

# Why Isn't Australia's Future Submarine Project Further Advanced?

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From 1999 to 2004, Andrew was part of a small team which established Australian Business Defence Industry, growing it to become a peak body for defence industry. In 2005, Andrew joined KPMG as its first Account Director for Defence where he has played a key leadership role in developing KPMG's strategic partnership with Defence since that time.

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#### **Abstract**

This paper examines why Australia's future submarine project has not progressed as expected since its announcement as a major capability priority in the 2009 Defence White Paper. It contends that six years later, key questions remain unanswered, such as why Australia needs submarines, how many we need, whether Australia is capable of building them, what is the best capability option, what they will cost, and what the opportunity costs would be.

The paper notes that while both sides of politics agree that a replacement submarine is critical to Australia's national security, and that progress is required to avoid the prospect and consequences of a capability gap, they both appear strongly conscious of not repeating the lessons of the Collins-class submarines—and seem to be approaching the policy-making process with extreme caution. The paper concludes that the consequences of further inaction, obfuscation and politicisation are significant, and that there is a real prospect of Australia having no submarine capability at all in future years.

# Why Isn't Australia's Future Submarine Project Further Advanced? 1

#### Introduction

Both sides of Australian politics have committed to the development of future submarines to replace Australia's current six Collins-class boats. However, so far at least, both parties have failed to drive the policy process in support of their strategic objective.

The Labor Government's 2009 Defence White Paper, *Defending Australia in the Asia-Pacific Century: Force 2030*, introduced the requirement for 12 future submarines to replace the existing Collins-class fleet, stipulating that the future submarines would need to have greater range, longer endurance and a broader range of capabilities.<sup>2</sup> In short, the Government was arguably specifying a conventional submarine with the capabilities of a nuclear submarine.

The stated capability requirement significantly constrained the available options, which in turn heightened the sensitivity around delivery timeframes. The 2009 Defence White Paper asserted that the decision on Australia's largest and most complex defence project ever 'must be taken over the next few years'. The associated Defence Capability Plan indicated a schedule that would have seen concept design completed by 2011, preliminary design by 2013, and construction commencing in 2016. However, those plans failed to materialise.

With the timeline proposed in the 2009 Defence White Paper clearly unachievable, the Labor Government's 2013 Defence White Paper reframed the narrative. It avoided the previous references to the urgency of decision making, and modified the capability expectations for the replacement submarine.<sup>5</sup> At about the same time, the Government also undertook a review of the expected service life of the Collins-class submarines, which highlighted the tight linkage between the Collins and future submarines, and that a capability gap might need to be addressed.

The 2013 Defence White Paper reaffirmed that the future submarines were of 'significant strategic importance' but also asserted that they would be assembled in Adelaide, and that a nuclear-powered option would not be considered.<sup>6</sup> It also noted that since the original announcement in 2009, the Government had approved over \$200 million of funding to undertake technical studies and examine options.<sup>7</sup> However, this funding was only confirmed in May 2012, some three years after the release of the 2009 Defence White Paper, and just 12 months prior to the 2013 Defence White Paper.

The 2013 Defence White Paper also confirmed that the Government had suspended further consideration of two off-the-shelf designs in order to focus on the consideration of what it termed an 'evolved Collins' option, as well as new design options it deemed more suitable to Australia's requirements.<sup>8</sup> Four months later, the Labor Government was voted out of office.

The incoming Liberal Government quickly found the future submarine project a challenge, not least in terms of its pre-election commitments. Senator David Johnston, in his capacity as Shadow Minister for Defence, has said in the lead-up to the 2013 federal election that 'we want to … under-promise and overdeliver and I want to get into this program as quickly as we possibly can'.9 He further added that 'I want to see a really stable, risk-averse design for these submarines', promising that 'we will have a plan that you can pick over, you can point to … [and where] you can see dates, times and money'. Unfortunately, the Liberal Party's pre-election commitment to make a decision on the future submarines within 18 months of forming government has not been met.

In 2009, it was recognised that for the future submarine to be in service by 2025, as planned, its design and capabilities would need to be sorted within seven years. <sup>10</sup> Those seven years have all but expired. The prospect of Australia having no submarine capability at all in future years is now a real prospect, depending on the feasibility of extending the life of the existing fleet. While both sides of politics agree that a replacement submarine is critical to Australia's national security, and that progress is required to avoid the prospect and consequences of a capability gap, they both appear strongly conscious of not

repeating the lessons of the Collins—and seem to be approaching the policy-making process with extreme caution.

With the Government announcing a 'competitive evaluation process' in early 2015, Cameron Stewart noted that 'at last, after some astonishing displays of political ineptitude by both major parties in recent years, the future submarine project is finally inching its way forward'. But given that the Government's own strategic guidance identifies submarines as one of Australia's most critical future capabilities, why has even incremental progress been so difficult to achieve? And why is the project not more advanced than it is?

