

Maritime Union of Australia

Submission to the Senate Economic References Committee

Inquiry into the Australian manufacturing industry

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Introduction

1. This submission has been prepared by Maritime Union of Australia (MUA). The MUA is a Division of the 120,000-member Construction, Forestry, Maritime, Mining and Energy Union (CFMMEU) and an affiliate of the 20-million-member International Transport Workers’ Federation (ITF).
2. The MUA represents approximately 14,000 workers in the shipping, stevedoring, port services, offshore oil and gas, aquaculture, marine tourism and commercial diving sectors of the Australian maritime industry.
3. MUA members work on Australian registered (flagged) ships in transport supply chains supporting the manufacturing sector. They also work in landside roles, providing stevedoring and other ship services, to both foreign and Australian registered ships, that participate in the transportation aspects of manufacturing supply chains.

Preamble

4. This submission focusses on the transportation aspects of supply chains, the maritime and shipping sector in particular.
5. It proposes that greater policy attention and fiscal support be focused on the shipping and maritime industries to ensure that the transportation aspects of supply chains that service manufacturing are secure, resilient, efficient and functional, and are therefore contributing to, and supporting, the growth of Australian manufacturing.
6. The submission argues that Australia is overly dependent on foreign ships for its sea transportation and maritime support needs. It further argues that there is a fundamental incompatibility between the excessive use of foreign ships employing non-national crews on Temporary Licenses in coastal trading that is largely transporting the raw material inputs for manufacturing of steel, aluminium, petroleum products, chemicals and construction materials and manufacturing outputs (finished or semi-finished products) for domestic distribution and international trade, and the need to build supply chain security and resilience. There is an urgent need for the nation to mitigate its dependency on foreign shipping in both domestic and international trade.

7. The submission argues that supply chain policy must be fully integrated into manufacturing and wider industry policy given that the transportation of the raw material inputs and the outputs of manufacturing production is critical to the success of the Australian manufacturing industry.
8. This submission should be read in conjunction with submissions by the ACTU, AMWU, AWU, CFMMEU (Manufacturing Division), ETU and UWU.

Executive summary

9. One of the capacities that Australian manufacturing requires is more resilient, secure and adaptable supply chains to support manufacturing.
10. The Australian shipping and maritime industries must be viewed as a vital component of national transport infrastructure, integrated with the functionality, productivity and efficiency of other industries such as manufacturing, agriculture/aquaculture, resources, energy and tourism.
11. Australia is overly dependent on foreign ships for its sea transportation and maritime support needs. There is an urgent need for the nation to mitigate its dependency on foreign shipping in both domestic and international trade, and to build economic advantage from Australia's heavy use of ships and maritime services.
12. Australia has been consistently outsmarted by its trading partners in terms of supply chain sovereignty, particularly in relation to ship ownership. Australia's trading partners have sought to control their international goods supply chains through all facets of the ship supply chain, from shipbuilding to ship ownership, to ship management, to shipping contracts, and often part ownership of the production of the cargo e.g. oil, refined petroleum, LNG, coal, aluminium, and iron ore.
13. Vertical integration has been a conscious decision of the commodity traders in those nations, supported by clear government policy, regulatory settings and industry policy support. The result is that their product supply chains are highly secured, in marked contrast to Australia.
14. One pillar of the current Government's Modern Manufacturing Strategy is to focus on areas of advantage. It is our submission that the shipping and maritime sectors exhibit all the features of national comparative advantage due to the long tradition of provision of shipping and maritime services in Australia, our highly developed freight transport and logistics system and highly skilled maritime workforce.
15. Another pillar of the Strategy is to build national resilience for a strong economy, particularly through the Supply Chain Resilience Initiative. We propose that the shipping and maritime components of manufacturing supply chains be integrated into the Modern Manufacturing Strategy and that key initiatives such as the proposal for a national strategic fleet, the development of maritime hubs associated with the emerging offshore wind energy sector and port located hydrogen hubs form part of the Supply Chain Resilience Initiative, funded from the Modern Manufacturing Initiative.

16. The submission argues that it is critical that transport and logistics attract sufficient policy attention by government, because:
 - It is the second largest contributor behind energy to carbon emissions and must be supported to decarbonise;
 - It is central to the efficient functioning of the economy in terms of international trade and in terms of domestic distribution of goods;
 - There is a lot of innovation occurring in port and inland terminals, in ship design, in transport fuels across the industry, in ship building, in logistics technologies but it is not being supported by government nor is it coordinated;
 - There is considerable opportunity to extract economic benefit from the shipping aspect of supply chains and to reduce the drain on the balance of payments from purchase of overseas shipping services if Australian content in shipping is lifted; and
 - It is a large employer of the workforce, but is an industry where technology could be labour reducing, not labour enhancing and where labour intensity is already occurring e.g. at ports and in warehouses.
17. The maritime and shipping industry requires only modest levels of industry policy support to help transition the industry to a position of greater Australian content (and reduced dependency on foreign ships) aimed at increasing supply chain resilience and improving national security.
18. This is also necessary to help level the playing field to promote genuine freight modal competition. That means industry policy financial support as well as regulatory and taxation support. While the 2012 shipping reform package included taxation incentives to support shipping, they have not delivered their intended outcome and need to be adjusted.
19. But importantly, the industry requires financial support to ease the impact on the industry to transition to Australian ships and Australian employment, and for new entrant Australian shipping companies to start-up.
20. We submit that a legitimate and practical mitigation strategy aimed at improving supply chain security and functionality that could readily be supported by government is establishment of a national strategic fleet, that is, to further develop Australia's domestic and international shipping capability.
21. The growth, expansion and transformation of Australian manufacturing is intimately linked to emerging opportunities for Australian ships, notwithstanding the national shipping and maritime industry policy framework is not geared to take advantage of emerging sea transportation opportunities that could provide a role for more Australian ships, with substantially greater maritime employment.
22. Those opportunities are arising from industrial transformation, being driven largely by renewable energy policy, new technologies such as automation and digitalisation, and from business development in areas such as expedition cruise shipping, aquaculture and bunkering of alternative marine propulsion fuels.
23. The emerging industrial transformation trajectory in Australia could see a renaissance of shipping over the next several decades with the right policy support. Industrial transformation

will substantially increase the demand for ships – to transport the raw material inputs (like iron ore, bauxite and other minerals/rare earths) to domestic processing plants (cabotage trade) and to deliver the processed or semi-processed products to international markets (international trade). The energy transition is also creating other opportunities for ships – in energy production itself, such as offshore wind energy production and in transportation of renewable gas such as green hydrogen

24. Support for Australian ships is good for Australian jobs. Every additional Australian crewed trading ship creates a minimum of 34 direct seafarer jobs and through the multiplier effect, an additional 30-40 jobs in onshore ship support services, and jobs along the transport supply chain.
25. MUA analysis shows that if government is willing to provide a modest yet targeted industry policy support package for the Australian shipping industry, around 2,500 direct seafarer jobs would be created over the next 5-10 years, around 3,600 indirect onshore maritime jobs and around 6,000 new maritime jobs in total.
26. The submission identifies several maritime related opportunities for expansion of Australian manufacturing. One significant opportunity is the manufacturing of components for new zero emissions industries, particularly offshore wind energy production, with flow-on opportunities in green steel manufacture. The key parts of offshore wind turbines which could initially be produced locally are the tower and the foundations, as well as underwater cabling.
27. Another opportunity is hydrogen production and export. There is considerable opportunity to nurture and strengthen the Australian commercial shipbuilding industry integrated with Naval shipbuilding.
28. The submission contains 14 recommendations that we urge the Committee to support, aimed at giving effect to the opportunities outlined in the submission.

Recommendations

Recommendation 1: Commit to a new national maritime and shipping policy framework

- That the Federal Government adopt a new national maritime and shipping policy framework to build Australian content in both Australia's domestic and international shipping capability designed to improve supply chain security and resilience necessary to support the growth of Australian manufacturing industry;

Recommendation 2: Integrate shipping into the Modern Manufacturing Strategy

- That the Federal Government integrate the shipping and maritime components of manufacturing supply chains into the Modern Manufacturing Strategy, and that key initiatives such as the proposal for a national strategic fleet, the development of maritime hubs associated with the emerging offshore wind energy sector and port located hydrogen hubs form part of the Supply Chain Resilience Initiative, funded from the Modern Manufacturing Initiative.

Recommendation 3: Commit to provide industry policy support for the Australian maritime and shipping sectors

- That the Federal Government commit to provide an industry policy support package for the maritime and shipping industry.

Recommendation 4: Establish a national shipping infrastructure and innovation fund

- That the Federal Government establish a national shipping infrastructure and innovation fund to provide seed funding to support the transition towards increased Australian content in shipping, and to support the establishment of a national strategic fleet, in order to help level the playing field between all transport modes to deliver improved competition across supply chains required to support manufacturing.

Recommendation 5: Establish a maritime industry innovation council

- That the Federal Government establish a maritime industry innovation council to foster collaboration between industry, unions, transport and logistics policy and research centres such as the Centre for Supply Chain and Logistics at Deakin University, the Blue Economy Cooperative Research Centre, and the Australian Maritime College/University of Tasmania to advise on Government policy and fiscal responses needed to build a maritime cluster in Australia.

Recommendation 6: Review the National Freight and Supply Chain strategy

- That the Federal Government, in conjunction with the states/NT, the freight and logistics industry and unions, initiate a review of the National Freight and Supply Chain strategy to ensure it addresses shipping and sea freight opportunities given the efficiency and environmental advantages of ships in the freight modal mix, and in particular to ensure the strategy include specific proposals to grow the share of domestic freight transported by ships, particularly Australian ships.

Recommendation 7: Refresh the National Ports Strategy

- That the Federal Government recommend that the Transport and Infrastructure Ministerial Council oversea a review the National Ports Strategy 2011, one objective being to ensure there is overall policy coordination for port development in Australia, and that the strategy helps guide State and NT initiatives that can facilitate the revitalisation and growth of Australian coastal shipping through better port planning, better port infrastructure and a more tailored fees and charges regime that supports Australian shipping.

Recommendation 8: Commit to provide industry policy support for a national strategic fleet

- That the Federal Government as a first step in implementation of a new national maritime and shipping policy commit to provide an industry policy support package for establishment of a national strategic fleet.

