The Economic and Social Benefits of an Active Shipbuilding Strategy

Submission to Senate Economics References Committee

Inquiry into Australia's Sovereign Naval Shipbuilding Capability

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Centre for Future Work

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The Centre for Future Work

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Introduction

Australia has experienced many cycles in naval shipbuilding programs since pre-federation. Prior to World War 2, naval shipbuilding was a major industry in Australia, but from the 1960s growing preferences for foreign acquisition within the Royal Australian Navy (RAN) led to increased purchases of foreign naval vessels.[1] From the late 1980s there was a renaissance in naval shipbuilding under the ANZAC frigates and Collins class submarine projects, which together underpinned the development of a local defence industry in Australia. This new industrial base was reinforced by strong local content requirements (requiring up to 60% domestic product and labour inputs) which drove robust investment in local industry and supply chains. Commitment to building an industrial shipbuilding base over this time established key sector players (including the Australian Submarine Corporation, ASC, a government enterprise, Tenix, and Thales), supported growth of vibrant local supply chains, and stimulated the development of workforce skills and ongoing capacity of Australian shipyards.

In 2015 the Department of Defence released a report by RAND Corporation exploring the economic case for a domestic naval shipbuilding industry.[2] The report found that production in Australia would attract an approximate premium of 30–40% over costs of production in overseas shipyards, but found that this premium would likely decrease over time. Moreover, naval shipbuilding spending would have favourable spillover benefits for local and regional economies, including supporting local suppliers. Control of critical final shipbuilding production stages was proposed to deliver strategic benefits including reduced dependence on foreign suppliers, and development of domestic alteration and modernisation capabilities. These strategic insights formed the policy basis for the government's 2016 *Defence White Paper*[3] and with completion of the Collins class submarines on the horizon, in 2017 the federal government revealed a $90 billion Naval Shipbuilding Plan to secure ongoing shipbuilding capability in Australia. These funds, allocated for the construction of 54 vessels, represent the largest public capital investment undertaken in Australian history. Defence has since announced a huge 350% increase in costs for delivering the Future Submarine Program – bringing total submarine project costs (including maintenance) up to $225 billion.[4]

In 2018 the Senate Economics References Committee recommended that procurement principles should focus on utilising Australian industry inputs in continuous builds of naval vessels.[5] Despite

[1] For a history of naval shipbuilding, see "Blue water ships: consolidating past achievements", Findings of the Senate Standing Committee on Foreign Affairs, Defence and Trade, Commonwealth of Australia, December 2006.
[2] RAND Corporation, *Australia's Naval Shipbuilding Enterprise: Preparing for the 21st Century,* 2015.
[3] Department of Defence, *Defence White Paper,* February 2016.
[4] See A. Galloway, "Submarine fleet tipped to cost $225b to build and maintain", *The Sydney Morning Herald,* 29 November 2019.
[5] The Senate Economics References Committee, Chapter 3 in *Future of Australia's naval shipbuilding industry,* June 2018, p. 69.

local content recommendations, and despite the scale of the historic investment, worryingly, local content provisions for products, services and labour have still not been mandated in relevant procurement policies. Significant public contracts have been awarded to companies without the necessary policy settings needed to maximise Australia's ongoing naval shipbuilding capacity – a key stated objective of the naval program.[6]

The current funding and policy model represents a departure from the whole-of-sector, skills and supply-chain planning that was initially undertaken to first build the Australian naval shipbuilding industry. Government and major shipbuilding contractors define "sovereign capability" more narrowly now as sovereignty associated with a national security agenda[7] — rather than the former more expansive, holistic view of sovereignty as something that is achieved in part through economic security, and expansion of high-quality well-paid jobs. Without reorientation to stronger local content and skills planning, Australia could revert back to its post-war days of purchasing foreign vessel purchases, risking its future industrial shipbuilding capability.