The first section of this paper considers how the current Collins-class fleet impacts on planning for the future submarine. First, it argues that the Government is sensitive to the public perception of the submarines becoming 'dud subs', stemming from the Collins' technical problems during the delivery phase. Second, it asserts that the Government has been unduly focused on addressing subsequent management problems with the Collins' sustainment phase before progressing the future submarine project. Third, it contends that the Government's acute awareness of the need to apply the lessons of Collins has also added considerable caution to policy deliberations.

Section 2 analyses the challenges associated with Australia's naval shipbuilding industry that have directly impacted the policy debate concerning future submarines. These includes systemic structural impediments, including sorting out the role of the Australian Submarine Corporation (ASC) in the project, and settling the nation-building versus capability debate. Section 3 then highlights the influence of a broad range of vested interest and stakeholder groups over government decision-making. The paper asserts that the relative influence of these groups and individuals on the policy process has arguably been enhanced as a result of the political turbulence that has characterised Australian politics since the 2009 Defence White Paper.

Section 4 examines the delays caused by grappling with policy options in the absence of clear strategic guidance. It argues that the uncertainty of this policy process is exacerbated by two factors. First, the combined lack of a clear requirement, coherent implementation strategy and available capability solutions have severely complicated the policy-making process. Second, that lack of strategic clarity and delays in the policy process have stymied previous credible policy options and given rise to new policy alternatives which have further complicated and delayed the process.

The final section acknowledges the critical importance of the cost of the future submarines to the policy-making process. It analyses the costing debate from three key perspectives. First, conjecture over what is actually being costed; second, uncertainty concerning the cost of the local- versus foreign-build options; and, third, unresolved debate in relation to the important question of opportunity cost.

From this detailed analysis, the paper draws together key conclusions on why progress has been delayed and, more importantly, why it matters.

## Section 1 – The impact of the current Collins-class submarines

Australia's future submarine plans are inescapably linked to the current Collins-class submarines, so much so that Andrew Davies advocates the case for devising an all-encompassing policy solution that deals with both the Collins and future submarines. <sup>12</sup> Much of the mainstream media discussion of future submarines highlights the problems associated with the Collins. Former Chief of Navy, Vice Admiral Ray Griggs, noted in April 2014 that 'discussion about the future cannot be disentangled from the discussion about the Collins capability'. <sup>13</sup> From a policy-making perspective, this strong linkage between the current and future submarines has resulted in added complexity and delay.

This section analyses the critical linkage from three separate but related perspectives. First, the Government has been acutely aware of the need to manage the enduring public perception of the Collins as 'dud subs', dating back to the original technical problems faced by the project. Second, in more recent years, following delivery of the submarines, both sides of government have prioritised the need to fix the decade-long mismanagement of the submarines' sustainment issues before progressing the future submarine project. Third, the Government has been particularly mindful that the future submarine

project must heed the lessons of Collins, which further complicates and delays the decision-making process.

#### Managing the 'dud subs' perception

The Collins-class submarines were branded 'dud subs' due to a range of well-documented technical deficiencies. These technical problems and the negative public perceptions they created exposed the project to a high level of politicisation. This occurred following the election of the Coalition Government in 1996 when, according to Peter Yule and Derek Woolner, 'the submarines' benign political environment rapidly turned malignant'. The Coalition Government attacked the submarine project and its political sponsor, the former Minister for Defence, Kim Beazley, who at the time was an appealing target as leader of the Labor Party.

In 1999, then Minister for Defence John Moore commissioned an external review of the Collins project and related matters by Malcolm McIntosh and John Prescott. The Minister asked them 'to review the reports on the project I have received to date, examine the history of the project, the current status of the project, and the proposals to rectify any outstanding issues'. 15

Much of the focus of the report by McIntosh and Prescott was on the technical problems that needed to be addressed, especially the underlying cause of the problems, which it described as 'a myriad of design deficiencies and consequential operational limitations relating to the platform and combat system'. <sup>16</sup> The most serious issues were identified as problems with the diesel engines, noise, propellers, periscopes and masts, and the combat system. The report also highlighted the need to address systemic management issues as a central theme, and emphasised the strong public perception that the submarines were 'dud'.

In 2009, Greg Combet, then Labor Government Minister for Defence Materiel and Science, noted that 'it is a matter of very considerable regret that public confidence in the Collins class was undermined in the late 1990s', asserting also that 'given the fundamental importance of our submarine force, this has been very damaging'. While the Collins' technical issues were subsequently rectified, media reporting continued to perpetuate the negative aspects of the Collins submarines.