Recommendation 9: Reform the operation of the Australian Jobs Act for sea transportation

- That the Federal Government reform the operation of the *Australian Jobs Act 2010* to facilitate the opportunity for Australian ship transportation entities to have full, fair and reasonable opportunity to bid and win contracts for both sea freight transportation services for carriage of the production outputs of major projects, and the support vessel component of offshore wind energy projects, to increase the employment of Australian maritime workers.

Recommendation 10: Invest in research and development for offshore wind

- That the Federal Government invest in research and development for offshore wind, particularly floating offshore wind, and fund the establishment of an advanced manufacturing hub for offshore wind turbine components on the east coast of Australia. The licencing provisions of the new *Offshore Electricity Infrastructure Bill* must also support the development of local manufacturing and supply chains.

Recommendation 11: Incorporate offshore wind into planning for the National Hydrogen Strategy

- That the Federal Government ensure offshore wind is adequately incorporated into planning for the National Hydrogen Strategy, and for renewable energy manufacturing hubs.

Recommendation 12: Review the maritime services elements of trade agreements to maximize commercial opportunities for Australian maritime companies

- That the Federal Government keep under review trade agreements to ensure they continue to recognise and respect national cabotage law and that the trade in services aspects of trade agreements, particularly maritime services annexes, do not impede Australian content objectives designed to nurture Australian maritime services companies and create maritime employment for Australian nationals.

Recommendation 13: Review the dumping of shipping services

- That the Federal Government assist the maritime industry to work initially with the Anti-Dumping Commission to examine whether international shipowners might be engaging in dumping activity in the provision of ship time/cargo charter services in Australian coastal trades, and subject to the findings of that review, note that the issue be referred to the International Trade Remedies Forum (ITRF) aimed at considering amendments to the *Customs Tariff (Anti-Dumping) Act 1975* to more appropriately address dumping of shipping services in the Australian domestic sea freight market.

Recommendation 14: Integrate planning for hydrogen manufacture with support for the transition to clean transport fuels

- That the Federal Government integrate plans for the development of domestic renewable hydrogen manufacturing with the use of hydrogen and ammonia as a fuel in national transport supply chains, including all types and classes of ships. Domestic capacity in manufacturing, servicing and bunkering such vessels must be developed.

Responding to the Terms of Reference

Term of Reference 1. What manufacturing capacities Australia requires for economic growth, national resilience, rising living standards for all Australians and security in our region

Australia’s manufacturing capabilities

29. It is our submission that Australia continues to hold the core capabilities for a regeneration of manufacturing, and a transition towards a sustainable, larger and more diversified export oriented manufacturing industry.

30. The evidence of those capabilities is the availability of many of the essential raw materials as inputs to production; an abundance of sources of renewable energy to drive production; the availability of technologies to reduce carbon emissions in new production processes; the nation's continuing tradition of manufacturing operations in key sectors like steel, aluminium, oil refining, rail rolling stock, shipbuilding and vehicle components on which to build and diversify Australian manufacturing production; a strong research/development and learning capacity in Universities and research institutes; a skilled and capable workforce; and relatively good transport and logistics infrastructure.
31. What the nation lacks is policy leadership around the future direction and priorities for Australian manufacturing – a policy mission that must by necessity be linked to a decarbonisation mission, a comprehensive industry policy that not only address demand side objectives and settings, but supply side plans; and an institutional framework that coordinates the industry policy and decarbonisation missions by harnessing and coordinating the key actors to apply additional investment and entrepreneurship in Australian manufacturing.
32. In a 2020 paper entitled *A Fair Share for Australian Manufacturing* the Centre for Future Work argued that *“The spill-over benefits from a strong manufacturing sector into the rest of the economy motivate and justify focused efforts by government to stimulate manufacturing investment and production. The positive externalities of a vibrant domestic manufacturing sector represent a healthy economic and social return to investments made by government in supporting manufacturing investment, innovation, employment, and exports. Modern economic theory recognises these externalities, in explaining why governments should indeed legitimately intervene in markets to expand the domestic footprint of desirable, strategic industries. Strategic industries are those with the positive qualitative characteristics : export orientation, innovation intensity, strong supply chains, and superior productivity and income potential.”*¹

Australia has well developed capabilities in its maritime and shipping industry, but there is no policy support

33. One of the capacities that Australian manufacturing requires is more resilient, secure and adaptable supply chains to support manufacturing.
34. The Australian shipping and maritime industries must be viewed as a vital component of national transport infrastructure, integrated with the functionality, productivity and efficiency of other industries such as manufacturing, agriculture/aquaculture, resources, energy and tourism.
35. Ten per cent of the world's sea trade passes through Australian ports and Australia relies on sea transport for 99 per cent of its international trade (by volume).² In 2018–19, the value of Australia's maritime exports was \$333.8 billion, an 18.4 per cent increase in real terms on 2017–18 and an average annual trend increase of 4.8 per cent per annum, in real terms, over the five

¹ Centre for Future Work, *A Fair Share for Australian Manufacturing: Manufacturing Renewal for the Post-COVID Economy*, July 2020, P66
https://d3n8a8pro7vhmx.cloudfront.net/theausinstitute/pages/3332/attachments/original/1595693276/A_Fair_Share_for_Australian_Manufacturing.pdf?1595693276

² Department of Infrastructure and Regional Development, *Trends: Transport and Australia's Development to 2040 and Beyond*, 2016, https://www.infrastructure.gov.au/infrastructure/publications/files/Trends_to_2040.pdf

years to 2018–19³. This involved 28,584 ship arrivals by 5,981 individual foreign-flagged ships in 2019.⁴

36. Australia is the largest iron ore exporter with 57 per cent of the world market, the second largest coal exporter with 30 per cent of the global market and the eighth largest grain exporter with 4 per cent of the world market. Globally, Australia is the fourth largest user of ships.⁵ Table 1, which shows Australia's Top 20 Manufactures Exports, represents the range of products that ships transport to export markets, though not one of these ships is registered (flagged) in Australia, they employ not a single Australian worker and pay zero tax in Australia.
37. In 2018-19 Purchase of these shipping he foreign purchase of freight transport services (chartering of foreign ships to transport Australian exports) was the 7th largest Australian import costing the nation \$10.12 billion, up from \$8.43 billion just two years earlier in 2016-17.⁶ At the same time Australia's export of shipping services was valued at just \$177 million.⁷

Table 1: Australia's Top 20 Manufactures Exports 2018-19

³ Department of Infrastructure, Transport, Regional Development and Communications, *Australian sea freight 2018–19*, <https://www.bitre.gov.au/sites/default/files/documents/asf-2018-19.pdf>

⁴ Australian Maritime Safety Authority, *Port State Control Australia, 2019 Report*, P2.

⁵ United Nations Conference on Trade and Development (UNCTAD), *Review of Maritime Transport 2019*, https://unctad.org/en/PublicationsLibrary/rmt2019_en.pdf. Note that the Report of the Senate Rural and Regional Affairs and Transport References Committee Inquiry into Policy, regulatory, taxation, administrative and funding priorities for Australian shipping says at Para 1.33 that Australia is the fifth largest user of shipping.

⁶ DFAT, *Australia's Top 25 Imports, Goods and Services*, 19 November 2019, <https://www.dfat.gov.au/sites/default/files/australias-goods-services-by-top-25-imports-2018-19.pdf>

⁷ DFAT, *Australia's Services Exports 2018-19, Trade and Investment at a Glance 2020*, <https://www.dfat.gov.au/sites/default/files/trade-investment-glance-2020.pdf>

Rank	Commodity ^{(a)(b)}	\$ million	% share	% change
1	Aluminium	4,251	7.9	3.8
2	Copper	3,968	7.3	37.3
3	Pharmaceutical products (excl medicaments)	2,953	5.5	86.6
4	Medicaments (incl veterinary)	2,627	4.9	12.1
5	Aircraft, spacecraft & parts	2,548	4.7	24.7
6	Telecom equipment & parts	2,197	4.1	21.2
7	Nickel	1,695	3.1	1560.1
8	Medical instruments (incl veterinary)	1,654	3.1	12.0
9	Zinc	1,608	3.0	-5.9
10	Measuring & analysing instruments	1,514	2.8	43.0
11	Paper & paperboard	1,026	1.9	8.4
12	Pigments, paints & varnishes	984	1.8	-1.1
13	Perfumery & cosmetics (excl soap)	950	1.8	7.8
14	Lead	931	1.7	-4.8
15	Computers	912	1.7	7.7
16	Vehicle parts & accessories	881	1.6	2.2
17	Miscellaneous manufactured articles	871	1.6	-20.4
18	Specialised machinery & parts	803	1.5	-7.6
19	Civil engineering equipment & parts	728	1.3	9.1
20	Ships, boats & floating structures	712	1.3	172.2
Total manufactures exports^(c)		54,048	100.0	17.2

(a) Recorded trade basis.

(b) Excludes confidential items of trade.

(c) Total manufactures exports on a balance of payments basis.

Based on ABS trade data on DFAT STARS database and ABS catalogues 5302.0 & 5368.0.

Source: DFAT, *Australia's Services Exports 2018-19, Trade and Investment at a Glance 2020*

38. Ships and the ports they use are a critical component of the supply chains that support other wealth generating industries. Ships are critical to the import and export supply chains for all facets of manufacturing, resources and energy including refined petroleum products, agriculture, aquaculture, fishing, tourism (including the growing marine tourism and cruise sectors), wholesale and retail distribution, and construction.
39. Bulk commodity ships and other trading ships used in these supply chains create demand for a range of other marine services including towage, pilotage, bunkering (refueling), mooring, waste removal, provisioning, firefighting, salvage and marine rescue as well as requiring port services

and stevedoring services. Ships perform vital supply and support roles to the offshore oil and gas production sector and will perform similar marine support roles as offshore wind energy production takes hold.

40. The role and functionality of shipping and ports in supporting Australia's manufacturing industries has been seriously neglected in policy, strategic and in industry policy support terms.