Worse still, failure to coordinate future workforce capability plans now while the largest naval programs are in their design phase threatens to result in a full-blown workforce skills crisis in the naval program. More than 600 shipbuilding workers employed at ASC are facing redundancy, and there is no retention strategy or transition plan to ensure these skilled and valuable workers are available for deployment when submarine construction commences in 2024. Defence officials now recognise that securing a local workforce before major projects commence represents the single largest risk to the naval shipbuilding program.[8] Without action to retain the existing skilled shipbuilding workforce and expand future capability, international shipbuilding companies – already using high levels of prefabricated components from their own supply chains – may source their own workforces (including from other countries) when construction commences in 2024.

Australia has an extraordinary opportunity to replenish its naval industrial base with new technologies, new suppliers, and high-skilled workers; we should not squander it. This submission outlines broad measures that can be pursued to harness the full economic and social benefits of the naval shipbuilding program.

Economic Profile of Shipbuilding in Australia

We start by providing summary information describing both commercial and defence shipbuilding and repair activities in Australia.[9] According to the Australian Bureau of Statistics, the industry value-added of shipbuilding and repair services (a measure of the sector's direct contribution to GDP) totalled $1.7 billion in 2017–18 (most recent data available). Total revenue or sales totalled $3 billion in 2018–19, primarily driven by high-value contracts awarded by the federal government to companies for the construction and maintenance of submarines and ships (77% of total industry revenue in 2018–19). A smaller revenue share (23%) was derived through the commercial production of specialised shipping products for export, as well as maintenance operations to support water freight, transport, and tourist operations.[10]

[6] Department of Defence, *Naval Shipbuilding Plan*, 16 May 2017.
[7] S. Evans, "Submarine builder Naval Group dives into planning", *Australian Financial Review,* 26 March 2018.
[8] See A. Tillet, "Defence sound warning on shipbuilding workforce", *Australian Financial Review,* 30 July 2019.
[9] There is no publicly available data on naval shipbuilding acquisitions and contracts managed in confidence by the Department of Defence.
[10] M. Youren, "Shipbuilding and repair services in Australia", *IbisWorld,* Industry Report C2391, February 2019.

Table 1. Shipbuilding Sector Key Figures

Indicator	Value
Industry value-added ($2018)	$1.7 billion
Total revenue	$3 billion
Total employment	10,400
Wages incomes	$1.1 billion

Figures include both shipbuilding and repair services. Data: ABS Cat. 8155.0, Table 1; IbisWorld 2018

Jobs and incomes generated directly in shipbuilding are an important source of strength in Australia's economy, and underpin household financial stability and strong consumer spending for the 10,400 shipbuilding workers and their households currently dependent on the sector. Total wages and salaries paid in shipbuilding totalled $1.1 billion in financial year 2017–18. However, the overall economic impact of the sector extends beyond the individuals directly employed in the industry and their families. Because of the strategic role played by specialised, technology-intensive naval shipbuilding, the sector plays a crucial role in "anchoring" a much broader range of economic activity, contributing to growth and productivity throughout the economy. Those broader economic benefits should be taken into account when considering naval shipbuilding's future trajectory – and the policy measures that could enhance its performance.

There are many economic benefits generated by well-managed and leveraged capital-intensive procurement programs for the entire national economy. Table 2 provides a list of major industries that provide shipbuilding inputs (for both commercial and defence activities) and services in the shipbuilding supply chain. These include high-value-added manufacturing industries such as iron and steel casting and forging, aluminium and plastic components manufacturing, and electrical equipment production for products such as navigation devices, and key services such as engineering, transportation and logistics.