A February 2015 article, for example, contended that 'for many Australians, the Collins class submarine, for better or for worse, stands out as perhaps the household name example of public sector major project failure'. A June 2015 on-line video clip by the ABC's *Hungry Beast*, pitched at Australia's younger generation, similarly reinforced the 'dud subs' label, quoting former Minister for Defence John Moore as saying that the problems with Collins were considered so serious that his colleagues seriously discussed the option of closing down the project and selling the submarines for scrap. 19

Negative reporting also extended to the future submarine, with Hugh White in May 2012 describing the project as 'a slow-motion, high-cost train smash ... that jeopardises the future of perhaps the most important single capability for Australia over the next few decades'. The politicisation of submarines is a recurring theme in much of the analysis of the reasons for delays in the future submarine project.

## Fixing Collins' management problems before focusing on future submarines

While the technical problems which had almost overwhelmed the Collins project during the delivery phase were eventually overcome, it took a decade to do so. Negative public opinion was also exacerbated by the identification of major sustainment issues, highlighted in the Coles Review, undertaken by the Government-appointed UK submarine expert John Coles into the sustainment of the Collins class capability. The review identified management issues with the Defence Materiel Organisation (DMO), Navy, Finance and ASC, all of which were government entities. As Andrew Davies lamented at the time, 'in this depressing litany of contributing factors, only one of the ten refers to the equipment in the submarine—the other nine are management failings'.<sup>21</sup> Not surprisingly, the 'dud subs' media reporting continued.<sup>22</sup>

In this environment, it is perhaps understandable that Australian Governments have been reluctant to turn their focus to future submarines when major issues surrounding the Collins remained unresolved. Initial efforts by the Department of Defence to commence planning for the future submarine back in 2005 were allegedly not pursued due to the view at that time of the Minister for Defence Robert Hill that

resolving issues with the Collins-class submarines was the priority.<sup>23</sup> Likewise, in 2011, then Minister for Defence Stephen Smith also determined that issues surrounding the Collins class needed to be resolved before the future submarine acquisition program could be pursued beyond initial planning.<sup>24</sup> According to James Goldrick, it was clearly apparent that 'setbacks with the Collins have made the [G]overnment cautious to the extreme in embarking on the new project'.<sup>25</sup> In short, it is evident that addressing Collins' problems has taken priority over progressing the future submarines.

#### Learning the lessons of Collins

While fixing the problems with the Collins has been a major challenge for Australian Governments, ensuring that similar problems do not occur with the future submarine also presents major risks. After dealing with the political embarrassment resulting from years of controversy with the Collins submarines during the construction and sustainment phases, both sides of politics have become highly sensitised to the need to avoid similar mistakes.

In December 2012, for example, then Minister for Defence Stephen Smith highlighted the direct capability linkage when he contended that 'lessons learnt from Defence's experience with the Collins class submarines, along with the outcomes of the Coles Review, will also importantly inform development of the future submarines project'. However, this strong linkage between Collins and the future submarine arguably focused the Government's attention unduly on challenges with the Collins rather than on developing increasingly urgent policy options for the future.

Three of the more fundamental and related lessons of Collins—which the Government should be particularly mindful of as it seeks to determine appropriate policy options for the future submarines—were the pursuit of a unique submarine design, the related importance of ensuring the procurement strategy was tailored to the project, and the decision to build the Collins submarines in Australia. Of these lessons, a unique design was arguably the most important, with a Parliamentary research paper noting that:

Developing a unique submarine, in which most of the systems had unique specifications, guaranteed that there would be developmental problems. Continuing as though the program was a normal production run, with predictable outcomes within a fixed price contract, not only compounded the impact of difficulties when they did arise but had much to do with the persistence of performance problems and establishing the subsequent poor reputation of the submarines.<sup>27</sup>

It is apparent from the above lesson that the three issues of unique design, procurement strategy and local build are not independent. Once it was decided to develop a unique design for the Collins submarines, the procurement strategy should have been changed to suit the project.<sup>28</sup> The decision to build the Collins submarines in Australia also had a significant bearing on the terms of the contract under which the submarines were built, and influenced the criteria that would determine the successful design.<sup>29</sup>

The same three issues remain highly contentious and political in the policy-making process for the future submarine. These are considered further in the following sections. Notably, these are just three key lessons of the myriad of other important lessons from Collins that continue to influence the political narratives of both major parties today.

In summary, the decision-making process underpinning the future submarines is more complex and protracted because of the direct and unavoidable relationship between the future submarines and the Collins submarines. Very few other major Defence projects involve such a direct link between the current and replacement project as is the case with submarines.