Australia is overly dependent on foreign ships

41. Australia is overly dependent on foreign ships for its sea transportation and maritime support needs. There is a fundamental incompatibility between the excessive use of foreign ships with foreign crews on Temporary Licences in coastal trading and the need to build supply chain security and resilience. There is an urgent need for the nation to mitigate its dependency on foreign shipping in both domestic and international trade, and to build economic advantage from Australia's heavy use of ships and maritime services.
42. Foreign shipping cartels protected by Part X of the *Competition and Consumer Act 2010* are price gouging in the Australian container freight market. Foreign shipowners/operators/charterers are exploiting flaws in the *Coastal Trading (Revitalising Australian Shipping) Act 2012* to eliminate Australian flagged ships and employment of Australian seafarers in the domestic freight market. Migration laws operate to facilitate the use of non-national seafarers in domestic shipping at the expense of national seafarers. Australian taxation and customs laws applying to ships favours foreign shipowners and foreign corporations. Australian ship procurement policy provides no support for Australian merchant shipbuilding nor favours use of Australian ships in the transportation elements of government procurement and transportation of goods. The MUAs detailed analysis of these gaps in maritime policy are contained in the MUA submission to the 2019-2020 Senate inquiry into shipping.⁸
43. No government subsidies or industrial policy support is provided to Australian shipping, unlike the road and rail sector. The domestic freight market is not a level playing field. This distorts modal choice and disadvantages Australian shipping. This was a key finding by the Senate Inquiry into shipping, which found that "... *there is an uneven playing field, due to government subsidisation of road and rail transport, which disadvantages coastal shipping as a viable alternative. This is further compounded by the fact that, as indicated by the ACCC, heavy vehicles may not be paying an appropriate price for the use of Australian roads, and that there are increasing charges at Australian ports.*"⁹

⁸ MUA, *A plan to save the Australian shipping and maritime industries*, Submission to the Senate Rural and Regional Affairs and Transport References Committee Inquiry into Policy, regulatory, taxation, administrative and funding priorities for Australian shipping, 5 March 2019, Submission 10, https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/Shipping_2018/Submissions v

⁹ Report of the Senate Rural and Regional Affairs and Transport References Committee Inquiry into Policy, regulatory, taxation, administrative and funding priorities for Australian shipping, December 2020, Para 3.80, P51, https://parlinfo.aph.gov.au/parlInfo/download/committees/reportsen/024290/toc_pdf/Policy.regulatory.taxation.administrativeandfundingprioritiesforAustralianshipping.pdf;fileType=application%2Fpdf

44. The continued decline in Australian based maritime economic activity puts at risk Australia's sovereign industrial capability and threatens supply chain security and resilience. An Australian Financial Review article in August 2021 noted that *"the shipping channels so vital to distributing the goods to warehouses in Australia are increasingly unreliable as COVID-19 wreaks havoc on what global traders had been taking for granted."*¹⁰
45. Total reliance on foreign shipping undermines the maritime skills base of an island nation so dependent on sea transportation and a highly skilled maritime workforce for the many marine and logistics services that support sea transportation, so necessary for the nation's economic welfare. It diminishes our Defence and Naval capability, maritime security and emergency response provision.
46. As the Centre for Future work has noted, *"over half of all the materials, parts, and supplies ('intermediate inputs') purchased by Australian manufacturers are imported from foreign suppliers (\$265 billion worth in 2016-17)"* which *"leaves our domestic manufacturing sector vulnerable to disruptions in global supply chains (as have occurred during the COVID-19 pandemic), and to uncertainty in global trade policy and trade patterns. A policy vision to grow domestic manufacturing, based in part on more balanced international trade relationships in manufactured products, would thus have a double impact on domestic output and employment: boosting output of both final products, and increasing Australian content in intermediate inputs."*¹¹
47. Any future disruptive event such as a cyber security attack, another pandemic or a geopolitical conflict that impedes foreign ship availability will impact severely on supply chain resilience and capability and quickly bring the economy to a standstill, including civilian food supply, manufacturing, refined petroleum products and other production, health sector supplies, household essentials and Defence capability. It is not only the disruption and unreliability of transport supply chains that should be of concern to Australian policy makers and industry but the cost of shipping. The AFR reports that *"The Drewry World Container Index has risen for 17 straight weeks and sits at \$US9,421.48 per 40-foot container, a staggering 358 per cent higher than the same week in 2020."*¹²
48. The AFR that the *"Danish shipping line AP Moller-Maersk (one of the largest users of Australian container freight ports) reported record profits in the second quarter (2021), citing higher freight rates and volumes for earnings increasing to \$US3.6 billion from \$US552 million a year earlier. While the company's container handling costs rose, partially due to congestion, the increase was*

¹⁰ Australian Financial Review, *Shipping costs, stock levels blow out as supply chains buckle*, 20 August 2021, <https://www.afr.com/companies/manufacturing/shipping-costs-stock-levels-blow-out-as-supply-chains-buckle-20210819-p58ka>

¹¹ Centre for Future Work, *A Fair Share for Australian Manufacturing: Manufacturing Renewal for the Post-COVID Economy*, July 2020, P24 https://d3n8a8pro7vhmx.cloudfront.net/theausinstitute/pages/3332/attachments/original/1595693276/A_Fair_Share_for_Australian_Manufacturing.pdf?1595693276

¹² Australian Financial Review, *Shipping costs, stock levels blow out as supply chains buckle*, 20 August 2021, <https://www.afr.com/companies/manufacturing/shipping-costs-stock-levels-blow-out-as-supply-chains-buckle-20210819-p58ka>

only slight compared to a 75 per cent jump in second quarter revenues to \$US9.8 billion, while profit margins rose to 39.7 per cent from 20.7 per cent a year earlier.¹³

49. Transitioning away from foreign ship dependency must be a high national strategic priority, as a means to bring stability and security to Australian supply chains.
50. The 2020 global crew change crisis has been one of the starkest manifestations of this supply chain vulnerability. All of Australia’s seaborne exports and imports rely on the international ships’ crew drawn from countries around the world with only one exception – there are four Australian international trading ships that employ Australian seafarers, carrying LNG for export from the North West Shelf LNG project. However, Woodside Energy has flagged its intention to reduce the level of Australian content in its LNG shipping.
51. Almost all imports and exports have been or are affected by the crew change crisis that has involved up to 400,000 seafarers working well beyond the end of their seafarer employment agreements (contracts of employment).
52. Critical vulnerabilities in the nation’s supply chains is a risk that must be addressed in order to mitigate the potential of a catastrophic impact on the Australian economy, and manufacturing in particular, should a disruptive event impede or cripple ship transportation.

National sovereignty and commercial advantage from owning ships

53. Australia has been consistently outsmarted by its trading partners in terms of supply chain sovereignty, particularly in relation to ship ownership. As can be seen in Table 2, all Australia’s key trading partners including Japan, China, Singapore, USA, Germany and UK are also among the largest owners of ships.

Table 2: Top 10 ship owning nations

TOP 10 SHIP OWNING NATIONS - APRIL 2020												
*All values in USD millions	GRAND TOTAL	BULKER	TANKER	CONTA INER	REEFER	SMALL DRY	LNG	LPG	VEHICLE CARRIER	OSV	OCV	MODU
JAPAN	\$108,065	\$34,882	\$22,570	\$17,902	\$498	\$3,834	\$14,199	\$5,755	\$8,148	\$16	\$20	\$241
GREECE	\$100,446	\$28,417	\$41,334	\$7,283	\$135	\$193	\$19,796	\$2,889	\$298	\$61	\$40	-
CHINA	\$98,548	\$29,925	\$25,227	\$23,146	\$151	\$3,550	\$7,173	\$3,949	\$625	\$1,345	\$398	\$2,869
SINGAPORE	\$44,055	\$9,798	\$15,882	\$6,681	\$174	\$848	\$563	\$4,677	\$609	\$2,132	\$1,355	\$1,338
NORWAY	\$39,069	\$4,907	\$12,037	\$971	\$92	\$696	\$4,687	\$2,735	\$2,245	\$2,444	\$3,460	\$4,794
SOUTH KOREA	\$34,784	\$9,266	\$9,275	\$5,816	\$176	\$642	\$5,321	\$1,813	\$2,466	\$6	\$3	-
USA	\$33,000	\$4,594	\$12,549	\$3,763	\$103	\$205	\$1,791	\$201	\$452	\$4,002	\$1,580	\$3,708

¹³ Australian Financial Review, *Shipping crisis will end when vaccinated people get to travel*, 5 September 2021, <https://www.afr.com/companies/transport/shipping-crisis-will-end-when-vaccinated-people-get-to-travel-20210903-p58olx>

GERMANY	\$27,937	\$4,877	\$2,722	\$15,470	\$60	\$2,920	\$449	\$1,163	\$202	\$66	\$8	-
UK	\$23,409	\$2,272	\$2,925	\$5,351	\$81	\$277	\$2,759	\$1,875	\$532	\$521	\$561	\$6,254
DENMARK	\$20,885	\$1,376	\$5,027	\$9,651	\$1	\$183	\$1,531	\$531	-	\$541	\$340	\$1,448

Source: International Ship Engineering Service Association (I.S.E.S.) Ltd, *Top 10 ship owning nations by value*, April 2020, <https://www.isesassociation.com/top-10-ship-owning-nations/>

54. A number of these ship owning nations are also major shipbuilding nations, such as Korea, Japan, China and Singapore. This is shown in Table 3.

Table 3: The top 10 global shipbuilding nations, by revenue

TOP 10 SHIP OWNING COMPANIES			
Rank	Shipbuilding Companies	Revenue (USD billions)	Headquarters
1	Hyundai Heavy Industries	USD 39.33 billion	Ulsan, South Korea
2	STX Offshore & Shipbuilding	USD 16.96 billion	Changwon, South Korea
3	DSME	USD 12.76 billion	South Gyeongsang, South Korea
4	Samsung Heavy Industries	USD 8.58 billion	Samsung Town, Seoul, South Korea
5	Sumitomo Heavy Industries	USD 6.59 billion	Tokyo, Japan
6	Fincantieri	USD 5.17 billion	Trieste, Italy
7	United Shipbuilding Corporation	USD 5.1 billion	Moscow and Saint Petersburg, Russia
8	CSSC	USD 29.79 billion	Haidian District, Beijing, China
9	Sembcorp Marine	USD 1.18 billion	Tanjong Kling Road, Singapore
10	Tsuneishi Shipbuilding	USD 1.55 billion	Hiroshima, Japan

Source: BizVibe, *Top 10 Largest Shipbuilding Companies in the World 2020 by revenue*, <https://blog.bizvibe.com/blog/top-shipbuilding-companies-world>

55. These nations seek to control their international goods supply chains through all facets of the ship supply chain, from shipbuilding to ship ownership, to ship management, to shipping contracts, and often part ownership of the production of the cargo e.g. oil, refined petroleum, LNG, coal, aluminium, and iron ore.
56. Vertical integration has been a conscious decision of the commodity traders in those nations, supported by clear government policy, regulatory settings and industry policy support. The result is that their product supply chains are highly secured, in marked contrast to Australia. Notwithstanding Australia is a major importer of goods, and major exporter of primary production in global trading terms, it does not build a single commercial trading ship, owns and operates only 4 international trading vessels (soon to be phased out), owns virtually no ship management companies with any scale in global terms and sells almost all its bulk commodity exports in an Free-On-Board (FOB) basis which transfers the control of the sea transportation of

exports to the buyer at the loading port.¹⁴ There will soon be no labour Continuity of Operations Agreements in any of Australia's export supply chains.

