Ports Submission - Transport and Infrastructure Net Zero Consultation Roadmap - 19 August 2024_Redacted_Redacted.pdf

69 Upload a submission

Not answered

70 Upload supporting file

Not answered

71 Upload supporting file

Not answered

19 August 2024

Department of Infrastructure, Transport, Regional
Development, Communications and the Arts
GPO Box 594
CANBERRA ACT 2601

Level 2, Brotherson House
Gate B103, Penrhyn Road
Port Botany, NSW 2036 Australia
T 1300 922 524
F 1300 440 198
E enquiries@nswports.com.au
W nswports.com.au

NSW Ports submission to the Transport and Infrastructure Net Zero Consultation Roadmap

Thank you for providing NSW Ports with the opportunity to comment on the Transport and Infrastructure Net Zero Consultation Roadmap (the Roadmap).

NSW Ports is responsible for managing the key national trade gateways of Port Botany and Port Kembla, which together handle millions of tonnes of diversified trade each year. This includes containers, bulk liquids and gas, dry bulk, motor vehicles and machinery, and other break bulk. NSW Ports also manages the Enfield Intermodal Logistics Centre and Cooks River Intermodal Terminal. With direct rail links to Port Botany, these intermodal hubs play a key role in supporting the efficient movement of freight in NSW and help reduce truck movements on Sydney's roads.

These port and intermodal facilities are essential services and play a critical social and economic role within NSW, contributing \$13.6 billion annually to the NSW Gross State Product and supporting about 65,000 jobs.

NSW Ports has reviewed the Roadmap and provides the below recommendations for consideration in the development of the forthcoming Action Plan:

Recommendation 1: The Australian Government should ensure that a nationally consistency approach to decarbonisation in each transport mode is applied based on factors such as commercial availability, scale, and maturity of technologies. Decarbonisation initiatives will therefore need to be carefully selected and their implementation planned to mitigate cost imposts.

Recommendation 2: Consideration of net zero transition should factor into business case development and Infrastructure Australia evaluations for rail projects.

Recommendation 3: A new Strategic Business Case for the Maldon-Dombarton Rail Line should be funded and include the consideration of decarbonisation of the transport sector from freight and passengers moving between the Illawarra and Western Sydney.

Recommendation 4: The role of BITRE and the National Freight Data Hub should be expanded to include accurate calculators and tools for supply chain decision makers seeking to decarbonise.

Maritime Sector - NSW Ports Submission to MERNAP

In the context of the Roadmap, it is important to note that much of the technology identified in the net zero pathway for maritime (Figure 15 of the Roadmap) will be driven by international trends and investments – i.e. shore power technology will only be used if the shipping lines upgrade their fleets and where the shore power pricing is competitive with other fuel types. We must ensure any decisions made by Government in this regard keep Australia competitive in the global maritime industry.

In April of this year, NSW Ports provided a submission to the Maritime Emissions Reduction National Action Plan (MERNAP). In response to the MERNAP development process, NSW Ports identified four key focus topics for consideration. These are summarised below:

1. **International Consistency:** Any actions relating to vessels must be consistent with the approach adopted by the International Maritime Organisation (IMO) to avoid disadvantaging the Australian market given the nation's reliance on international shipping as our primary mode of transport for international trade.
2. **National Consistency:** Any actions relating to ports and freight supply chains must be applied consistently nationally to avoid disadvantaging a state, specific port location or industry supply chain.
3. **Commercial Availability, Scale and Maturity for Decarbonisation:** In considering decarbonisation measures at ports and throughout the broader supply chain, including the maritime shipping sector, critical factors include:
 - commercial availability, scale and maturity of technology solutions, including availability of alternative fuels and renewable electricity,
 - global availability of new equipment (e.g. electrified cargo handling equipment or engines able to accept alternative fuels), and
 - the capacity of the National Energy Market (including grid capacity of local substations) to support electrification demand.
4. **Economic Cost Implications:** The types of decarbonisation measures to be implemented - and any imposition of such measures - will have an economic cost which will ultimately add to the cost of goods for Australian consumers and businesses. Decarbonisation initiatives will therefore need to be carefully selected and their implementation timed to mitigate cost impacts where possible.