#### Section 2 - Grappling with Australia's naval shipbuilding challenges

Both of Australia's major political parties have wrestled with the policy conundrum concerning the future of Australia's naval shipbuilding industry since at least the 1990s. Neither has made much progress. The phrase 'valley of death' is now commonly used as part of the political dialogue to describe the work shortage faced by Australia's shipbuilders in the period following completion of the Air Warfare Destroyers and the commencement of the next wave of major naval projects, such as future frigates and

future submarines. In March 2015, then Minister for Defence Kevin Andrews labelled the issue as 'Labor's valley of death'.<sup>30</sup> Earlier, Opposition Leader Bill Shorten had argued that the 'valley of death' was only unavoidable after the Abbott Government's decision in June 2014 to contract foreign builders for the Navy's two new supply ships.<sup>31</sup>

This section analyses three key elements of Australia's naval shipbuilding challenge which are having a strong bearing on the future submarine decision-making process. First, the structural impediments to Australia's naval maritime industry; second, managing the role of the government-owned ASC in the future submarine project; and third, reconciling the so-called 'nation-building' versus capability aspects as central drivers of the future submarines. The complex and longstanding nature of these issues continues to consume the policy debate concerning the future submarines.

#### Structural impediments in Australia's naval shipbuilding industry

The structural impediments to Australia's naval shipbuilding industry have been known since at least the 1990s. The McIntosh/Prescott report to the Government in 1999 made clear that 'future decades will see much lower levels of shipbuilding as other assets are needed' and that 'there are long-term difficulties in sustaining such heavy manufacturing industries'.<sup>32</sup>

More than 15 years later, a report by the RAND Corporation into Australia's naval shipbuilding enterprise asserted that 'demands for Australia's shipbuilding industrial base have been sporadic over the past 20 years, and the various peaks and troughs in demand have led to a decline in skill resources and an inefficient industrial base'. Surprisingly, RAND was not asked to consider submarine building as part of its study—which is unhelpful to the critical policy debate concerning future submarines. It has since been claimed that RAND believed this was because then Prime Minister Abbott clearly favoured offshore construction of the future submarines.

Nevertheless, the RAND report contained three notable conclusions with direct relevance to the Government's policy consideration for submarines. Notably, all three remain highly-contentious issues in the submarine policy debate. First was the conclusion that the economic benefits of domestic shipbuilding are unclear and largely depend on broader economic conditions. Davies argues that, at best, the value of an Australian naval shipbuilding industry is that it provides a 'wildlife refuge' for skilled labour during economic downturns.<sup>35</sup> Second was the conclusion that a healthy naval ship repair industry is not dependent on building vessels in Australia. Third was the conclusion that the price premium for building naval vessels in Australia is 30 to 40 per cent.<sup>36</sup> The report identified two requirements for addressing the cost premium of Australian domestic industry, namely the adoption of 'demand management' to drive a more consistent production schedule, and modified acquisition practices.

The RAND study fuelled political debates concerning government policy regarding Australia's shipbuilding industry. At the heart of the debate was the issue of Australia's naval shipbuilding productivity. Following the release of the RAND study, then Minister for Defence Kevin Andrews said that 'Government has an expectation that, and the ADF has a critical need for, the Australian shipbuilding industry to become more productive'.<sup>37</sup>

Recognition exists within industry that these structural problems continue today. Former chief executive of Lockheed Martin, Paul Johnson, acknowledges that 'disappointingly though, we have lagged in correcting major structural problems within the sector, notably the historical and so costly project-by-project approach to building complex platforms'.<sup>38</sup> Other industry advocates draw a direct link between the shipbuilding challenges of today and the longstanding lack of a strategic shipbuilding vision, with Chris Burns contending that:

If Australia had a shipbuilding strategy 30 years ago, we would not have gone through the very expensive peaks and troughs that surrounded the Collins Submarine, Anzac Frigate, Air Warfare Destroyer and Landing Helicopter Dock programs, and threaten future shipbuilding projects.<sup>39</sup>

The industry side has long argued for a stronger government role in managing its production schedule to smooth out the peaks and troughs and facilitate greater certainty. This remains a contentious issue and partly explains the protracted nature of this policy impasse. Arguably, continuous demand requires a shorter life-of-type or a larger fleet than Navy currently possesses, which renders demand management a

questionable policy solution. In any case, there are also other related structural impediments the Government is yet to resolve.

#### Sorting out the role of ASC in the project

The role of the government-owned ASC in the future submarine project is another key factor that complicates the Government's options in determining an appropriate acquisition strategy for the future submarine. Patrick Walters highlighted six years ago that 'how the [G]overnment handles the future of its wholly government-owned submarine builder, ASC, will be fundamental to the successful build of 12 next-generation submarines'.<sup>40</sup>

Having retained ownership of the ASC, the Government is yet to resolve how best to engage its expertise. ASC could potentially play a role in the design and the build phases but it remains to be seen how the Government achieves this without compromising competition with other key players. <sup>41</sup> ASC sees itself as playing a central role in the future submarine project. <sup>42</sup> But then Defence Minister Kevin Andrews noted in February 2015 that 'by the ASC's own admission, it does not have the capacity to go it alone and build Australia's next submarine'. <sup>43</sup>