Table 2. Key Australian Input Industries in Shipbuilding

Industry	Products/Services
Iron & steel casting & forging	Steel products
Aluminium rolling, drawing & extruding	Aluminium alloy sheets, plates, welded tubes
Plastic pipe & plastic packaging material manufacturing	Plastic injection moulded products
Electrical equipment manufacturing	Electrical marine, nautical & navigation equipment
Engineering, design & consultancy services	Product design, project planning
Transportation & logistics services	Hoists, cranes, scaffolding, other loading & unloading machinery

Source: Table compiled with information from IbisWorld 2019 & KPMG 2017.[11]

[11] KPMG, *Australia's Marine Industry Capability: Research into the Marine Manufacturing Sector in Australia,* 2017.

Naval Shipbuilding in Australia

Revenue growth in the shipbuilding industry is volatile, reflecting the timing of defence contracts awarded to major contractors. Hence industry revenues have broadly fallen over the past five years since the Hobart-class Air Warfare Destroyers and Canberra-class helicopter docks were completed. However, despite lower revenues total industry profits grew over the past five years to $366 million in 2018–19, largely thanks to lower wage costs associated with the decline in overall employment in the industry. This reflects employers' practice of taking workers "off the books" to correlate employment phases with contract timelines (and major projects in the naval program have not yet progressed from the design phase).

Naval shipbuilding has high barriers to entry due to the substantial start-up costs and specific technological expertise required to design and construct defence goods. Established companies with proven experience are generally rewarded defence contracts, which leads to high market share concentration. All major naval shipbuilding players in Australia are foreign-owned, including BAE Systems (UK), Thales (France), and Civmec Construction and Engineering (Singapore). BAE now owns the previously government-owned company Australian Submarine Corporation (ASC).

Naval shipbuilding is highly specialised and technologically intensive, with products made to unique specifications. Australia predominantly undertakes shipbuilding construction, repair and maintenance activities, with foreign-made prefabricated components more often used and shipped to Australia for final assembly. The raw material supply chain that serves the shipbuilding industry (including commercial shipbuilding) includes steel, aluminium, plastics, naval equipment, prefabricated ship components (including weapons systems), and other machinery. The shipbuilding supply chain spans wider industries including administrative services, transportation and professional services. Sustained contraction in commercial shipbuilding in Australia is reducing demand for these key Australian manufactures. Commercial shipbuilding has been exposed to fierce global competition in recent years from shipbuilding powerhouses such as Singapore, Germany, and China. Consequently, since Australia does not (yet) export naval shipbuilding products, total shipbuilding exports have declined considerably and are expected to continue to decline by 23% in the next five years — reaching only $56 million in total export value by 2023-24.[12] Conversely, imports are set to increase over the next five years as more naval contracts are signed with international contractors. Many smaller local suppliers and operators have exited commercial shipbuilding – unable to enter the established supply chains of large multinational companies managing defence contracts. If the Australian dollar were to appreciate in coming years, this would put further downward pressure on commercial operators.

The defence shipbuilding industry has regularly experienced a boom-and-bust cycle, with major projects producing boom times, and busts occurring when those projects come to an end. This has been particularly destructive for long term planning and skills development within the sector. The Government's latest announcements are an attempt to produce a longer term, more steady demand that Australian based firms can use to build a more sustainable industry. But for this to be effective it needs to be supported with other policies like strong local content rules and better planning and integration of education and skills training. These will be further discussed below.

[12] Youren, ibid.

The Naval Program

The Australian government's $265 billion-dollar naval shipbuilding program is a national, multi-decade plan for major naval acquisitions. The major projects undertaken within this naval program include:

- Rolling acquisition of 12 submarines with construction commencing from 2024 at a cost of $225 billion;
- Continuous build program for nine frigates (surface ships) commencing from 2020 at a cost of $35 billion;
- Continuous build program for 12 Offshore Patrol Vessels (minor naval vessels) commencing with build of two vessels in South Australia (SA) from 2018, with remaining 10 transferred to Western Australia (WA) at a total cost of $3 billion;
- Continuous build program for 21 small patrol boats for Pacific nations, currently under construction at a cost of $335 million;
- Major shipyard infrastructure upgrades at the Henderson Maritime Precinct in Western Australia and Osborne, South Australia at a cost of approximately $2 billion.

