Transport and Infrastructure Net Zero Consultation Roadmap

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Department of Climate Change, Energy, Environment and Water

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5 First name
Not answered

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9 Who are you answering on behalf of?

Organisation

10 Organisation name

Maritime Union of Australia

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

2000

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

202408_MUA_submission_on_Net_Zero_Transport_Sector_Plan.429570c2_Redacted.pdf

69 Upload a submission

Not answered

70 Upload supporting file

Not answered

71 Upload supporting file

Not answered

MUA Submission:

Transport and Infrastructure Net Zero Consultation Roadmap

6 August 2024

Department of Infrastructure, Transport, Regional Development, Communications and the Arts

Submitted by email: netzero@infrastructure.gov.au

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About us

This submission has been prepared by Maritime Union of Australia (MUA). The MUA is a Division of the 120,000-member Construction, Forestry and Maritime Employees Union and an affiliate of the 20-million-member International Transport Workers' Federation (ITF).

The MUA represents approximately 13,000 workers in the shipping, offshore oil and gas, stevedoring, port services and commercial diving sectors of the Australian maritime industry.

The MUA supports the government taking action to address climate change. We are working hard to prepare our membership and industries for the necessary transition to a zero-net emissions economy and society. We recognise the need to urgently reduce emissions globally and in Australia to prevent global heating from exceeding 1.5°C, but this will have a very significant impact on the jobs held by many of our members. Our ability to provide climate leadership in these industries depends on the ability of governments and of our union to deliver a just transition to our members working in fossil fuel industries, and their communities. If we cannot provide such a transition, we risk significant reductions to workers' living standards, deepening inequality, and a very significant political backlash which could stall the transition we need.

Contents

Guiding Principles: Just Transition

We would like to see a reference of the importance of securing a just transition of the workforce and the creation of quality work in decarbonised industries as part of the Guiding Principles in the final Plan, as per the Paris Agreement.[1] At an international level, the *ILO Guidelines for a Just Transition*[2] provide more detail, and have been endorsed by the tripartite International Labour Conference in 2023. The International Transport Worker's Federation also has a well-developed climate and just-transition work program in the transport sector.[3]

In Australia, the Australian Council of Trade Unions has developed comprehensive policy on climate and implementing a just transition for Australia's challenging energy transition.[4]

The Guiding Principle in the consultation document, 'Inclusive and equitable' (p.13,) is not attached to any substantial consideration of how this will be implemented or achieved. 'Success measures' and 'data sources' (p.84) indicate this is conceived in terms of transport consumers.

DITRDCA has adopted as an objective for the Maritime Emissions Reduction National Action to 'promote an equitable transition for the maritime sector, particularly for the maritime workforce.'[5]

In terms of practical implementation of a just transition in the transport sector, funding for any new equipment or technologies must be conditional on no loss of jobs for the existing workforce and the provision of alternate employment with no loss of wages and appropriate training for any displaced workers.

Government funding and subsidies must be tied to provision of good safe union jobs, local procurement, minimum requirements for trainees and apprentices, and use of Australian ships and crew for export vessels in new decarbonised industries.

Any loss of jobs due to transport decarbonisation must be properly understood and planned for, and workers supported through an expanded remit of the Net Zero Economy Authority as well as measures to ensure quality jobs in new industries.

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[1] The reference is 'the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities.' UNFCC, Report of the Conference of the Parties on its twenty-first session, held in Paris from 30 November to 13 December 2015.
[2] International Labour Office, Guidelines for a just transition towards environmentally sustainable economies and societies for all, 2015.
[3] International Transport Workers' Federation, COP28: Climate Justice Worker Justice. November 2023.
[4] Australian Council of Trade Unions, A Safe Climate with Good Union Jobs, June 2024.
[5] DITRCA, Charting Australia's Maritime Emissions Reductions – Issues Paper 4, March 2024. The IMO resolution on reducing emissions from ships calls for 'a just and equitable transition for seafarers and other maritime workforce that leaves no one behind'. IMO Resolution MEPC.377(80), 2023 IMO STRATEGY ON REDUCTION OF GHG EMISSIONS FROM SHIPS, 7 July 2023, para 5.6

Guiding Principles: Safety

Safety must also be included as a guiding principle. This is particularly important to balance current Guiding Principles that include 'Value for money' (Guiding Principle 2) and 'Maximise economic opportunity' (Guiding Principle 3). Low cost or economic profit must not be put ahead of safety in planning the best pathway for transport decarbonisation.