A copy of NSW Ports' submission to MERNAP is included as Attachment A. This attachment forms our comments for the purpose of the maritime transport mode in the Roadmap.

Road – Heavy Vehicles Sector

As the Roadmap notes, heavy vehicles transport essential goods across Australia and are fundamental to the national supply chain and the efficient operations of our ports.

It is noted that the proposed decarbonisation pathway for heavy road vehicles relies on a mix of battery electric, hydrogen fuel cell and low carbon liquid fuels. Decarbonisation of the heavy vehicle sector will depend on available technologies and fuels, and their cost.

Financial and regulatory incentives could play a significant role in reducing the upfront cost burden of the transition of trucking equipment towards lower carbon emitting alternatives.

This could involve the funding of refuelling/recharging infrastructure to allow early adopters of technology to continue operations as they transition. This is particularly relevant in the heavy vehicle sector due to the variety of scale seen in trucking operators ranging from nation-wide to single truck businesses.

Similarly to the maritime sector, national consistency will be critical to ensuring smooth transition.

Rail Sector

Rail plays an important role in the decarbonisation of supply chains as shifting freight activity from road to rail will be a 'quick win' for supply chain operators in achieving lower emissions for the movement of goods.

Ongoing investment in rail freight infrastructure and operational and regulatory improvements are essential to sustainably cater for our trade growth.

It is noted that the proposed transition pathways to rail rely on a mix of battery electric, hydrogen fuel cell and low carbon liquid fuels.

The adoption of newer locomotives in the freight rail sector has been challenging and will continue to be a challenge without Government-led standards and potentially financial incentivisation. Providing a clear pathway to planning for standards or incentivisation will allow rail operators to invest with confidence in rolling stock. Government has a role to play in many of these transitional technologies including ensuring a secure supply of fuels and ensuring grid capacity to meet electrification needs.

Similarly to the maritime sector, national consistency will be critical to ensuring smooth transition.

The potential decarbonisation benefits of mode shift from road to rail should be examined and quantified as part of Government business case processes and should be an important consideration for planning agencies when assessing rail investments and rail based developments. Incentivisation of modal shift to rail for import and export container trade presents an opportunity for Government to drive lower emissions in the freight transport sector more broadly.

Case Study: Maldon-Dombarton Rail Line

The business case for the Maldon-Dombarton Rail Line, when originally published, did not investigate the potential decarbonisation benefits that could be realised through its potential to provide a modal shift – it largely pre-dated the legislation of emission reduction targets.

The Maldon-Dombarton Rail Line was first developed on the business case premise of exporting coal out of Port Kembla. Since that time, the likely use case of the line has changed significantly.

Currently, some cement handled through Port Kembla is transported on rail with approximately 350 rail wagons moved each month. This saves about 4,200 truck movements on the roads of the Illawarra and Southern Sydney every year. However, the movement of cement product from Port Kembla by rail is currently limited by both track availability and the locations of bulk material rail receipt – particularly in high growth areas where significant construction activity will take place, such as Western Sydney.