57. These are all critical factors to consider in assessing the vulnerability of Australia's supply chains, and therefore the growth of Australian manufacturing.

Recommendation 1: Commit to a new national maritime and shipping policy framework

- That the Federal Government adopt a new national maritime and shipping policy framework to build Australian content in both Australia's domestic and international shipping capability designed to improve supply chain security and resilience necessary to support the growth of Australian manufacturing industry;

The Modern Manufacturing Strategy

58. One pillar of the strategy is to focus on areas of advantage. It is our submission that the shipping and maritime sectors exhibit all the features of national comparative advantage due to the long tradition of provision of shipping and maritime services in Australia, our highly developed freight transport and logistics system and highly skilled workforce.
59. Another pillar is to build national resilience for a strong economy, particularly through the Supply Chain Resilience Initiative.
60. We propose that the shipping and maritime components of manufacturing supply chains be integrated into the Modern Manufacturing Strategy and that key initiatives such as the proposal for a national strategic fleet, the development of maritime hubs associated with the emerging offshore wind energy sector and port located hydrogen hubs form part of the Supply Chain Resilience Initiative, funded from the Modern Manufacturing Initiative.

Recommendation 2: Integrate shipping into the Modern Manufacturing Strategy

- That the Federal Government integrate the shipping and maritime components of manufacturing supply chains into the Modern Manufacturing Strategy, and that key initiatives such as the proposal for a national strategic fleet, the development of maritime hubs associated with the emerging offshore wind energy sector and port located hydrogen hubs form part of the Supply Chain Resilience Initiative, funded from the Modern Manufacturing Initiative.

The key threats to the nation if policy, regulatory, fiscal, funding and institutional adjustments are not made to support Australian ships

61. In the absence of a coordinated shipping policy response, the key threats to the nation are:
- That Australia will lose its entire merchant trading fleet, increasing its dependency on foreign-owned and controlled ships for supply of fuels for Defence, industry and citizens; for the export of mining and energy resources and primary agricultural outputs that sustain the

¹⁴ FOB = Free-On-Board. It is a shipment term used to indicate whether the seller or the buyer is liable for goods that are damaged or destroyed during shipping. "FOB shipping point" or "FOB origin" means the buyer is at risk and takes ownership of goods once the seller ships (loads) the product, and usually means the buyer arranges and has control over the ship.

- Australian economy; and for importation of inputs to production and finished goods. A single disruption to foreign ship supply in the event of a conflict in the Asia Pacific region or another pandemic that crippled international ship availability would have immediate and catastrophic consequences for the Australian economy, including manufacturing industries;
- The downward spiral in the number of Australian trading ships operating under medium to long term contracts of affreightment (COA) to service the manufacturing and agricultural industries has consequentially increased our reliance on the spot shipping market. This means Australia will lose complete control of ship scheduling and opportunities to create efficiencies in coastal trading through the use of a balanced mix of Australian ships and foreign ships with a Temporary Licence as was intended by the CT Act when introduced in 2012. The CT Act was intended to create opportunities to smooth out freight rates and utilise triangulation and cargo aggregation to reduce ballast legs, which keeps freight rates lower;
 - That the maritime skills base will reach unsustainable levels. Maritime skills are necessary for a maritime dependent island nation with a strong demand for maritime skills in shipping related services like towage, pilotage, mooring, bunkering and harbourmasters; and in onshore roles in ship regulation, safety, training, freight forwarding, marine insurance, marine chartering, ship financing etc; along with the capacity to support Navy alternative crewing models, essential for merchant navy support for the Defence Forces;
 - Mainstreaming the use of non-national seafarers in routine coastal trading, who enter and remain for up to 3 years in Australia under a Maritime Crew Visa is the largest single threat to Australia's border protection regime, and also places unnecessary pressure on Australia's biosecurity regime;
 - That human biosecurity cross border transmission risks will be more difficult to manage due to lower levels of control over the work health and safety practices and adoption of health protocols on foreign ships. Utilisation of Australian ships that use a consistent core complement of Australian crews who can be subject to close health monitoring, tracking and tracing, and who can be trained in all the best practice COVID-19 control measures, is an essential and urgent post COVID-19 requirement, to ensure supply chain integrity and continuity;
 - That Australia's greenhouse gas and particulate emissions targets will be more difficult to achieve if it loses control of the regulation of all coastal trading ships as will be the case if the entire merchant fleet is lost and replaced with foreign ships, invariably flag of convenience (FOC) ships operating from registries that have considerably less regard for environmental standards; and
 - That Australia's ability to protect its coastal, ocean and marine environments will be diminished in the event that all coastal trading is undertaken by foreign ships, whose registries do not adopt the same standards of ship safety, crew skills and qualifications to ensure that those ships meet Australia's stricter marine pollution standards.

62. It is critical that transport and logistics attract sufficient policy attention by government, because:

- It is the second largest contributor behind energy to carbon emissions and must be supported to decarbonise;
- It is central to the efficient functioning of the economy in terms of international trade and in terms of domestic distribution of goods;

- There is a lot of innovation occurring in port and inland terminals, in ship design, in transport fuels across the industry, in ship building, in logistics technologies but it is not being supported by government nor is it coordinated;
- There is considerable opportunity to extract economic benefit from the shipping aspect of supply chains and to reduce the drain on the balance of payments from purchase of overseas shipping services if Australian content in shipping is lifted; and
- It is a large employer of the workforce, but is an industry where technology could be labour reducing, not labour enhancing and where labour intensity is already occurring e.g. at ports and in warehouses.

Shipping itself requires industry policy support

63. The shipping industry requires modest levels of industry policy support to help transition the industry to a position of greater Australian content (and reduced dependency on foreign ships) aimed at increasing supply chain resilience and improving national security.
64. This is also necessary to help level the playing field to promote genuine modal competition. That means industry policy financial support as well as regulatory and taxation support. While the 2012 shipping reform package included taxation incentives to support shipping, they have not delivered their intended outcome and need to be adjusted.
65. But importantly, the industry requires financial support to ease the impact on the industry to transition to Australian ships and Australian employment, and for new entrant Australian shipping companies to start-up.
66. The Queensland Government has provided a model in its 2020 election announcement, *Backing Queensland Maritime Jobs: \$21 Million to Revitalise and Strengthen Intrastate Coastal Shipping*. That policy committed the Qld Government to:
- Support local maritime jobs and encourage more Queensland ships which are locally crewed and privately-operated;
 - Provide incentives to new and existing operators to commence a new regular coastal shipping service and for existing operators to switch to Australian crews; and
 - Work with publicly owned ports to invest in landside infrastructure which has the potential to facilitate coastal sea freight cargo, such as investing in portainer cranes and potentially in improved RO-RO wharf facilities.
67. Similarly, the Victorian Government announced on 31 August 2021, in responding to the Recommendations in the Independent Review of the Victorian Ports System, that it would “investigate opportunities to sustainably develop coastal shipping.”¹⁵
68. What is now required is a shipping infrastructure and innovation fund to provide seed funding to complement this State support at the national level, and to support the establishment of a national strategic fleet.

¹⁵ Freight Victoria, *Setting Sail on Ports System Reforms: The Full Government Response to the Independent Review of the Victorian Ports System*, 31 August 2021, <https://transport.vic.gov.au/about/transport-news/news-archive/independent-review-to-boost-ports-sector>

69. In addition, there is a need to review government policy and its implementation to position shipping alongside other transport modes as part of the plan to ensure modal equity and a level playing field, so shipping and maritime sector is well positioned to support the growth in Australian manufacturing.. For example, by:
- Reviewing the National Freight and Supply Chain Strategy and associated Action Plans, which provides in adequate attention to shipping, and ignores coastal shipping completely;
 - Reviewing the Infrastructure Australia priorities so that existing manufacturing clusters are adequately serviced by supply chain infrastructure for their future growth and to facilitate their export market requirements;
 - Tasking the National Transport Commission to undertake strategic work around shipping technologies and marine renewable fuels etc; and
 - Adequately resourcing the Department of Infrastructure, Transport, Regional Development and Communications with commercial shipping and maritime policy expertise to advice on supply chain strategies to support manufacturing.
70. Sea freight transport and the role of ships in the national freight network has not been given adequate attention in national freight transport and port policy and planning in recent decades. This needs to change.

Recommendation 3: Commit to provide industry policy support for the Australian maritime and shipping sectors

- That the Federal Government commit to provide an industry policy support package for the maritime and shipping industry.

Recommendation 4: Establish a national shipping infrastructure and innovation fund

- That the Federal Government establish a national shipping infrastructure and innovation fund to provide seed funding to support the transition towards increased Australian content in shipping, and to support the establishment of a national strategic fleet, in order to help level the playing field between all transport modes to deliver improved competition across supply chains required to support manufacturing.

Recommendation 5: Establish a maritime industry innovation council

- That the Federal Government establish a maritime industry innovation council to foster collaboration between industry, unions, transport and logistics policy and research centres such as the Centre for Supply Chain and Logistics at Deakin University, the Blue Economy Cooperative Research Centre, and the Australian Maritime College/University of Tasmania to advise on Government policy and fiscal responses needed to build a maritime cluster in Australia.