Table 3. Major Public Funding Allocations Across the Naval Program

Program	Site	Number of Units	Acquisition Cost	Contracted Company	Construction Commencing	Timeline for Delivery
Future Submarine (Sea 1000)	Osborne, SA	12	$225 billion*	Naval Group (France)	2024	Early 2030-2050
Future Frigate (Sea 1000)	Osborne, SA	9	$35 billion	BAE Systems (UK)	2020	First vessel late-2020s
Offshore Patrol Vessel (Sea 1080)	Henderson Maritime Precinct, WA Osborne, SA	12	$3 billion	First 2 vessels by ASC (Aus), remaining 10 with Civmec Construction & Engineering (Singapore)	Mid-2018	First vessel 2021
Pacific Patrol Boats (Sea 336)	Henderson Maritime Precinct, WA	21	$335 million	Austal (Aus)	Now	2018-2023
Shipyard upgrades and infrastructure	Henderson Maritime Precinct, WA Osborne, SA	-	$2 billion		Late-2017	Late-2019

Note: *Revised cost for the submarine program provided by Defence on 29 November 2019 and includes submarine construction, sustainment and upgrade.

The Strategic Importance of Manufacturing and Current Challenges

Australian naval shipbuilding plays a crucial role in supporting manufacturing capability and output. Broad benefits of a strong local naval shipbuilding industry for the manufacturing sector include

enhanced workforce skills, acquisition of new manufacturing techniques and processes, and the transfer of new technologies in production. The broader manufacturing sector, in turn, has a disproportionate strategic importance to Australia's economy. Manufacturing uses more innovation, technology, robotics, and other advanced knowledge than any other sector, making it the most important source of innovation in the economy. Within Australia, manufacturing plays a driving role in national innovation: manufacturing spends more on innovation than any other part of the economy ($4.8 billion on research and development in 2013-14) and manufacturing ploughs four times the economy-wide average of GDP into innovation (at around 5% of GDP).[13]

Another reason manufacturing has a disproportionate strategic importance to the Australian economy is that the sector supports higher-than-average productivity growth and good quality, high-paid jobs. Due to greater potential for use of automated technologies and other forms of innovation, manufacturing productivity growth exceeds the economy-wide average in Australia, helping to lift national productivity performance. The naval shipbuilding program holds potential to strengthen the manufacturing sector's productivity spill over effects, through avenues such as contributing to stronger exports (such as through improving competitiveness), more investments in needed skills, and by pioneering productivity-enhancing technology and machinery that can be utilised across other industries.

Higher productivity provides the basis for high and growing incomes, and average incomes in manufacturing (particularly advanced manufacturing jobs that utilise advanced technologies) are typically superior to other jobs. A strong manufacturing presence impacts on the broader economy and employment by stimulating domestic supply chains. Under the right conditions, manufacturers can act as anchors for far-reaching supply chains that reach throughout the domestic economy, supporting hundreds of thousands of jobs in other sectors. In specialised, high-technology manufacturing facilities (such as car manufacturing, and shipbuilding), job multipliers can be as high as ten-to-one: meaning that every direct job in the facility can ultimately support a total of ten jobs (direct and indirect) through various upstream and downstream linkages.