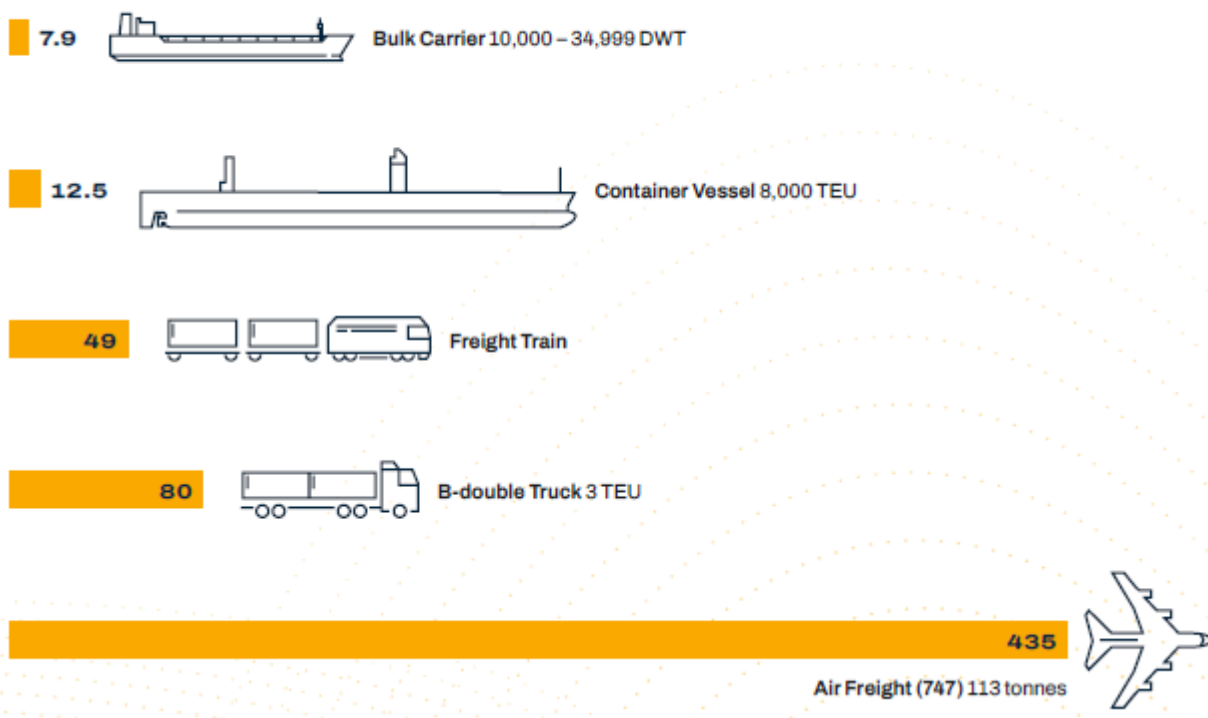
Moving more bulk construction materials by rail from Port Kembla to Western Sydney will support these growth areas and enhance the productivity and sustainability of supply chains. It will reduce vehicle emissions, reduce trucks on the road network and contribute to improving safety on our roads.

The Maldon-Dombarton Rail Line would provide a more direct rail connection between the Illawarra and Western Sydney for passengers and freight, and enable the sustainable movement of freight by reducing the number of trucks on roads and contributing to reduced emissions and the decarbonisation of the supply chain.

Emissions Data Availability

A key challenge for supply chain stakeholders is understanding available data of decarbonisation benefits resulting from past policy decisions and how these support a future modal shift (e.g. changes to marine fuel standards, electrification of vehicles etc). The below graphic is adapted from the International Maritime Organisation's (IMO) *Second IMO GHG Study 2009*:

EMISSIONS BY MODE OF TRANSPORT (CO2/TONNE-KM)



The IMO Study included a detailed assessment of the emissions generated by various modes of freight transport on a tonne per kilometre basis. The Australian Government can play a pivotal role in providing updated information and reporting in this sector, specifically with regard to Australian conditions and our existing supply chains. This will allow supply chain stakeholders and Government to see the emissions benefits realised through policy and funding by providing accurate baseline information and data.

NSW Ports is able to provide additional advice on any of the topics covered in this submission should the Department require more information. Should you wish to discuss this submission further, please contact me on [redacted] or at [redacted].

Yours sincerely,

[Redacted Signature]

Greg Walls
 A/General Manager Corporate Affairs and Planning
 NSW Ports

Attachment A: NSW Ports submission to the Maritime Emission Reduction National Action Plan



23 April 2024

Department of Infrastructure, Transport, Regional
Development, Communications and the Arts
GPO Box 594
CANBERRA ACT 2601

Level 2, Brotherson House
Gate B103, Penrhyn Road
Port Botany, NSW 2036 Australia
T 1300 922 524
F 1300 440 198
E enquiries@nswports.com.au
W nswports.com.au

via email: MERNAP@infrastructure.gov.au

Dear Sir / Madam,

NSW Ports submission to the Maritime Emission Reduction National Action Plan

Thank you for the opportunity to comment on the Australian Government Maritime Emissions Reduction National Action Plan (MERNAP).