[Reviewing the National Freight and Supply Chain Strategy and associated Action Plans and National Ports Strategy](#)

71. Regrettably, the 2018 report of the Inquiry into National Freight and Supply Chain Priorities did not include among its priority actions a single proposal or solution to resolve the low and declining share of sea freight in the national freight task which its report highlighted, notwithstanding the report found that:

“A nation-wide, consistent and integrated approach to freight and supply chain issues is needed to enhance the efficiency of the movement of freight.”¹⁶

72. We believe that several of the recommendations in the report of the Inquiry into National Freight and Supply Chain Priorities should be now revisited, including:

Planning for current and future needs

- R 3.1: Review and map current and proposed future key freight routes for all freight modes to include freight corridors, intermodal terminals, ports, airports, industrial areas, shipping lanes and flight paths, which if not appropriately managed, can create inefficiencies in the freight system. These maps would inform funding decisions and land use planning processes:
- R 3.2: Review supply chains and identify any points on the key freight routes where they could be significantly impacted by disruption (for example from climate change or other actions). In the absence of alternative supply chain options, enable mitigation strategies to be put in place to ensure ongoing freight accessibility.
- R 3.3: Preserve and protect land, air and water transport corridors and buffer/transition zones, as well as land for future freight use in growth areas, such as projects for the development of an alternative rail alignment into Port Kembla, Western Sydney Airport freight related road and rail, a high capacity rail link to the Port of Brisbane and intermodal terminal and pipeline connections and future intermodal locations for Inland Rail.
- R 3.4: Ensure all tiers of government integrate appropriate land use planning protections for existing freight related activities such as: preservation of industrial land; buffer zones around key freight hubs to allow 24-hour freight operations; protection of corridors and buffer zones (including sea channels to ports, pipelines and air corridors to airports) and sites for future freight purposes; protecting existing freight areas from urban encroachment; improving communication on current and future noise issues; and identifying land for current and future logistics uses, including urban freight facilities and consolidation centres.
- R 3.7: Promote training and re-skilling of employees in the freight industry appropriate to current and future needs, within the context of technological advancement, for example, increasing automation.

Recommendation 6: Review the National Freight and Supply Chain strategy

- That the Federal Government, in conjunction with the states/NT, the freight and logistics industry and unions, initiate a review of the National Freight and Supply Chain strategy to ensure it addresses shipping and sea freight opportunities given the efficiency and environmental advantages of ships in the freight modal mix, and in particular to ensure the strategy include specific proposals to grow the share of domestic freight transported by ships, particularly Australian ships.

Recommendation 7: Refresh the National Ports Strategy

- That the Federal Government recommend that the Transport and Infrastructure Ministerial Council oversea a review the National Ports Strategy 2011, one objective being to ensure there is overall policy coordination for port development in Australia, and that the strategy helps guide State and NT initiatives that can facilitate the revitalisation and growth of Australian

¹⁶ Department of Infrastructure, Regional Development and Cities, *Inquiry into National Freight and Supply Chain Priorities, Report*, March 2018, P7, https://www.infrastructure.gov.au/transport/freight/freight-supply-chain-priorities/files/Inquiry_Report.pdf

coastal shipping through better port planning, better port infrastructure and a more tailored fees and charges regime that supports Australian shipping.

73. We also propose the re-establishment of a multi stakeholder maritime workforce development forum to build on the work of the previous 2011-2013 Maritime Workforce Development Forum, with one of its suggested tasks being the promotion of training and skilling/re-skilling of employees in the freight industry appropriate to current and future needs.

Investment in strategic fleet ships needs to be considered in rebuilding Australian shipping

74. We submit that a legitimate and practical mitigation strategy aimed at improving supply chain security and functionality that could readily be supported by government is establishment of a national strategic fleet, that is, to develop a domestic and international shipping capability.
75. A national strategic shipping fleet would comprise ships which are of strategic importance to the nation, contribute to national sovereignty and to maintaining supply chain security, assist in achieving national self-sufficiency in critical supplies required by businesses, particularly manufacturing businesses and citizens and provide a social and or community service benefit to the nation.
76. Establishment of a strategic fleet is now regarded by many security experts as an essential part of the package for delivering energy security for Australia. A strategic fleet would ensure a proportion of the seaborne transportation needs for the movement of critical energy supplies are transported in Australian ships. Such ships would be available to transport (i) oil for Australia's remaining refineries; (ii) refined petroleum products from refineries and refined petroleum products import storage facilities to population centres around the Australian coast (both necessary until the nation has transitioned to electrification of transport modes); (iii) gas from gas producing areas for distribution to mobile floating storage and regassification units (FSRUs) located in regional ports and to supply imported gas (from Australian and international gas producing regions) to enter the domestic gas distribution network (again, until renewable energy replaces gas); and for offshore wind farm construction, supply and maintenance ships involved in expansion of Australian renewable energy production.
77. Additionally, there are positive spin-offs to be gained from establishment of a strategic fleet, including:
- Provision of additional ships on which seafarer training can take place, including mandatory sea time in gaining occupational licenses and VET qualifications (to overcome the declining access to ship's berths for trainee ratings and cadet engineers/officers); and
 - A vastly increased capacity for the Defence forces and emergency management agencies to requisition ships to supplement Navy ships in times of national emergency.
78. There are several ways in which Government can invest to establish a strategic fleet.
79. One way is through a Government shareholding. A government stakeholding in commercial shipping operations is not new in Australia. The Commonwealth previously owned Australian National Line (ANL) and, it established the Australian River Company Ltd which owned coastal bauxite ships for a period of time. The WA Government has previously operated State Ships and

the Qld Government has committed to invest in a new Qld coastal shipping venture, aimed at building supply chain resilience in Qld coastal trade where other transport modes often face disruption due to floods and other weather events. The Tasmanian Government owns TT Line.

80. Another method is chartering. The Commonwealth already charters (leases) ships to perform a range of non-commercial Government functions such as emergency towage and marine rescue (e.g. the *Coral Knight* based in Cairns and operated by the Australian Maritime Safety Authority (AMSA), research, supply and oceanographic ships such as those operated by or chartered to the CSIRO, the Australian Antarctic Division of the Department of Environment and Energy which owned the *Aurora Australis* and is building its replacement, the *RSV Nuyina*, and marine authorities such as the Great Barrier Reef Marine Park Authority. The Government also operates Australian Border Force ships.
81. All these examples demonstrate a commitment of public finance to an essential government function. Reducing sovereign risk in supply chains through the development and maintenance of a national strategic fleet in critical segments of the supply chain, such as sea freight transportation capability in refined petroleum product and to facilitate the growth of an Australian manufacturing sector is a legitimate and essential basis for allocation of public funds.

Recommendation 8: Commit to provide industry policy support for a national strategic fleet

That the Federal Government as a first step in implementation of a new national maritime and shipping policy commit to provide an industry policy support package for establishment of a national strategic fleet.

Term of Reference 2. The role that the Australian manufacturing industry has played, is playing and will play in the future

82. We refer the Committee to the submissions of the ACTU, AMWU, AWU, CFMMEU (Manufacturing Division), ETU and UWU.

Term of Reference 3. The drivers of growth in manufacturing in Australia and around the world

83. We refer the Committee to the submissions of the ACTU, AMWU, AWU, CFMMEU (Manufacturing Division), ETU and UWU.

Term of Reference 4. The strengths of Australia's existing manufacturing industry and opportunities for its development and expansion

Commercial shipbuilding

84. It is our submission that there is considerable opportunity to nurture and strengthen the Australian commercial shipbuilding industry. This would build on the strengths and capabilities of firms such as Austal in WA, Incat in Tasmania, BSC Marine Group in Qld and also build synergies with the Defence shipbuilding program involving firms such as ASC Pty Ltd and ASC Shipbuilding in SA, Cimvec Limited in WA and NSW and Forgacs Marine and Defence with facilities in NSW and Qld.

85. Building synergies between the Defence shipbuilding program and the commercial ship building sector would create better work flows for the nation's expanding ship building capability driven by the Defence shipbuilding program.
86. Australian ships could also benefit as a vital support service in the transportation of the inputs to production and outputs of semi-finished or finished products from these shipbuilding manufacturing processes.
87. The lack of a national strategy to build Australia's civilian ship building capability to support Australian maritime supply chain service providers is illustrated by the significant number of new build orders being placed overseas by Australian shipowners/operators and shippers. Examples of recent newbuild orders that have been placed with overseas shipyards include:
- Toll Holdings, which operates 2 ships in the Bass Strait trade, commissioned 2 new ships which were built at China's Nanjing Jinling Shipyard under the supervision of Tritec Marine based in Scotland, a part of the Northern Marine Group based in Clydebank, UK, a wholly owned subsidiary of Stena AB, one of the largest family-owned group of companies in Sweden. The ships (the *Tasmanian Achiever II* and the *Victorian Reliance II*) commenced service in 2019. The overall Toll investment was A\$311 million.
 - Searoad, which also operates 2 ships in the Bass Strait trade, commissioned a new ship built in Germany at a cost of A\$110 million and has recently decided to proceed with a second newbuild to replace its other Bass Strait cargo ship, due in 2023.
 - Fortescue Metals Group (FMG) contracted two Chinese shipyards in 2014 (Yangzijiang Xinfu Shipyard and Guangzhou Shipyard International) to build eight 260,000 dead weight tonnage capsize class iron ore vessels, which accounts for around six per cent of Fortescue's shipping requirements. The vessels are larger than traditional capesize vessels and more suited to Port Hedland's tidal conditions. The cost was around A\$90 million each. For an overall investment of over A\$700 million.
 - Coral Expeditions, a Qld based expedition cruise ship company took delivery of a new ship in 2020, the *Coral Geographer*, built at the VARD Shipyard at Vung Tau in Vietnam at a cost of A\$102 million.
 - The NSW Government, through Transdev, the operator of Sydney Ferries, has ordered ten river class ferries and three emerald class ferries from Australian ship-builder Birdon (located at Port Macquarie NSW), which outsourced the construction work to China, Singapore and Indonesia. Note that Sydney's current RiverCat ferries were built by NQEA Pty Ltd, an engineering and shipbuilding company based in Cairns, Queensland, while others have been built in the past at the Forgacs Tomago Shipyard in Newcastle, as was the *Aurora Australis*.
 - The Federal Government (Australian Antarctic Division of the Department of Agriculture, Water and the Environment) commissioned Serco to manage the construction of a new icebreaker, the *Nuyina* to replace the *Aurora Australis*. It was built in the Damen Shipyards in Romania and is due to be delivered soon.
 - The Tasmanian Government has established a Task Force to guide the purchase of two replacement TT Line Bass Strait passenger/cargo ships. We understand the Tasmanian Government has sought/received proposals from at least two Australian shipyards - Austal

in WA and Incat in Tasmania - though the Australian content may be limited to fit out once hulls are constructed overseas.