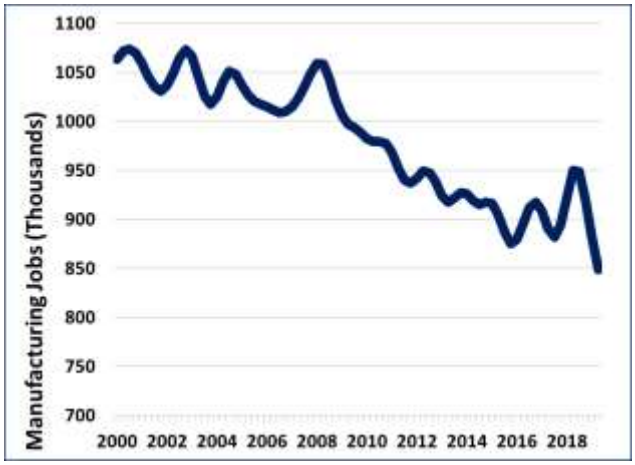
Unfortunately, Australia has a history of failing to take advantage of specialised, high-technology industries. Australia was recently ranked 93rd out of 133 countries on economic complexity.[14] This is a shockingly poor performance for an advanced economy. Usually the more economically complex a country is, the more prosperous it tends to be. Australia is an outlier in this regard, maintaining high income levels (for now) despite outsized reliance on non-complex primary industries (that is, the extraction and export of unprocessed resources and raw materials). But ranking so low on economic complexity nevertheless comes with significant risks, particularly if world demand for our primary resource exports falls. A deep and advanced manufacturing sector represents diversification of the Australian economy that could act as a bulwark against the future risks of undue resource-dependence.

Despite the myriad economic and social benefits of a strong manufacturing sector, Australian manufacturing has fallen on hard times, with the sector experiencing broad decline since 2008. This painful contraction over the past decade has had a multitude of consequences for the national economy: including labour markets, incomes, productivity, and international trade. Some 200,000 manufacturing jobs have disappeared since 2008.[15] The loss of manufacturing work considerably outstrips the loss of jobs in the mining sector – yet the erosion of manufacturing attracts much less

[13] J. Stanford, "Manufacturing (Still) Matters", *Centre for Future Work,* Sydney, June 2016.
[14] Harvard University Growth Lab, The Atlas of Economic Complexity, Available at http://atlas.cid.harvard.edu/
[15] Australian Bureau of Statistics (ABS), Labour Force, Aug 2019, Cat. No. 6291.0.55.003, Table 4.

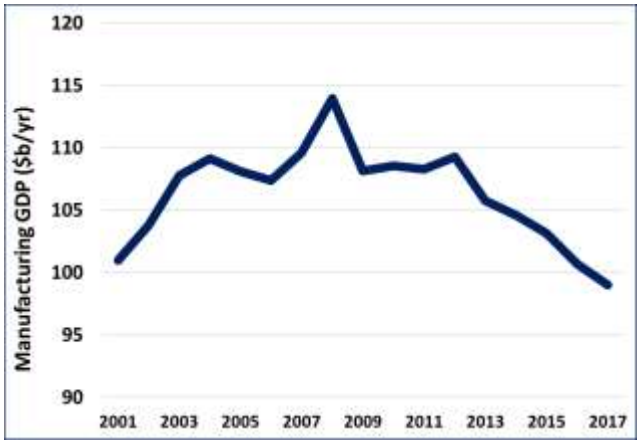
attention from government. Real output peaked in 2007 at nearly $115 billion (annual rates, chain volume indicators), falling steeply during the Global Financial Crisis. In the years following the initial GFC shock, the value of the Australian dollar appreciated under a mining-dominated recovery, drawing manufacturing output into a sustained contraction from which it has not yet recovered.

Figure 1. Manufacturing Employment in Australia



Data: ABS 6291.0.55.003, Trend data

Figure 2. Real Manufacturing Output (chain volume)