Sorting out an appropriate role for ASC has been made more difficult as a result of a souring of the relationship between ASC and the former Abbott Government. In part, this was a reflection of the Abbott Government's sensitivity to the loss of public confidence in the ability of Defence and industry to deliver a submarine capability. <sup>44</sup> Its frustration at ASC, specifically concerning the Air Warfare Destroyer project, came to a head in late 2014 when then Minister for Defence David Johnston accused ASC of 'not being fit to build a canoe'. <sup>45</sup>

In May 2015, politicians and industry officials in South Australia accused the Abbott Government of disclosing negative details from an audit of the Air Warfare Destroyer Program the day before the launch of the third Air Warfare Destroyer in a deliberate effort to undermine confidence in Australian naval shipbuilding industry. How While Tony Abbott has since been replaced by Prime Minister Malcolm Turnbull, the troubled relationship between the Government and ASC is clearly not conducive to collaborative and innovative thinking on future submarine matters.

A major doubt in the Government's mind would be whether ASC and Australian industry more broadly can deliver a sovereign submarine design, development and production capability. Key decision makers, such as then CEO of DMO, Warren King, have highlighted the challenges associated with the state of submarine build and design skills in Australia. As King noted in 2014:

We definitely have very, very limited submarine build experience left in this country. It is really almost back to the levels where we were ... [and] the fundamental reason the project has gone nowhere since its announcement [in 2009].<sup>47</sup>

The Government continues to wrestle with a number of business models to drive the project, including the option of establishing an 'Australian Submarine Enterprise', to include ASC, to manage the design, build and maintain phases.<sup>48</sup> Such an option would facilitate Australia's ability to manage the necessary involvement of European and American firms, and their associated intellectual property, but would also see the Government carry much of the risk.

With the Government's announcement in February 2015 of a 'competitive evaluation process', two other options are possible. First would be an option whereby the Government contracts an existing international submarine designer/builder to manage the project, thereby reducing the risk to government. Second would be an option whereby the Government pursues an offshore procurement option.

In whichever business model is selected, the Government will likely be seeking to find some way to involve ASC. However, it also seems inevitable that future submarine procurement will seriously test Australia's procurement policies, given the imperfections in the market, the urgent timeframes and concerns regarding sensitive technologies. This adds to the complexity and constraints faced by policy makers, which in turn will likely consume valuable time.

#### Nation-building versus capability focus

The question of whether to build submarines in Australia has created a political divergence in Australian politics.<sup>49</sup> The Labor Government's 2013 Defence White Paper promised that the future submarines would be assembled in South Australia.<sup>50</sup> The Coalition's defence policy at the 2013 federal election committed to ensuring that 'work on the replacement of the current submarine fleet will centre around the South Australian shipyards'; in May 2013, then Shadow Minister for Defence Senator Johnston was even more emphatic, saying:

The Coalition today is committed to building 12 new submarines here in Adelaide. We will get that task done, and it is a really important task, not just for the Navy but for the nation.<sup>51</sup>

Since winning government, the Coalition has revised the political narrative by seeking to separate the industrial and capability dimensions. In mid-2014, Senator Johnston, as Minister for Defence, said 'a submarine is not an industrial or regional policy by other means or another name', asserting that 'industry must demonstrate an ongoing capacity to meet international benchmarks with respect to productivity, cost and schedule'.<sup>52</sup> Elsewhere, he also sought to highlight that the debate was not black-and-white, saying:

Some pretend this is an all-or nothing choice about all of the work happening in Australia or all of it happening overseas; the opposite is the truth. The Collins class, for example, relied upon Swedish design, US combat systems and French propulsion. Whatever the decision, there will be significant opportunities for South Australia.<sup>53</sup>

Chris Kenny claims that this change in narrative, especially when it was not official Coalition policy, was politically fatal for Johnston.<sup>54</sup> Certainly, the fundamental question of whether the submarines will be built in Australia has become a central issue in the broader policy debate.

The 2014 Defence Issues Paper, issued as part of the Defence White Paper public consultation process, foreshadowed the Government's position that 'this debate must consider the cost, risk and schedule as well as the benefits of the different options'. <sup>55</sup> But the politics of the future of Australia's naval shipbuilding industry is ever-present. With the next federal election due in 2016, the current Government will be mindful of the political imperative of committing to the local construction of at least one of either the future submarines or future frigates in South Australia. <sup>56</sup>

As highlighted by RAND, the build locally versus buy offshore dilemma has become the root question for policy makers.<sup>57</sup> Unfortunately for the policy debate, RAND was unable to offer a definitive view on the cost benefits of shipbuilding in Australia. And while the RAND study does articulate the merits of a continuous build program, the evidence is not compelling, with Mark Thomson arguing that:

A continuous build program would require either a larger fleet or more frequent replacement of vessels than is the norm. Either way, the additional cost would be measured in billions of dollars. With so much extra money sloshing around due to the 2% of GDP promise, the very real risk is that we'll end up expanding the navy to meet local industry's demand for work. The tail will wag the dog, and the taxpayer will pick up the bill for creating a monopoly shipbuilder.<sup>58</sup>

The Federal Government was scheduled to release a suite of major policy documents later in 2015, albeit some of these may be delayed by the leadership change of Prime Minister from Tony Abbott to Malcolm Turnbull. These include the Defence White Paper, Defence Industry Policy Statement, Defence Capability Plan and the Shipbuilding Strategy.