88. There is also scope for Australian shipyards to be used to assist in the decommissioning of offshore oil and gas facilities and equipment. A report by National Energy Resources Australia, supported by the Department of Industry, Science, Energy and Resources identified the following offshore facilities requiring decommissioning over the coming decades:
- 1,008 offshore wells;
 - 57 fixed facilities with 237,000 tonnes topside and 518,000 tonnes underwater;
 - 82 pipelines with a total length of 4,960 km, plus 205 infield flowlines (1,700 km);
 - 130 umbilicals with a length of 1,500 km;
 - 535 subsea structures such as manifolds; and
 - 126 flexible risers and dynamic umbilicals.¹⁷
89. 27% of this activity needs to take place before 2025 as facilities are already disused, while a further 51% of this work needs to take place before 2030. About half of this work is in the North Carnarvon Basin (off the NW WA coast between Exmouth and Dampier), and a quarter in the Bass Strait.

Term of Reference 5. The sectors in which Australian manufacturers enjoy a natural advantage in energy, access to primary resources and skilled workers over international competitors, and how to capitalise on those advantages

The growth, expansion and transformation of Australian manufacturing is intimately linked to emerging opportunities for Australian ships

90. Australia already has strong capabilities in the shipping and maritime industries. It is an island nation dependant on shipping with a long and reliable history of providing sea transportation services to manufacturing sectors.
91. The growth, expansion and transformation of Australian manufacturing is intimately linked to emerging opportunities for Australian ships, notwithstanding the national shipping and maritime industry policy framework is not geared to take advantage of emerging sea transportation opportunities that could provide a role for more Australian ships, with substantially greater maritime employment.
92. Those opportunities are arising from industrial transformation, being driven largely by renewable energy policy, new technologies such as automation and digitalisation, and from business development in areas such as expedition cruise shipping, aquaculture and bunkering of alternative marine propulsion fuels.

¹⁷ National Energy Resources Australia (NERA), *A Baseline Assessment of Australia's Offshore Oil and Gas Decommissioning Liability*, July 2021, <https://www.nera.org.au/Publications-and-insights/Advisian-Executive-Summary>

93. The emerging industrial transformation trajectory in Australia could see a renaissance of shipping over the next several decades. A shipping renaissance is possible (or likely) for these reasons.
94. First, the likely increased demand for ships as Australia restores its manufacturing capability. According to experts like Professor Ross Garnaut¹⁸, Australia's international competitiveness in electricity supply will strengthen as all nations move away from use of fossil fuel in electricity supply. This is because fossil-based energy can be imported relatively cheaply by countries with poor energy resources (like Japan), but renewable energy is not as readily transportable for both technical and cost reasons.
95. If key industrial processes such as the production of steel, aluminium, silicon, ammonia and lithium (where Australia is already an exporter) can all transition away from fossil energy to use of renewable energy, Australia can potentially become a major metals and chemicals processing nation (rather than an ores/fossil fuel exporting nation) based on industrial production using electricity produced from renewable energy, where we have an abundance of supply at internationally competitive prices.
96. As the Centre for Future Work has noted, *"The COVID-19 pandemic has reinforced the importance of manufacturing self-sufficiency and shorter, less complex, supply chains. In rebuilding our economy in an inevitably changed post-pandemic configuration, Australia is especially fortunate to have access to abundant renewable energy sources. Once the immediate danger of coronavirus has passed, we will still be in a world that needs to undertake a climate related industrial transition. With the right policy settings in place, our renewable resources will serve us well in fostering economic reconstruction after the pandemic. Australia's superabundance of renewable energy resources makes supplying renewable electricity both cost-competitive and reliable. Renewable electricity can be substituted for fossil fuels in almost all industrial contexts—and research and development presently underway will quickly close the remaining gaps (such as replacing coking coal in steel making with non-carbon processes)."*¹⁹
97. This eventuality will substantially increase the demand for ships – to transport the raw material inputs (like iron ore, bauxite and other minerals/rare earths) to domestic processing plants (cabotage trade) and to deliver the processed or semi-processed products to international markets (international trade). The energy transition is also creating other opportunities for ships – in energy production itself, such as offshore wind energy production and in transportation of renewable gas such as green hydrogen²⁰.

¹⁸ See Ross Garnaut's book entitled *Superpower: Australia's Low Carbon Opportunity*, La Trobe University Press, 2019

¹⁹ Centre for Future Work, *Powering Onwards: Australia's Opportunity to Reinvigorate Manufacturing through Renewable Energy*, May 2020, P55
https://d3n8a8pro7vhmx.cloudfront.net/theausinstitute/pages/3311/attachments/original/1588894059/Powering-Onwards_FINAL.pdf?1588894059

²⁰ There are no natural hydrogen deposits on earth. It must be extracted from other compounds by a chemical process. Most industrial hydrogen is currently produced from natural gas through a process known as steam methane reforming or SMR. Producing hydrogen in this way is sometimes referred to as brown or grey or even blue hydrogen. Hydrogen can also be produced by the electrolysis of water (using an electric current to break water, H₂O, into its component elements of hydrogen and oxygen). If this electric current is produced by a renewable source (e.g. Solar PV or a wind turbine), the clean hydrogen produced is known as green hydrogen.

98. Additionally, there are current Government strategies that will grow manufacturing and the demand for supply chain services.
99. One example is the Ag2030 Strategy aimed at growing agriculture to \$100 billion industry by 2030 (around \$71.2 billion in 2020-21).²¹ The Strategy will address findings of the Productivity Commission's Review into Vulnerable Supply Chains to ensure disruptions to global supply chains, including for intermediate goods such as fertiliser, agrochemicals and seeds, manufactured goods and other inputs, are mitigated, and well as working with the Office of Supply Chain Resilience (OSCR) to monitor supply chain vulnerabilities."²² The Strategy aims to build scale in onshore value adding processing, supported by the Government's Modern Manufacturing Strategy.
100. A second example is the release by the Government of its Future Fuels Strategy Discussion Paper: *Powering choice* in February 2021, designed to help shape the Government's Future Fuels Strategy and influence the design and rollout of the Government's investment programs, including the Future Fuels Fund and the Freight Energy Productivity Program will be the Government's roadmap for an electric vehicle (EV) strategy for Australia.²³
101. The Discussion Paper notes that Australian industry has a skilled workforce in automotive design and system integration, mining of critical minerals, and component manufacturing and that Australian vehicle component manufacturers are already exploiting opportunities with their recognised expertise across vehicle components, batteries, fast charging systems, battery cooling technologies, lightweight vehicle body components and high performance materials such as carbon fibre. Australian industry also has capabilities in heavy truck and bus and manufacture and assembly, including trailers and components. It also notes that through Australia's established research institutions including the Cooperative Research Centres (CRC) Program, support is being provided to the Australian electric vehicle value chain e.g. The Future Battery Industries CRC and Innovative Manufacturing CRC are delivering technology outputs being commercialised by industry.
102. A third example is Australia's National Hydrogen Strategy of late 2019 which found that Australia has the resources, and the experience, to take advantage of increasing global momentum for clean hydrogen and make it our next energy export. There is potential for thousands of new jobs, many in regional areas – and billions of dollars in economic growth between now and 2050. We can integrate more low-cost renewable generation, reduce dependence on imported fuels, and help reduce carbon emissions in Australia and around the world.²⁴

²¹ Department of Agriculture, Water and Environment, *Delivering Ag2030*, May 2021, <https://www.agriculture.gov.au/sites/default/files/documents/ag-2030.pdf>

²² Ibid, P12

²³ Department of Industry, Science, Energy and Resources, *Future Fuels Strategy: Discussion Paper: Powering choice*, February 2021, https://consult.industry.gov.au/climate-change/future-fuels-strategy/supporting_documents/Future%20Fuels%20Strategy%20%20Discussion%20Paper.pdf

²⁴ COAG Energy Council, *Australia's National Hydrogen Strategy*, November 2019, <https://www.industry.gov.au/sites/default/files/2019-11/australias-national-hydrogen-strategy.pdf>

103. It notes that a key element of Australia’s approach will be to create hydrogen hubs – clusters of large-scale demand which may be at ports, in cities, or in regional or remote areas, and will provide the industry with its springboard to scale. Hubs will make the development of infrastructure more cost-effective, promote efficiencies from economies of scale, foster innovation, and promote synergies from sector coupling. These will be complemented and enhanced by other early steps to use hydrogen in transport, industry and gas distribution networks, and integrate hydrogen technologies into our electricity systems in a way that enhances reliability.²⁵
104. Second, shippers (cargo owners), governments, port operators and policy analysts are regaining an interest in the shipping mode based on modal advantages of shipping such as ship’s reduced energy intensity and emissions advantage relative to other transport modes, their freight cost advantages over certain, usually longer, distances, improved stevedoring productivity resulting in lower stevedoring unit costs and the option of containerisation of a wider range of cargoes.
105. This opportunity will be facilitated by global and regional shipping strategy developments that are coming into alignment, particularly the renewed interest in short sea shipping that provides the feeder services to a global container hub and spokes configuration favoured by international liner shipping service operators.
106. Third, economic and national security policy experts and opinion leaders are beginning to recognise the role that Australian ships need to play in energy security, in border security and for better integration of merchant or commercial shipping to complement the Defence Force’s maritime and sea lane protection requirements.
107. Fourth, the emergence of a national dialogue on the important, but till recently unrecognised role that ships play in national emergencies, demonstrated through the 2019-2020 climate induced bushfire crisis.
108. The potential to build a green steel export industry, to retrofit aluminium smelters to create a revival of aluminium production, to take advantage of Australia’s abundant lithium and other rare earths to develop new sustainable industries, to lead on production of green hydrogen and other renewable fuels like ammonia and biofuels – requiring sea freight transportation of inputs to production and finished and semi-finished outputs, both domestically and internationally, needs to be incorporated in contemporary shipping and maritime policy, and integrated into manufacturing policy.

Support for Australian ships is good for Australian jobs

109. Every additional Australian crewed trading ship creates a minimum of 34 direct seafarer jobs and through the multiplier effect, an additional 30-40 jobs in onshore ship support services, and jobs along the transport supply chain.
110. MUA analysis shows that if government is willing to provide a modest yet targeted industry policy support package for the Australian shipping industry, around 2,500 direct seafarer jobs

²⁵ Ibid

would be created over the next 5-10 years, around 3,600 indirect onshore maritime jobs and around 6,000 new maritime jobs in total (having regard to the multiplier effect).