Data: ABS 5206.0, Trend data

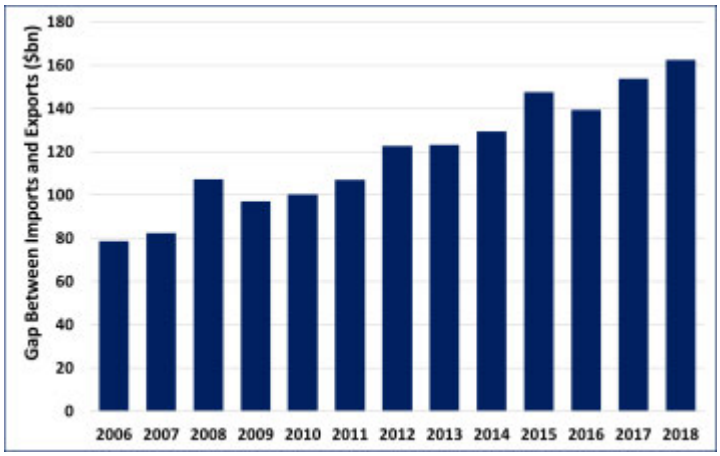
An exploding trade deficit in manufactured goods with the rest of the world (reaching over $160 billion last year, equivalent to over 11% of GDP)[17] is one major consequence of manufacturing decline. Our immense net imports of manufactured goods contribute substantially to the escalation in Australia's foreign debt.

In sum, manufacturing plays an important strategic role in Australia's economy and society. The erosion of manufacturing, and the shrinking proportional footprint of the sector, has painful economic and social consequences. Policy-makers should seize any opportunity to reverse that decline, stabilise manufacturing activity, and eventually ensure that Australia begins once again to play its rightful role as a world-class value-adding manufacturing nation. In this context, the naval shipbuilding program holds tremendous potential. By leveraging this large government procurement

[17] ABS, International Trade in Goods and Services, December 2018. Cat. No. 5368.0.

and maximising the positive spillovers of this activity onto supply chains, skills, and capacities, the Commonwealth government could make a significant difference in the future of Australian manufacturing.

Figure 3. Australian Trade Deficit in Manufactures



Data: Author's calculations from ABS 5368.0.

Building a Vibrant Shipbuilding Industrial Base: Benefits & Barriers

Major federal investment in new submarines and naval defence vessels could provide the whole manufacturing sector with a much-needed boost. The program presents an enormous opportunity to leverage investment, jobs, skills and innovation throughout the shipbuilding construction supply chain; it could also underpin an export strategy for high-value naval products. But while the Commonwealth government agreed to prioritise Australian content in these procurement contracts, including through a long-term timetable for skills training, and despite stated goals to develop a well-rounded shipbuilding capacity, major barriers exist to reaching these stated goals.

Supporting Local Content

While international defence companies have been awarded major Australian shipbuilding contracts, and have protected their own domestic value-add manufacturing and skills development, naval program contract conditions stipulated by the Australian government require only 60% of *construction* and a moderate volume of maintenance to be completed in Australia. As a result, since 2014 there has been an increase in prefabrication of components overseas, that are then sent to Australia for final assembly and completion. The incremental loss of national purchasing power associated with this effective "offshoring" of large portions of this historic public procurement project could result in long-lasting impacts on the Australian economy, both direct and indirect.

With respect to Articles (e) and (f) of Terms of Reference for the present Senate Inquiry which seek assessment of progress made towards implementation of Australian Industry Capability Plans and the utilisation of local content and supply chains, perversely, local production of key components for naval vessels is largely inhibited under Commonwealth procurement legislation. Like many free-trade tools introduced under the guise of "efficiency" and comparative advantage, the *Australian Jobs Act 2013* (the Jobs Act) purports to drive the creation and retention of Australian jobs through requiring major project proponents (for projects of $500 million and above, or $20 million or more

for government procurements) to develop and implement industry plans – called Australian Industry Participation (AIP) plans. But crucially, AIP plans are not required to mandate Australian content on projects. Instead Australian companies and their workers are required to compete from a standing start against the superior capability and size of international competitors. But even these moderate provisions establishing opportunities for Australian firms to tender have been in many cases ignored. In November 2019, Defence awarded a major contract outside of the competitive tender process to Finnish company Boomeranger for the purchase of 41 small tactical boats – despite very similar vessels being produced by several Australian companies.[18] In the case of these fully-assembled procurements, the only economic opportunities available to local firms were in the relatively small area of contract services and management (such as warranty services).