By way of background, NSW Ports is responsible for managing the key national trade gateways of Port Botany and Port Kembla, which together handle millions of tonnes of diversified trade each year, including containers, bulk liquids and gas, dry bulk, motor vehicles and machinery, and other break bulk.

NSW Ports also manages the Enfield Intermodal Logistics Centre and Cooks River Intermodal Terminal. With direct rail links to Port Botany, these intermodal hubs play a key role in supporting NSW's freight task and help reduce truck movements on Sydney's roads.

These port and intermodal facilities are essential services and play a critical social and economic role within NSW, contributing \$13.6 billion annually to the NSW Gross State Product and supporting about 65,000 jobs.

Summary of key considerations

In responding to the MERNAP development process, NSW Ports has identified four key focus topics for consideration by the Australian Government. These include:

- 1. International Consistency:** Any actions relating to vessels must be consistent with the approach adopted by the International Maritime Organisation (IMO) to avoid disadvantaging the Australian market given the nation's reliance on international shipping as our primary mode of transport for international trade.
- 2. National Consistency:** Any actions relating to ports and freight supply chains must be applied consistently nationally to avoid disadvantaging a state, port or supply chain.
- 3. Commercial Availability, Scale & Maturity for Decarbonisation:** In considering decarbonisation measures at ports and throughout the broader supply chain, including the maritime shipping sector, critical factors include commercial availability, scale and maturity of technology solutions, including availability of alternative fuels and renewable electricity, global availability of new equipment (e.g. electrified cargo handling equipment or engines able to accept alternative fuels) and the capacity of the National Energy Market (including grid capacity of local substations) to support electrification demand.

NSW Ports Pty Ltd
as trustee for
NSW Ports Property Hold Trust
ABN 25 674 171 329

NSW Ports Operations Hold Co
Pty Ltd as trustee for
NSW Ports Operations Hold Trust
ABN 28 792 171 144

Port Botany Operations
Pty Ltd as trustee for
Port Botany Unit Trust
ABN 25 855 834 182

Port Kembla Operations
Pty Ltd as trustee for
Port Kembla Unit Trust
ABN 50 132 250 580

NSW Ports Finance Co
Pty Ltd
ABN 83 161 943 497

4. **Economic Cost Implications:** The types of decarbonisation measures to be implemented and any imposition of such measures will have an economic cost which will ultimately add to the cost of goods for Australian consumers and businesses. Decarbonisation initiatives will therefore need to be carefully selected and their implementation timed to mitigate cost imposts.

The need for International and National Consistency

Shipping is the most sustainable and carbon efficient form of transport for moving large volumes of cargo. Globally, shipping contributes around 3% of total worldwide greenhouse gas emissions.

Any regulatory reform in Australia focused on industry emissions needs to consider the practical pathway to net zero and the real challenges that are likely to be faced in globally competitive markets, while also considering the technological maturity and commercial availability of alternatives to existing applications.

As outlined in the draft MERNAP guidelines, NSW Ports supports the key principles for both assessing current regulatory challenges and devising new approaches:

- recognise the differing capacities of actors in the maritime sector to finance and implement regulatory measures;
- ensure a clear regulatory environment for investment certainty;
- ensure an even playing field across the sector;
- be undertaken with broad consultation across the maritime sector; and
- undertake comprehensive impact assessments.

Additionally, any regulatory or policy response relating to vessels visiting Australia should consider the global policy environment in international shipping such as that set by the IMO, to avoid disadvantaging the Australian market given the nation's reliance on international shipping as our primary mode of transport for international trade.

Economic impact assessments must also consider impacts on consumers. Additional costs that are added in the supply chain are ultimately passed on by various businesses through the supply chain to consumers, increasing the costs of goods throughout the economy.

Considering the above comments, NSW Ports supports an additional three key regulatory principles being:

- ensure that regulatory frameworks for shipping are in-line with international agreements such as those set by the IMO,
- ensure that regulatory frameworks for shipping and ports are nationally consistent, and
- impact assessments must consider of cost implications for end consumers.