Australia's naval shipbuilding industry would be eagerly awaiting each of these policies but especially the shipbuilding strategy. However, it remains to be seen the extent to which the Turnbull Government will seek to drive a new strategy. In June 2015, then Prime Minister Abbott said 'it is the Government's intention to develop a continuous build of major surface warships here in Australia to avoid the unproductive on-again, off-again cycle that has done this industry so much damage'. <sup>59</sup> But some are unconvinced of any strategy that seeks to subsidise Australia's shipbuilding industry, with Thomson, for example, arguing that:

Notwithstanding the slow motion debacle of the AWD project, the government says that it 'will release an enterprise-level naval shipbuilding plan later this year, which will provide for the long-term future of the Australian naval shipbuilding industry'. Really? Three vessels for the price of nine and we are going to double down on domestic shipbuilding?<sup>60</sup>

Unless the shipbuilding strategy provides clear and implementable policy guidance, the Government and other key vested interest groups and stakeholders in the future submarine project will continue to obfuscate with regard to the appropriate role for Australian industry in the submarine project.

## Section 3 - The political influence of vested interest groups and key stakeholders

A number of vested interest groups and key stakeholders play active roles in shaping the political narrative on future submarines. These groups and individuals have ensured the future submarine receives media attention on an almost daily basis. They have forced successive Governments to consider broader policy options than might have been the case had the decision-making process remained behind closed doors. Their relative influence has arguably been enhanced as a result of the political turbulence that has characterised Australian politics since the future submarine was identified as a major new capability priority in the 2009 Defence White Paper. This section analyses the impact of these groups and individuals on the progress of the project since that time.

#### Dealing with vested interests

Individuals and groups that have demonstrated strong vested interests in the future submarine project include South Australian politicians, Australian industry advocates, peak industry bodies, and competing design houses and their local lobbyists. They have worked closely with the media to voice their views.

The South Australian Government is highly vocal of the industrial benefits of building submarines in Adelaide. Premier Jay Weatherill has said that 'in South Australia, we need defence industry jobs to provide crucial opportunities for manufacturing workers to transition from the automotive industry as it winds down'.<sup>61</sup> This approach to the project as a job creation program is awkward for the Federal Government to counter, given South Australia's challenging economic circumstances. However, the fact that both major political parties committed to building the submarines in Australia before critical analysis had been undertaken has exacerbated the awkwardness.

In direct response to speculation that the then Abbott Government was planning to sole source the future submarines from Japan, South Australia's Economic Development Board commissioned a study to assess the economic consequences of purchasing the 12 submarines from overseas, concluding that it would cost no more to build them locally.<sup>62</sup> However, Henry Ergas and Mark Thomson have highlighted what they see as several fundamental flaws with the study.<sup>63</sup> Regardless of the study's flaws, dealing with such studies and the media commentary they generate has demanded plenty of political time and effort.

The South Australian Government has also invested significant resources in the Defence South Australia Advisory Board, to help promote and attract defence business to the state. As its website declares:

The high-calibre Defence SA Advisory Board is a formidable line-up of the nation's top Defence and industry brainpower, led by Chairman and former Chief of Defence Force Air Chief Marshal Sir Angus Houston, AC, AFC. The board assists the State Government with its strategy and policy for delivering long-term defence industry growth.<sup>64</sup>

In 2012, Air Chief Marshal Houston and General Peter Cosgrove, both retired chiefs of the ADF and members of the South Australian Advisory Board, responded publicly to a report by the Centre for Independent Studies which recommended the leasing of Virginia-class nuclear submarines as a strategy for the future submarine. The newspaper headline read: 'We must build subs, not rent them, Houston and Cosgrove warn'.<sup>65</sup> The ability of the South Australian Government to harness the credibility and public standing of such highly-regarded former defence chiefs significantly enhances its lobbying clout.