Policy-makers and industry stakeholders should take a more ambitious and proactive approach to enhancing Australian content in the shipbuilding supply chain. It is not feasible to imagine the relocation of all production to Australia, because of the highly specialised nature of military-grade production. Nevertheless, it remains unclear how Australia will establish a continuous naval shipbuilding capability that feeds the wider industrial base if current industry plans do not mandate the use of local content and local jobs. Local content and supply chains could be enhanced through strengthening provisions in AIP Plans to support more production, adaptation, maintenance, transport, and services. Construction and maintenance of naval ships will be undertaken continuously for the next 30 years in Australia —ample time for government to get the policy settings right to ensure that the investment made by Australians in these important, expensive vessels translates fully into maximum economic and employment opportunities.

Preparing an Australian Workforce with Future Skills in Shipbuilding

Shipbuilding and vessel maintenance require a large skilled and qualified workforce for advanced engineering and technological processes, including skilled tradespeople such as welders, mechanical fitters, and electricians. The Department of Defence forecasts that the naval program workforce must expand to about 5,200 workers by 2030; a further 10,000 workers will be required for sustainment and supply chain activities across Australia.[19] But there are growing concerns about whether there will be a sufficient and capable Australian workforce available to undertake this large and complex body of work.

Defence is responsible for development of workforce plans to address labour requirements across the entire naval program. It established the Naval Shipbuilding College (the College) in 2017 to coordinate the delivery of workforce training for future shipbuilding workers. The College will be established over three phases between 2018 and 2023, with cost estimates for the first phase at $62 million. But with construction on the first frigate set to commence in 2020 (before the College is even fully operational), training timelines are currently incompatible with project demands. Consequently, there is a very high risk that Australia will not develop an appropriately skilled shipbuilding workforce, and contractors will not be able to source Australian labour with the requisite skills from within their own supply chains. Senior officials from Defence recently warned the government that an underdeveloped pipeline of shipbuilding workers represented the single

[18] See A. Greene, "Defence's $55 million spend on Finnish military boats angers Morrison Government", *ABC News,* 22 November 2019.
[19] See Department of Defence, "Naval Shipbuilding Strategic Workforce Discussion Paper", 15 February 2019.

biggest threat to the success of the Naval Shipbuilding Program.[20] This is combined with growing concerns that the College lacks the whole-of-sector vocational education and training (VET) institutional knowledge and capability required to coordinate the comprehensive technical workforce skills programs required to support complex naval shipbuilding projects.

Repairing the VET Sector to Expand the Shipbuilding Skills Pipeline

Government has a significant opportunity to leverage the skills investments made under the naval program to lift workforce skills and deepen our industrial base more broadly. But skills cannot be managed on a project-by-project basis if we are to achieve a lasting improvement in Australia's industrial and vocational capability. As a complex and multi-skilled program, the naval shipbuilding program must be sufficiently integrated into our existing education infrastructure that manages and delivers skills programs across the economy – including universities and the VET sector. With their growing expertise in partnering research with industry, universities are typically well-placed to support the transition of professional and technical graduates (such as engineers and IT workers) into the naval shipbuilding program. But to secure skilled tradespeople in continuous naval shipbuilding operations, government and industry participants should seek to urgently repair and improve the vocational education and training (VET) sector.

In an industry so reliant on highly-skilled workers, ensuring access to high quality vocational training is of paramount importance. Deterioration in the TAFE sector due to reduced investment by both state and federal governments and a failed experiment with "marketisation" of VET has led to a fall in overall enrolments – from a peak of over 500,000 enrolments in 2012, to only 270,000 in 2017. Apprenticeship and traineeship rates have also fallen – from 4% of the total workforce to only 2% between 2012 and 2017. Declining enrolments and VET sector capabilities negatively impacts on the current health – and future prospects – of the shipbuilding sector.