111. As an initial step we have proposed the establishment of a national strategic fleet of ships requiring about 35 ships, creating nearly 1,200 direct seafarer jobs and around an additional 2,400 indirect maritime jobs (for an overall employment impact of around 3,500 jobs).

Reform the operation of the *Australian Jobs Act 2013* for sea transportation

112. It is our submission that the operation of the *Australian Jobs Act 2013* (Jobs Act) be improved to facilitate the opportunity for Australian ship transportation companies to have full, fair and reasonable opportunity to bid and win contracts for both sea freight transportation services for carriage of the production outputs of major projects, and the support vessel component of offshore wind energy projects, to increase the employment of Australian maritime workers.
113. This will be essential for example if Australia wishes to increase Australian industry participation in the offshore wind energy sector, which as outlined earlier provides significant scope for a large share of the manufacturing of wind tower components to be produced in Australia.
114. What is required is the utilisation of the “legislative rule making” power provided by s128 of the Jobs Act to specify the minimum standards for procurement of sea freight transportation services and offshore support vessel services that must be published by the procurement entity in accordance with s35(1)(e)(i) of the Jobs Act, and that must be applied by the procurement entity when inviting and approving tenders for the supply of sea freight transportation and offshore support vessels services. Alternatively, or additionally, the legislative rule making power should, in cases where the ship transportation is to be arranged under FOB shipping contracts, require the Australian Industry Participation (AIP) plan entity, as the seller of product to in turn require the buyer to meet Australian content requirements in the shipping of their freight purchases.
115. Consistent with Recommendation 2 of the Review of the Implementation of the *Australian Jobs Act 2013* of November 2018, which recommended that the Australian Industry Participation Authority (AIP Authority) consider enhancing its communication strategy to promote AIP plans and outcomes, and raise industry awareness through information dissemination, we propose that the AIP Authority:
 - Publish and actively promote the standards for sea freight transportation services and offshore support vessel services identified in the proposed legislative rule (these standards could be developed in consultation with industry and unions); and
 - Report annually on compliance with the legislative rule as proposed, including the number of Australian ships and associated Australian jobs that are procured annually as a result of adoption and application of the proposed legislative rule.

Recommendation 9: Reform the operation of the Australian Jobs Act for sea transportation

- That the Federal Government reform the operation of the *Australian Jobs Act 2010* to facilitate the opportunity for Australian ship transportation entities to have full, fair and reasonable opportunity to bid and win contracts for both sea freight transportation services for carriage of

the production outputs of major projects, and the support vessel component of offshore wind energy projects, to increase the employment of Australian maritime workers.

Term of Reference 6. Identifying new areas in which the Australian manufacturing industry can establish itself as a global leader

Manufacturing components for new zero emissions industries

116. The potential for offshore wind to generate electricity and produce hydrogen in Australia is increasingly recognised, with more than 10 offshore wind projects in development with over 25 GW of capacity. In July 2021 the Australian Energy Market Operator introduced 4 Offshore Wind Zones²⁶ into its planning for the future electricity system, and the *Offshore Electricity Infrastructure Act* was introduced to Parliament in September 2021.
117. Offshore wind creates more skilled, long-term jobs than onshore wind – estimates are 2.5 to 3 times more jobs.²⁷ Manufacturing of offshore wind components creates approximately eight times more jobs than are created in the construction of projects- about 8-10 job-years per MW.²⁸ Offshore wind projects are developed at a scale which could allow a procurement pipeline to be created, with the right policy settings. A conservative scenario of employment in a future offshore wind industry with 25% local manufacturing found that there would be 5,000-8,000 jobs per year.²⁹ This could be substantially increased with the right policy settings. Critically, these jobs can be created in areas likely to be substantially affect by the energy transition, such as Newcastle and the Central Coast, the Illawarra, Gippsland, and West Australia.
118. The key parts of offshore wind turbines which could initially be produced locally are the tower and the foundations, as well as underwater cabling. However, we understand that Australian steel manufacturers and fabricators such as BlueScope Steel will need to upgrade their capability to manufacture and fabricate 80-85mm steel plate in order to make offshore wind towers and foundations, which require thicker steel than onshore turbines. Current capacity is 60-65mm.
119. While the manufacture of components for fixed-bottom offshore wind turbines is well established internationally, six Australian projects totaling 18.4 GW are proposed to use floating offshore wind turbines, which is a new technology still in commercial development globally.³⁰

²⁶ Australian Energy Market Operator, 2021 [Inputs, Assumptions and Scenarios report, p.109](#)

²⁷ European Wind Energy Association, [Green Growth: The impact of wind energy on jobs and the economy](#), April 2012, p34.

²⁸ Briggs, C., M. Hemer, P. Howard, R. Langdon, P. Marsh, S. Teske and D. Carrascosa (2021). [Offshore Wind Energy in Australia, P3.20.007 – Final Project Report](#). Hobart, TAS: Blue Economy Cooperative Research Centre, p.29 and p.70.

²⁹ Briggs, C., M. Hemer, P. Howard, R. Langdon, P. Marsh, S. Teske and D. Carrascosa (2021). [Offshore Wind Energy in Australia, P3.20.007 – Final Project Report](#). Hobart, TAS: Blue Economy Cooperative Research Centre, p.10 and p.72.

³⁰ Briggs, C., M. Hemer, P. Howard, R. Langdon, P. Marsh, S. Teske and D. Carrascosa (2021). [Offshore Wind Energy in Australia, P3.20.007 – Final Project Report](#). Hobart, TAS: Blue Economy Cooperative Research Centre, p.29 and p.70. *Sustainability of energy supply and resources in New South Wales* / Legislative Assembly, Committee on

Floating offshore wind turbines can be deployed in much deeper water, and are required off the coast of NSW due to the deeper continental shelf. There is a significant opportunity to establish an innovative centre for floating offshore wind turbine research, development, testing and manufacturing in the ports of Newcastle and Port Kembla. Both ports have ample wharf space, manufacturing facilities, and skilled workers. Both ports are also currently very reliant on coal exports, and in need of opportunities for diversification. Establishing such a centre such a centre could potentially supply New Zealand and other countries in the region. Manufacturing components just for the NSW projects currently in development could create about 15,000 jobs for 10 years.³¹

Offshore wind as an energy source for manufacturing

120. The future production of green steel at the Port Kembla Steelworks will require very large quantities of hydrogen. This hydrogen could be produced on-site to avoid expensive shipping costs, using offshore wind as an energy source. One million tonnes of steel production requires 2.5 TWh (2,500 GWh) of electricity to produce the required renewable hydrogen.³² In the wind available off Port Kembla this would require about 50 large 15 MW offshore wind turbines, with an installed capacity of 770MW.³³
121. Within 50km of the steelworks, there is the potential for offshore wind turbines to produce 38 TWh/year of electricity.³⁴ Current BlueScope production of 2-3 million tonnes of steel would require 5-7.5TWh/year and a wind farm of 1.5-2.3 GW, about the size of current developments proposed in Australia. Two different developers are working on proposals for up to 10 GW of offshore wind generation near the steelworks.

Offshore wind for firming energy

122. Offshore wind can help provide a balanced energy supply necessary for renewable energy manufacturing hubs. In key manufacturing areas such as Newcastle, Gladstone and Port Kembla, offshore wind provides energy at high capacity at times when other forms of renewable energy supply are low. Off Gippsland, it has been found that offshore wind energy production is highest during heatwave peak energy demand periods. Further research is required as to whether there are similar effects in other parts of the country.

Environment and Planning [Sydney, N.S.W.] : the Committee, 2021. 1 online resource. (Report no. 2/57 Committee on Environment and Planning), p.29.

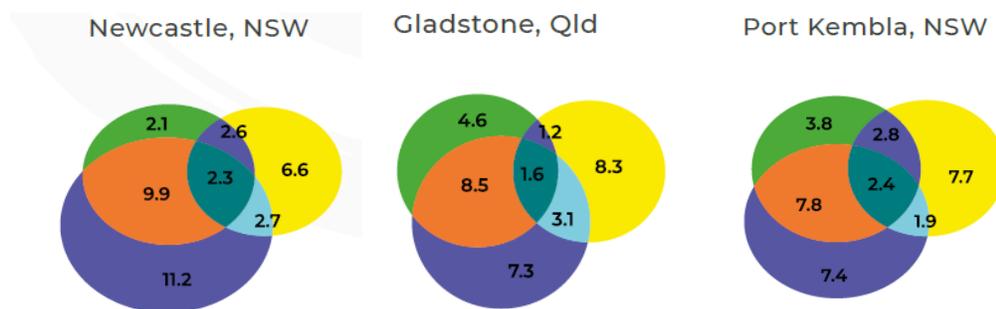
³¹ 18,400 MW of projects in development x 7.8-10.5 job-years per MW/10 years = 14,352 – 19,320 jobs per year. See Briggs, C., M. Hemer, P. Howard, R. Langdon, P. Marsh, S. Teske and D. Carrascosa (2021). [Offshore Wind Energy in Australia, P3.20.007 – Final Project Report](#). Hobart, TAS: Blue Economy Cooperative Research Centre, p.29 and p.70.

³² European Parliament, [Potential of hydrogen for decarbonizing green steel production](#), 2020.

³³ Calculated as follows: 2,500 GWh/(0.37 capacity factor x 8760 hours per year) = 0.77 GW (770 MW).

³⁴ This allows for water depths up to 1,000m, and assumes 15MW floating turbines spaced at 5 MW/km². Briggs, C., M. Hemer, P. Howard, R. Langdon, P. Marsh, S. Teske and D. Carrascosa (2021). [Offshore Wind Energy in Australia, P3.20.007 – Final Project Report](#). Hobart, TAS: Blue Economy Cooperative Research Centre, p.52.

Figure 1 The percentage of year during which offshore wind (blue), onshore wind (green) and solar PV (yellow) generation is operating at high capacity (>50%), and other energy sources at site onshore operate at low (<25%) capacity



Source: Briggs, C., M. Hemer, P. Howard, R. Langdon, P. Marsh, S. Teske and D. Carrascosa (2021). [Offshore Wind Energy in Australia, P3.20.007 – Final Project Report](#). Hobart, TAS: Blue Economy Cooperative Research Centre, p.63.

Recommendation 10: Invest in research and development for offshore wind

- That the Federal Government invest in research and development for offshore wind, particularly floating offshore wind, and fund the establishment of an advanced manufacturing hub for offshore wind turbine components on the east coast of Australia. The licencing provisions of the new *Offshore Electricity Infrastructure Bill* must also support the development of local manufacturing and supply chains.