The future submarine project has also enabled government backbenchers to influence politics in ways they might not normally be able. An example was the commitment by then Prime Minister Abbott to

undertake a 'competitive evaluation process' in order to secure the vote of South Australian Senator Sean Edwards in the February 2015 leadership ballot. As reported in the *Sydney Morning Herald* at the time:

Mr Abbott has been accused by Labor of making up the term 'competitive evaluation process' to secure the votes of South Australian MPs, who have been under enormous pressure in their home state over government plans to send shipbuilding contracts overseas.<sup>66</sup>

South Australian independent Senator Nick Xenophon has also been a regular advocate of building the submarines in South Australia, including through his parliamentary committee roles and media comments. Most recently, Xenophon arranged his own parliamentary visit to Japan's submarine facilities, warning Japan's industry of the political sensitivity in Australia of building the submarines offshore.<sup>67</sup>

Unions also play a key role in the public discourse concerning the submarine process. Workers and union representatives are planning to target key marginal Liberal seats in South Australia.<sup>68</sup> The Australian Manufacturing Workers Union (AMWU) has indicated plans to letterbox drop and door-knock residents in the marginal electorates of Boothby, Sturt and Hindmarsh, urging them against voting Liberal at the next federal election.<sup>69</sup> Notably, an AMWU representative attended each of the public hearings conducted by the Economic References Committee's review into the future submarines in Canberra, Newcastle, Melbourne and Adelaide.<sup>70</sup>

The Submarine Institute of Australia is an influential lobby group, which has been an active contributor to government-sponsored hearings, including the Economic References Committee's review in 2014-15. It seeks to 'to promote informed discussion and research in the fields of submarine operations, engineering, history and commercial sub-sea engineering—otherwise known as submarine matters', with its website identifying the Institute's contribution to the development of SEA 1000 as one of its current projects. <sup>71</sup> One of its signature activities is the annual Submarine Institute of Australia Conference, which brings key political, industrial and subject-matter experts together to explore key issues. The Institute strongly advocates the building of future submarines in Australia.

Industry peak bodies continue to be vocal in advocating the potential industrial opportunities associated with future submarines. The ability of vested interests to come together and resolve differences of perspective is important for a project of this scale and importance. Then Minister for Defence Kevin Andrews announced at the Royal United Services Institute's Submarine Summit in March 2015 that it was important that international players in the project understand Australian industry's capabilities and skill sets and that the State and Industry Association Consultative Group had been formed to facilitate such engagement.<sup>72</sup>

Competing submarine design houses have also invested over a long period in ensuring strong political connections with regard to the future submarine. A recent example was the appointment of the former Chief of Staff to then Minister for Defence David Johnston, and former senior executive within ASC, Sean Costello, to the role of CEO of French ship builder DCNS Australia. Costello's appointment, only four months after leaving his ministerial position, prompted some media attention, including a report which highlighted that 'a former senior government adviser who enjoyed privileged access to top-secret information about the Navy's future submarine project has taken a high-paid job with one of three foreign contenders for the \$20 billion plus contract'.<sup>73</sup> This matter and the associated question of probity were also raised in a Senate Estimates hearing in early June 2015.

In summary, the list of vested interests is a long one and the examples provided are by no means exhaustive. The future submarine decision-making process is also shaped in significant ways by a number of stakeholder groups.

### The power of key stakeholders

Key stakeholders, which continue to demonstrate significant influence on the future submarine policy process, include the media, political advisers, DMO and various 'think tanks'.

The Australian media keenly pursues the future submarine project, which is to be expected given the project's size, its significance to Australia's national security and the politics of submarines. The media routinely reports on controversial aspects of the political narrative, with the ABC also tracking the politics

of submarines on its 'promise check' website, including a video clip of former Minister for Defence David Johnston committing to building the submarines in Adelaide. <sup>74</sup> The media closely analysed then Prime Minister Tony Abbott's promise to South Australian Liberal Senator Sean Edwards in his bid to secure votes needed to avoid a leadership spill in February 2015. South Australia's media has demonstrated parochialism for building the future submarines in Adelaide, with an editorial in March 2015 characterising South Australians as having 'rightly felt disenfranchised from the process of public debate over this critical national issue, because of the level of subterfuge that seems to have surrounded the project'. <sup>75</sup>

The former Prime Minister's Security Adviser, Andrew Shearer, also demonstrated a longstanding interest in submarines and evidenced strong personal views on key strategic aspects. Shearer's views on submarines and the Japanese option are well documented, not least in his writings for The Lowy Institute. Shearer is the author or co-author of a number of articles that have advocated Australia pursuing closer defence ties with Japan. Shearer's influence prompted an *Australian Financial Review* commentator to suggest in December 2014 that 'the next generation of Australia's submarine program is being personally shepherded by the PM's most trusted national security adviser'. The influence of such senior advisers is that they can at times eclipse the influence of key ministers on major policy aspects.

Of the various 'think tanks', the Australian Strategic Policy Institute (ASPI) has been the most closely engaged on the future submarine. ASPI has produced a huge volume of strategic analysis concerning most aspects of the project, as well as facilitating regular blogs, workshops and conferences. Its senior analyst Andrew Davies has been highly sought after as probably the foremost strategic commentator on submarines over many years. ASPI plays a forceful role as strategic analyst, public interest advocate and honest broker, and a measure of its influence is that it is routinely cited by key policy makers up to and including the Prime Minister and Minister for Defence of the day.