There are considerable hazards involved with new transport energy sources, and different decarbonisation pathways will have different safety considerations and outcomes. Safety must be considered both in the overarching planning process, as well as be a critical part of implementation and operations. Hydrogen is highly explosive. Ammonia is highly toxic to people and the environment – it is classified as 'Hazardous' by Safe Work Australia, as toxic by inhalation, and causing burns. At high concentrations, it can cause death by inhalation.[6]

Unions play a key role in ensuring workplace safety. Australia's process-based Work Health and Safety laws apply concurrently with maritime and other transport safety regulation, and they rely on the participation of Health and Safety Representatives and full consultation with the workforce. Workers can only participate in these processes properly and with confidence if they are in secure work, are not fatigued, and have the support and protection of a union. Conversely, casualisation of work significantly undermines safety, and also makes it more difficult for industry to retain skills in new technologies.

Maritime education and training institutes, medical practitioners, and safety regulators are to ensure safety culture is firmly embedded in the whole system.

For all stakeholders, appropriate competencies and establishing a safety culture are essential for health and safety for both the human element and the environment.

Introducing a new type of energy source encompasses the entire life cycle from manufacturing, transporting, bunkering, storage, and energy processing in providing transport propulsion.

To protect human lives in this transition, it is necessary to have a clear vision of the safety dynamics associated with each energy source. This can be accomplished by acquiring the correct knowledge about the energy sources being used and obtaining the proper competencies necessary for the whole operation, including emergency circumstances. Competencies must therefore include knowledge of operations that may include, inter alia, extreme temperatures and pressures, toxicity, corrosiveness and high voltage, all of which can inflict harm and/or accidents.

When introducing alternative energy sources, the following are crucial:

- Collaboration with the relevant union/s, workplace safety committee, and Health and Safety Representatives
- A robust training scheme that guarantees the highest level of safety culture

[6] IMAP – Accelerated assessment of industrial chemicals in Australia, Ammonia and Ammonium hydroxide: Human health tier II assessment, 4 July 2014.

- appropriate training that covers communication, risk analysis, operation and emergency situations
- knowledge about construction and design and relevant regulations
- adequate fire detection and fire-fighting equipment
- availability of proper lifesaving appliances
- provisions of adequate personal protection equipment for all personnel

Workforce Planning

The final plan will also need to consider workforce impacts and requirements – what does the energy transition mean for transport workers (potential job losses, projected increase, the need for more workers?).

In addition, the enablers for decarbonisation are not just technologies but also the skilled workforce to operate them safety. The final Plan will need to articulate how the planning and development of future transport workforce will be achieved, in conjunction with other government agencies such as Jobs and Skills Australia, the Jobs and Skills Councils, and TAFEs and other training providers. All the responsible Jobs and Skills Councils must be identified in the Plan – Industry Skills Australia will be the key one but there may be others.

Other sector plans have much stronger workforce considerations, particularly the energy plan.

Workers should be fully funded to access quality training to work with new transport energy sources.

Any new skills required must be properly integrated into Australia's existing qualifications framework through the Jobs and Skills Councils, and not rely on proprietary modules developed outside our training system.

Mode shift to shipping

The consultation document looks at the redesign of freight transport systems to reduce emissions (Chapter 2.2). It identifies the opportunity for 'mode shift from road to rail' (p.32), but not the opportunity for emissions reduction through modal shift to shipping. Shipping is a more efficient way of moving cargo, particularly when it can be aggregated in bulk.[7] Recent research on Australian transport routes finds that "Realistic and effective mode shifts to reduce WTW [Well To Wake] emissions from freight transport would be from road to sea, or from diesel rail to sea. For example, a complete transfer of freight from road

[7] MIT Climate Portal, Freight Transportation, accessed August 2024.

transport to bulk carriers would reduce emissions by more than 80%, and a transfer to container ships would reduce emissions by around 60%."[8]

Initiatives from the state governments provide important examples of how shipping can be used to reduce freight transport emissions, but they are currently too small in scale to meet the emissions reduction challenge. The Queensland government's Backing Maritime Jobs policy is primary conceived as a training and resilience policy,[9] but it also has emissions reduction benefits.[10] It will support the introduction of a cargo ship carrying freight along the Queensland coast.[11]

Likewise the West Australian Shipping and Supply Chain Taskforce has examined the need and opportunities to increase the use of domestic and international coastal shipping.[12] It is also framed around the need to increase transport resilience, particularly over the long routes between WA's key population centres and the Australian east coast, as well as to NW WA. Potential initiatives include support for Australian flag ships to bring cargo to NW ports from Singapore, which will reduce the need for international freight to travel to northwest WA via Fremantle. The Task Force is also investigating the possibility of introducing a ship to move containerised freight between the Australian east coast and WA. Both initiatives will also reduce transport emissions.