Recommendation 11: Incorporate offshore wind into planning for the National Hydrogen Strategy

- That the Federal Government ensure offshore wind is adequately incorporated into planning for the National Hydrogen Strategy, and for renewable energy manufacturing hubs

Term of Reference 7. The role that government can play in assisting our domestic manufacturing industry

Trade policy

123. One aspect of trade policy that we wish to draw to the attention of the Committee, because it has the potential to seriously undermine national sovereignty in the sea freight component of transport supply chains supporting manufacturing, is the erosion in trade policy of governance over national shipping policy. This is particularly important in Australia which already has exceptionally liberal cabotage law by global standards, providing near zero protection for Australian registered ships, and very limited cabotage coverage.
124. We submit that it is particularly important to keep under review trade policy and trade agreements to ensure they continue to recognise and respect national cabotage law.
125. However, we are also concerned about the trade in services aspects of trade agreements, particularly maritime services annexes. It is important that maritime trade in services provisions in trade agreements do not impede Australian content objectives designed to nurture Australian maritime services companies and create maritime employment for Australian nationals.

126. We note for example the proposal in the UK-Australia FTA that UK and Australian-flagged vessels will be included in the services chapter, allegedly to allow these ships to benefit from guaranteed market access and non-discriminatory treatment when operating in Australia/UK; and that the FTA will include an International Maritime Transport Annex which aims to ensure that UK/Australian shipping companies, vessels and service suppliers have non-discriminatory access to ports and port services, can move empty containers freely and provide feeder services between ports, subject only to those arrangements being consistent with each country's cabotage regimes.
127. Having examined other Maritime Transport Annexes, we are not confident that the required protections will remain in place. Generally we are concerned that the services provisions in FTAs will severely impact on Australia's maritime sovereignty and its ability to regulate large segments of the marine services sector, contrary to the national interest.
128. We have identified a number of areas where Australia's national interests could be impeded or undermined by the services components of FTAs. These include:
- Australia's ability to declare certain ships to be part of a national strategic fleet and to be able to requisition those ships in times of strategic need;
 - The ability of the states/NT to legislate to require the licensing of towage, mooring, pilotage and bunkering services that requires those vessels to be Australian registered with Australian crew engaged under Australian collective bargaining agreements approved by the Fair Work Commission, noting those services are outside Australian cabotage law because the CT Act does not cover intrastate trade (only interstate trade); The ability of the states/NT to adopt preferential port fees and charges to support Australian registered ships as an industry policy support arrangement, as already occurs;
 - The ability of the Fair Work Commission and the Fair Work Ombudsman to enforce the Fair Work Act 2009 and for Commonwealth and state/NT work health and safety (WHS) agencies to enforce WHS laws applying in the Territorial Sea and in ports consistent with Australia's interpretation of the provisions of the United Nations Convention on the Law of the Sea (UNCLOS); and
 - The ability of Australian labour agencies to enforce Australian enterprise bargaining agreement on UK seafarers engaged on an Australian registered ship unless the Australian collective agreement is recognised in the Seafarer Employment Agreement required by the ILO Maritime Labour Convention and given effect by Australia's Marine Order 11 of 2015 (Living and working conditions on vessels) made by AMSA under the *Navigation Act 2012* (Cth).

Recommendation 12: Review the maritime services elements of trade agreements to maximize commercial opportunities for Australian maritime companies

- That the Federal Government keep under review trade agreements to ensure they continue to recognise and respect national cabotage law and that the trade in services aspects of trade agreements, particularly maritime services annexes, do not impede Australian content objectives designed to nurture Australian maritime services companies and create maritime employment for Australian nationals.

Dumping of ships

129. It is our submission that the Government assist the maritime industry to work initially with the Anti-Dumping Commission to examine whether international shipowners might be engaging in dumping activity in the provision of ship time/cargo charter services in coastal trades (as defined in section 7 of the *Coastal Trading (Revitalising Australian Shipping) Act 2012*) (CT Act) through the provision of subsidies and payment of non-competitive wage rates in the supply of ships to undertake voyages authorised by the CT Act in Australia’s coastal trade.
130. Subject to the findings of that review, we foreshadow that the issue be referred to the International Trade Remedies Forum (ITRF) aimed at considering amendments to the *Customs Tariff (Anti-Dumping) Act 1975* to more appropriately address dumping of shipping services in the Australian domestic sea freight market that is harming Australian ship owners and ship operators, and denying Australian seafarers the right to work in their industry.

Recommendation 13: Review the dumping of shipping services

- That the Federal Government assist the maritime industry to work initially with the Anti-Dumping Commission to examine whether international shipowners might be engaging in dumping activity in the provision of ship time/cargo charter services in Australian coastal trades, and subject to the findings of that review, note that the issue be referred to the International Trade Remedies Forum (ITRF) aimed at considering amendments to the *Customs Tariff (Anti-Dumping) Act 1975* to more appropriately address dumping of shipping services in the Australian domestic sea freight market.

Term of Reference 8. The opportunity for reliable, cheap, renewable energy to keep Australia’s manufactured exports competitive in a carbon-constrained global economy and the role that our manufacturing industry can play in delivering the reliable, cheap, renewable energy that is needed.

Hydrogen and supply chains

131. While the National Hydrogen Strategy, focuses on domestic manufacture of hydrogen for export, its objectives also include ‘a shared vision of hydrogen being a clean, cost competitive fuel option for Australian land and marine transport, in particular for heavy duty and long range transport applications’ (objective 3.16). It also calls for ‘research, pilot projects, trials, and demonstration projects’ that use ‘hydrogen for transport, with a focus on heavy and long-range road transport, rail and shipping’ (objective 3.8).³⁵
132. As part of the Strategy, as well as the Australian Energy Market Operator’s (AEMO) modelling for the future of Australia’s electricity system, significant hydrogen production is proposed around existing export ports. These ports provide an important site where the use of renewable hydrogen and ammonia as a heavy transport fuel could be trialled – for ships, but also for trucks and trains as these ports are nodes for all modes of transport. To gain full economic value from the development of a renewable hydrogen industry, we must develop expertise in the use of hydrogen or ammonia as a domestic fuel, including the manufacture and maintenance of engines and fuel cells, transport, storage and bunkering – rather than just exporting it.

³⁵ COAG Energy Council, [Australia’s National Hydrogen Strategy](#), November 2019, p.79-80.

133. The use of renewable hydrogen as a fuel will have emissions reduction and energy security benefits. Emissions from transport make up 19% of Australian emissions.³⁶ Australian transport emissions have increased from 80 MtCo₂e in 2007³⁷ to 100 MtCo₂e in 2019, and are projected to increase to 112 MtCo₂e by 2030. There has been a 63% increase in transport emissions since 1990 – more than any other sector of the economy.³⁸
134. Development of a domestic hydrogen industry could also contribute significantly to energy security. Since the closure of many of Australia’s fuel refineries, a very large portion of Australia’s liquids fuels are imported and rely on supply chains that have become increasingly precarious since the pandemic.³⁹
135. A Strategic Fleet (as proposed by the MUA)⁴⁰ could be used to help deliver the National Hydrogen Strategy by serving as a pilot project for the use of hydrogen or ammonia as a fuel for cargo ships. Significant emissions reduction can be achieved, but this will require government investment to develop the technology at the speed and scale that is required.
136. Australia’s National Hydrogen Strategy envisages that ‘giant ships could be powered by clean ammonia made from hydrogen, or powered directly by compressed or liquefied hydrogen.’⁴¹ MISC, Samsung Heavy Industries, Lloyd’s Register and MAN Energy Solutions are currently working on the development of an ammonia-fuelled tanker.⁴² A hydrogen-powered ferry is expected to go into use in Queensland in 2021.
137. Ammonia can be used to store energy from hydrogen, and is already handled at a number of port terminals, including in Newcastle, Gladstone and in the Pilbara. It is, however, toxic and dangerous to handle. Using either hydrogen and ammonia as fuel, or exporting them for use in other countries, will require detailed safety regulation and crew training to be put in place.
138. As a member of the International Maritime Organisation, Australia has agreed to reduce shipping emissions by 50% by 2050. This will require zero-carbon international cargo ships to be operational by 2030, which means that the technology and infrastructure for engines and fuel will need to start being put in place in the 2020s.⁴³ Over 110 different maritime companies and other maritime organisations have formed the ‘Getting to Zero Coalition’ with the objective of

³⁶ Department of Environment and Energy, *Quarterly Update of Australia’s National Greenhouse Gas Inventory: December 2019*, p.12

³⁷ Parliament of Australia, Australian transportation emissions, November 2010.

³⁸ Climate Council, *Waiting for the Green Light: Transport solutions to climate change*, September 2018, p.6

³⁹ John Francis, [Australia’s Fuel Security: Running on Empty](#), November 2018.

⁴⁰ Maritime Union of Australia, [A plan to save the shipping and maritime industries](#), 5 March 2019. Submission to the Senate inquiry into the policy, regulatory, taxation, administrative and funding priorities for Australian shipping.

⁴¹ COAG Energy Council, [Australia’s National Hydrogen Strategy](#), November 2019, p.76 and p.40. See also Lloyd’s Register and UMAS, [Techno-economic assessment of zero-carbon fuels](#), March 2020; and Lloyd’s Register and UMAS, 2019, [Zero-Emission Vessels: Transition Pathways](#). Lloyd’s and UMAS found that biofuels will need an area the size of Australia to grow fuel if the shipping industry converts, which would undermine food supplies. Batteries are very expensive (except for smaller vessels on shorter routes).

⁴² Lloyd’s Register, [Industry leaders join forces on ammonia-fuelled tanker project](#), 15 January 2020.

⁴³ Lloyd’s Register and UMAS, 2019, [Zero-Emission Vessels: Transition Pathways](#).

making this a reality – although there is currently minimal Australian participation.⁴⁴ Lloyds Register and UMAS highlight that implementing any of these measures in shipping will require significant government investment and regulation.

Recommendation 14: Integrate planning for hydrogen manufacture with support for the transition to clean transport fuels

- That the Federal Government integrate plans for the development of domestic renewable hydrogen manufacturing with the use of hydrogen and ammonia as a fuel in national transport supply chains, including all types and classes of ships. Domestic capacity in manufacturing, servicing and bunkering such vessels must be developed.

⁴⁴ [Getting to Zero Coalition](#)