Decarbonisation of vessels

In 2023, the IMO adopted a revised strategy on reduction of greenhouse gas emissions from ships. Principles adopted guide the international shipping industry on emissions reduction targets and future ambitions to achieve net zero towards 2050¹:

- carbon intensity of the ship to decline through further improvement of the energy efficiency for new ships, to review with the aim of strengthening the energy efficiency design requirements for ships,

¹ International Maritime Organisation. *Resolution MEPC.377(80) – 2023 IMO Strategy on Reduction of GHG Emissions from Ships*. 2023.

- carbon intensity of international shipping to decline, by reducing CO² emissions per transport work, as an average across international shipping, by at least 40% by 2030, compared to 2008,
- an uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources, representing at least 5%, striving for 10% of the energy used by international shipping by 2030, and
- GHG emissions from international shipping to reach net-zero, by peak GHG emissions from international shipping as soon as possible and to reach net-zero GHG emissions by or around 2050.

NSW Ports believes any actions or principles adopted within the MERNAP process relating to vessel emissions reduction targets must be consistent with the approach adopted by the IMO to avoid disadvantaging Australia given the nation's reliance on international shipping. This includes any provisions for Australian registered commercial vessels, including domestic shipping.

Considering the complexity of the global supply chain and the interconnected nature of the international shipping sector, it is essential MERNAP aims to enable global collaborations within and across industries. Such collaborations can capitalise on the research and expertise of all involved parties. Encouraging bilateral agreements such as green corridors with Australia's trading partners, promoting industry cooperations and developing MoUs are important steps to build and scale up the development and implementation of effective decarbonisation projects.

Commercial Availability, Scale & Maturity for Decarbonisation

Ports in Australia vary in the nature of their operations, the cargoes handled, their geographic location, their size and their operating model, resulting in a varied emissions landscape. As a result, different approaches and technology solutions will be required to facilitate decarbonisation of ports and the supply chain more broadly.

The nature and timing of solutions for decarbonisation, and the cost impost of implementing such solutions, is highly dependent on the commercial availability, level of adoption (scale) and maturity of the various solutions.

The ability to implement decarbonisation solutions is also dependent on external factors which must be addressed first. For example, an opportunity for reducing carbon emissions at ports could be through electrification of port cargo handling equipment and onshore power for shipping. However, the ability to achieve this requires adequate electricity supply infrastructure and renewable electricity. Unless Australia's grid supply is renewable then electrification will not provide the required carbon reduction. At this time, Australia's transition away from fossil fuel-based electricity to renewable electricity is delayed and these delays will have consequential impacts for the timing of electrification within ports.

Hence, decarbonisation of ports relies first on decarbonisation of the electricity grid and the capability of the grid network to supply the required energy through its network of lines and substations – a demand which would be substantial. The electricity provided must also be cost-effective (both in terms of supply and network infrastructure provision) otherwise the cost to consumers of electrification could be substantial. At overseas ports, many decarbonisation initiatives, e.g. onshore power, have been / are being funded or subsidised by governments in order to be implemented.

Regarding alternative fuel sources, certain technologies e.g. hydrogen which are currently under investigation for large-scale commercial use may be incompatible with existing land use at ports, or may not be available at scale or at a cost-competitive price, potentially delaying transition efforts to sustainable and alternative fuel sources. Therefore in order for ports and port supply chains to decarbonise, supply-side challenges must be addressed first.

The Australian Renewable Energy Agency (ARENA) has recently announced funding grants for difficult-to-transition industries, such as the \$9.4 million grant to Aurizon to develop, test and trial a battery electric locomotive and the \$2.54 million grant to Patrick Terminals to deploy nine battery electric vehicle terminal trucks and associated fast charging infrastructure at the Port of Fremantle. Financial investment support by government will continue to be required and expanded to support industry efforts to decarbonise. As additional use cases are identified they too would benefit from direct government support.

NSW Ports would welcome further engagement with the Australian Government as additional options and actions are explored in collaboration with industry to decarbonise Australian supply chains. Should you wish to discuss this submission further or would like to explore the themes in this submission in greater detail, please contact me on [REDACTED] or at [REDACTED]

Yours sincerely,

[REDACTED]

Greg Walls
Public Policy and Planning Manager
NSW Ports