The current Commonwealth government has an ambition to grow Australian shipping, establish an Australian Strategic Fleet, and review and improve the *Shipping Registration Act* and *Coastal Trading (Revitalising Australian Shipping) Act*.[13] This can and should be leveraged to reduce transport emissions, including through mode shift of freight to ships.

The potential emissions reduction gains from greater use of shipping are substantial. Critically, they hold up over time, due to emissions reduction from ships as well (Table 1 and 2).

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[8] Robin Smit and Paul Graeme Boulter, Impacts of mode shift on well-to-wheel emissions from inter-capital transport in Australia – Part II: Sea and air transport, *Explora: Environment and Resource*, 2024: 1(1):3471, p.17.

[9] Queensland Government, Bigger and Better jobs for Queensland's Maritime Sector, April 2023.

[10] National Freight and Supply Chain Strategy, Backing Queensland Maritime Jobs, accessed August 2024.

[11] Maritime Safety Queensland, Coastal Shipping Grant Program, accessed August 2024.Delivered under the Backing Queensland Maritime Jobs policy.

[12] Government of West Australia, WA Shipping and Supply Chain Task Force, October 2023.

[13] DITRDCA, Maritime Strategic Fleet, accessed July 2024. Minister Catherine King, Report shows Strategic Fleet can bolster Australia's maritime and freight sectors, November 2023. Prime Minister Anthony Albanese, Labor Will Create a Strategic Fleet to Protect Our National Security and Economic Sovereignty, January 2022.

Table 1: Mean Well-to-Wheel/Wake emissions for freight on Brisbane-Melbourne route.

2019	**Emissions** (g CO_2-e/tkm)
Road	49
Rail – diesel	27
Sea - container vessel	16
Sea – bulk carrier	8

2050	**Emissions** (g CO_2-e/tkm)
Road	30
Rail – diesel	26
Sea - container vessel	9
Sea – bulk carrier	4

Source: Robin Smit and Paul Graeme Boulter, Impacts of mode shift on well-to-wheel emissions from inter-capital transport in Australia – Part II: Sea and air transport, July 2024, Table 4 p.12.

Table 2: Emissions reduction from shift of container freight to ships from road and rail on Brisbane-Melbourne route.

		Emissions reduction
2019	Road freight shift to container vessels	67%
	Diesel rail freight shift to container vessels	59%
2050	Road freight shift to container vessels	70%
	Diesel rail freight shift to container vessels	65%

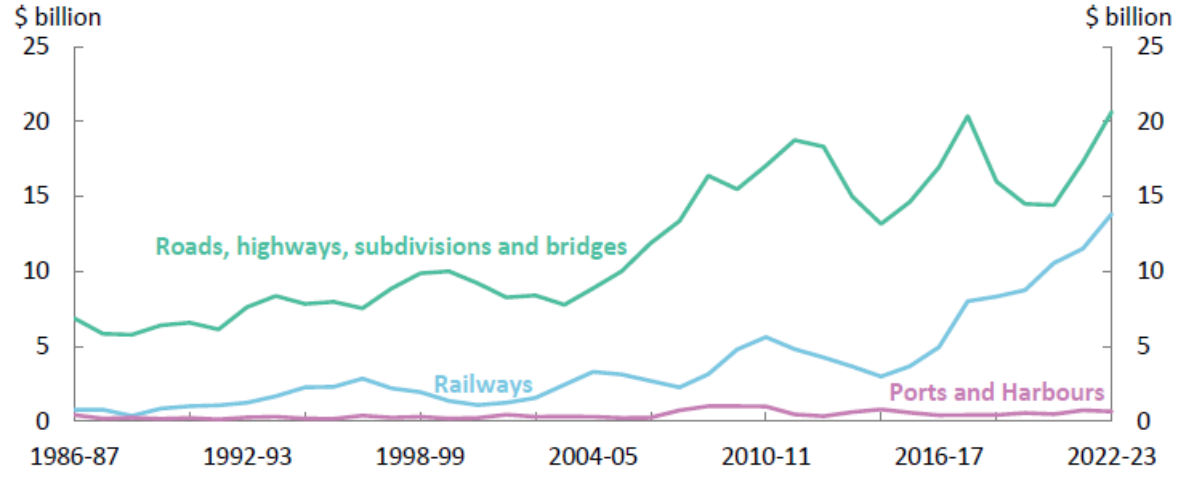
Source: Table 1 above.