A broader commitment to repairing the VET system would enable the Naval College to strengthen the quality and reach of accredited training provider partners in the naval program. A quality TAFE-centred training strategy would enhance long-term shipbuilding capacities. The following recommendations for rebuilding vocational training have been suggested by Carney and Stanford in their report on advanced manufacturing skills (with obvious relevance for the shipbuilding sector):[21]

- 70% of public VET funding delivered through the national TAFE system;
- continuous investment in construction-specific teaching skills for VET education given the rapid pace of technological change;
- focus on careers and comprehensive and complete qualifications rather than micro-competencies to ensure qualifications are durable and transferrable (which enables skills deepening across the workforce);
- greater government fiscal support for apprenticeships to both firms and workers to lift the number of skilled tradespeople in the shipbuilding pipeline.

Retaining Existing Shipbuilding Expertise

[20] Tillet, ibid.
[21] See T. Carney and J. Stanford, "Advanced Skills for Advanced Manufacturing: Rebuilding Vocational Training in a Transforming Industry", *Centre for Future Work,* Sydney, 2018.

Meeting future workforce skills demands arising from the naval program will require a coordinated approach to managing current capability, assessing new skills needs, and developing the future skilled defence workforce. By 2030 it is estimated that around 3,200 workers will be required in direct jobs across the naval program, and a further 5,000 in indirect jobs.[22] Despite this future demand for skills, and despite the commencement of construction on the Future Frigates program in 2020, some 600-700 skilled and experienced shipbuilding workers currently employed at the ASC Shipbuilding in South Australia (the former government enterprise now owned by BAE Systems) are facing redundancy with the completion of their current projects.

The Government has pledged and committed to a continuous schedule of building and maintenance of Australian naval vessels to prevent revenue lags between major defence contracts for major shipbuilding *companies*. But this has not extended to the long-term stability of employment for those *working* in the industry. The existing workforce, with its institutional and technical knowledge and expertise in Australian naval shipbuilding, must be retained in order to contribute their skills for the next 10-15 years of the naval program. Failure to retain these workers already experienced in design, construction and maintenance of Australian ships could result in project delays and cost blowouts. There is also a real risk that upon commencing production, international companies awarded these significant contracts may elect to deploy their own workforces. Given that the bulk of naval ship components are already prefabricated internationally, under this model Australia would effectively revert to an "offshore" naval program – with Australia purely the site for final assembly. Avenues for retaining the current ASC workforce include facilitating redeployment into other naval projects currently underway (such as the Offshore Patrol Vessels), or short-term placements with major international contractors in international or domestic operations. As automation and international competition continue to decrease the size of Australia's commercial shipbuilding industry, worker transition programs should also be considered to support the transition of commercial shipbuilding workers into the growing naval program.

Recommendations

We make the following recommendations to the Senate Economics References Committee:

1. Australia needs a more ambitious and proactive approach to enhancing local content and local jobs in the shipbuilding supply chain. Procurement policy through Australian Industry Capability Plans should be amended to require targeted levels of naval shipbuilding production, adaptation, maintenance, transport, and services within Australia.

2. Australia's long-term shipbuilding capacity requires urgent repair of the broader vocational education and training (VET) sector, as well as focused measures within shipbuilding. A quality TAFE-centred training strategy advanced through a more adequate VET funding allocation (with at least 70% of total funding going to public institutions) could support a longer-term, more secure national pipeline of skilled workers. In partnership with industry, unions and the Naval Shipbuilding College, this broader repair of the VET system could help to address the mounting workforce skills risks in the naval program.

3. Workforce plans should be immediately implemented to retain the existing naval shipbuilding workforce of over 600 workers at ASC Shipbuilding to ensure timely construction of the Future Frigates program planned to commence in late-2020.

[22] Defence, ibid.