Lack of investment in ports and shipping

The consultation paper shows the lack of investment in shipping and infrastructure over decades, particularly compared to road and rail (see table below). This is an opportunity for decarbonisation given the emissions reduction potential outlined above.

Figure 19: Most of Australia's transport infrastructure investment is in roads

Total value of public sector transport infrastructure engineering and construction work done (by the private sector for the public sector and by the public sector), adjusted by chain volume index, 2022-23 prices.



Source: BITRE Australian Infrastructure and Transport Statistics - Yearbook 2023

Source: DITRCA, Transport and Infrastructure Net Zero Consultation Roadmap, p. 68.

Lack of recognition of shipping initiatives from government

The government has an ambition to grow Australian shipping, establish an Australian Strategic Fleet, and review and improve the *Shipping Registration Act* and *Coastal Trading Act*.[14] However the consultation paper does not reflect this, and appears to assume the status quo of low levels of freight will continue to be carried by sea. For example the consultation paper projects low levels of sea freight out to 2050, while road freight virtually doubles (Figure 4 on p.19, also pasted below). The consultation paper likewise describes a reliance on international vessels for domestic shipping as something that will continue indefinitely (p.55).

It would be good to better align these policies.

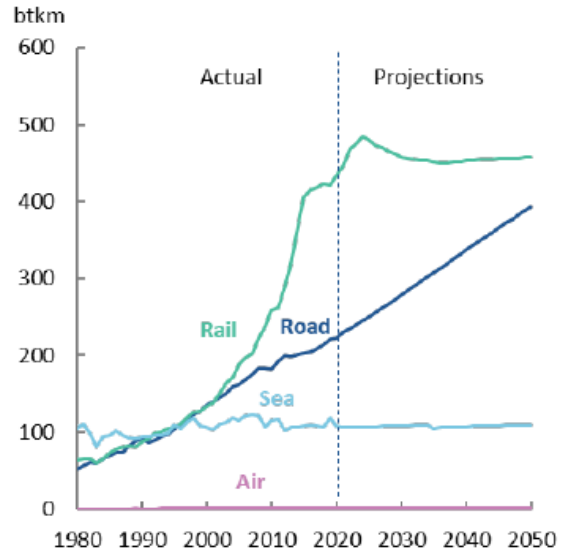
The Sector Plan should also explore opportunities once the Strategic Fleet comes online. The MUA understands the Government will be approaching the market soon with the pilot fleet of three vessels to become operational in 2025. As more vessels are added, there are

[14] DITRDCA, Maritime Strategic Fleet, accessed July 2024. Minister Catherine King, Report shows Strategic Fleet can bolster Australia's maritime and freight sectors, November 2023. Prime Minister Anthony Albanese, Labor Will Create a Strategic Fleet to Protect Our National Security and Economic Sovereignty, January 2022.

opportunities for the Strategic Fleet to lead decarbonisation efforts and test new technologies.

Figure 4: Australia's freight task has been rising for decades and is projected to keep growing…

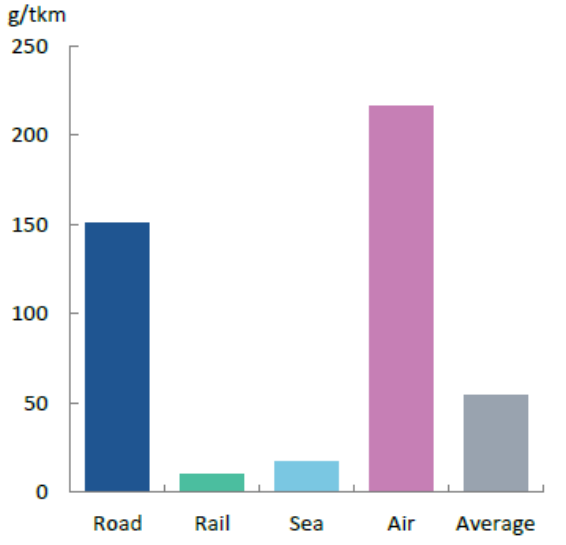
Projected freight growth to 2050 by mode in Australia.



1: BITRE/National Freight and Supply Chain Strategy

Figure 5: … and the emissions intensity of moving goods on different modes varies widely.

Full fuel cycle greenhouse gas (CO_2-e) emissions intensity of the freight task, by transport mode, measured in grams CO_2-e per tonne-kilometre.



2: DITRDCA estimates using BITRE Australian Infrastructure and Transport Statistics - Yearbook 2023

Source: DITRCA, Transport and Infrastructure Net Zero Consultation Roadmap, p.19

Impact of port privatisation and fragmented freight supply chains

The consultation paper supports shifting port freight from road to rail (p.32). This is sensible, as ports act as key nodes for significant quantities of freight. However there are consistently dismal quantities of freight carried by rail to and from ports. In Sydney's Port Botany, 14% of containers were carried by rail in 2022. Since 2017, this has declined by 6%, despite policy supposedly being in place to support increasing rail freight. While total freight has grown substantially in this time, the absolute number of containers on rail has fallen from a high of 38,137 average TEU per month in 2017 to only 30,330 average TEU per month in 2022.[15]

The quantity of freight on rail is even lower in Melbourne.

It should be understood that privatisation of ports and other parts of the transport system, and a lack of will to take on major transport companies has led to this situation. Strong

[15] Ed Willett, *Independent Review - Ports and Maritime Administration Act 1995 and Port Botany Landside Improvement Strategy, Transport for NSW*, p186. Transport for NSW, Freight Policy Reform: Consultation Paper, April 2024, p.14.

planning and minimum requirements for ports, stevedores and all other parts of the supply chain will be needed to turn this around.

Port decarbonisation

The MUA is supportive of efforts to address the climate crisis and decarbonise the maritime industry. Electrification is a technology that is available now, with electric passenger ferries built in Australian being deployed around the world. It is time for Australia to catch up. This is also an opportunity to design ships and systems that are fully up to date and fit for purpose.

A holistic approach should be taken to port decarbonisation to ensure adequate planning for the required infrastructure. Technologies to support port electrification are available now, covering smaller vessels such as ferries, lines vessels, port workboats and even tugs. Likewise significant cargo handling equipment in ports could also be electrified, along with port vehicles. These will also require adequate charging stations which are resilient to flood and severe weather events.

The potential required electrical capacity for port electrification must be understood and factored into electricity system planning. It is likely that most ports will need substantial upgrades to their electrical supply and electrical system. If this work is not undertaken, a lack of electrical capacity will prevent the implementation of existing technologies.

The MUA is an active participant in the development of the current Maritime Emissions Reduction National Action Plan (MERNAP). We have called for the final Plan to include Commonwealth financial support the development of whole-of-port decarbonisation plans, which would include:

- shore power
- electrification of port vessels
- electrification of port vehicles and machinery
- assessment of total potential port electrical demand, and any required upgrades to port electrical supply/transmission and port electrical and charging systems
- potential energy sources for larger vessels, bunkering needs, and any common user facilities required to support this.
- Any new risks and hazards to be managed

The port and seagoing workforce and our unions must be actively included in the development of these plans.

The MERNAP should also provide a pool of funding to support the installation of the required port infrastructure. Clear expectations must be attached to this funding that the introduction of any new port electrification technologies not be used to undermine the existing port workforce or negatively impact port working conditions.

Transport resilience and Future Made in Australia programs

The MUA welcomes and supports the FMiA package and the Commonwealth Government's investment and commitment to establishing renewable industries in Australia that will provide long-lasting community benefits and quality jobs.

It is the MUA's belief that the FMiA program could support efforts to revitalise Australian shipping. The incorporation of Australian shipping will also increase the resiliency and capability of new FMiA industries, and substantially increase the domestic footprint and economic return of any funded export projects.

All the new industries the government is seeking to establish have substantial shipping components, and some developers are interested in establishing Australian fleets as part of their projects. But we are concerned that these opportunities will be missed if they are not explicitly recognised as part of the FMiA program across Departments and Agencies.

As more details are released by the Departments and Agencies, we are increasingly concerned that there is little understanding of the role of Australian shipping and the Strategic Fleet in transport and logistics supply chains, and no references in the FMiA programs. Further, there are no firm obligations to develop transport supply chains in the conditions of project funding or proposed tax incentives.

The MUA is seeking to ensure that transport resilience and capaibility is recognised as an important aspect of all net zero programs and new industries.