DMO is the lead provider of policy advice to the Government on the future submarine. Its influence is such that it has been able to shape the policy direction independent of its political masters. A key example was provided by its recently-retired CEO Warren King, who told a Senate Committee hearing of his initiative in engaging with the Japanese on the possibility of collaborating on submarines. The Government and DMO are not always seamlessly aligned on submarines. Rex Patrick argues that DMO's inability to manage Collins problems and the through-life cost of remediation is cause for concern to the Government, which 'would have every right to be nervous about anything put forward by the DMO with respect to SEA 1000'.78

In summary, the government of the day must manage a vast array of vocal vested interests and stakeholder groups to ensure its narrative on submarines is coherent, defensible, well understood and accepted by the broader public. The considerable political turmoil that has characterised Australia's federal politics over the past six years, during which time there have been numerous changes of both Prime Minister and Defence Minister, has enhanced the influence of these individuals and groups.

## Section 4 - Stumbling through the policy options without a clear strategy

The Australian Government has stumbled along the future submarine policy-making process from the outset, prompting criticism of both sides of politics, with Stewart contending that:

The Rudd and Gillard governments squandered valuable time by making close to zero progress on the future submarine issue while in power. The Coalition then came to power promising action but instead delivered confusion. $^{79}$ 

Two key factors have characterised the protracted policy process since 2009. First, there has been no clear justification for why Australia needs the future submarine, no coherent strategy for how the project will be delivered and no readily-available capability solution on offer. Second, this lack of clarity has further delayed the process by stymieing previous credible policy options, resulting in the introduction of new options which have added further complexity and confusion.

#### Lack of justification and strategy

The 2009 Defence White Paper failed to provide clear justification for why Australia needs the future submarine. In a speech to the RSL in Townsville in 2008, then Prime Minister Kevin Rudd provided a strong hint of some of the key themes that would appear in the 2009 Defence White Paper, which was still under development at the time. During this speech, Rudd spoke of the rise of China, a rapidly-changing region, the modernisation of military forces in the region 'including greater numbers and more advanced submarines', and Australia's need for an enhanced naval capability to protect Australia's sea lanes of communication.<sup>90</sup>

The 2009 Defence White Paper subsequently stipulated the need for 12 new submarines, which would be more advanced than the Collins submarines. They would possess long range, high endurance and high speed but would be conventionally powered. However, there was no evidence of how Australia ought to manage the abovementioned strategic risks in the most cost-effective manner.<sup>81</sup>

When it comes to submarines—unlike most other major defence procurement scenarios—there is no feasible solution readily available through Australia's strategic allies that meets its unique requirements. There is also no coherent strategy for how the project will be delivered. As Nic Stuart argues, 'there can be little confidence about the purity of the decision-making process that entrenched the submarine as a cornerstone of our future force or, indeed, its technical wisdom'. <sup>82</sup> In short, the 2009 Defence White Paper established a bold requirement for a conventional submarine with the capabilities of a nuclear submarine. In practice, this left policy makers with the daunting task of designing a new submarine to suit Australia's unique circumstances, which would involve a disproportionately higher level of time, risk and money to deliver.

The challenges of progressing the project consumed policy makers from the outset. Six months after the release of the 2009 Defence White Paper, the then Minister for Defence Materiel and Science tried to describe 'how we envisage setting about this challenging task'. During this speech, then Minister Combet went on to discuss a range of the key challenges but failed to identify any substantive measures as to 'how' the Government intended to progress the project. In the absence of a clear justification for future submarines and coherent strategy to acquire them, the policy process stalled.

Initially, the Government had little choice but to consider a range of options due to the difficult policy challenges it faced, and given the ongoing problems associated with Collins.<sup>84</sup> The Government initially looked to pursue a broad-based strategy, establishing four options, military-off-the-shelf (MOTS), modified MOTS, evolved MOTS and a new design. The 2013 Defence White Paper did not deviate from the 2009 Defence White Paper's commitment to submarines but reduced these four options to two, an evolved Collins and a new design. As Davies has noted, these two options 'vary significantly in terms of cost, risk and capability outcomes, although both aim to produce a submarine superior in performance and reliability to the Collins class'.<sup>85</sup>

In April 2014, some eight months after the Coalition had won government, ASPI identified the 'worrying disconnect between Defence's plans and the Government's thinking'. 86 This situation revealed a confused and flawed policy-making process, with ASPI observing that:

[I]t rapidly became clear that Defence and the government hadn't yet compared their respective approaches to the project. While Defence was still marching to the beat of the previous government's drum, the new government had some very different ideas. At issue was not just the type of submarine to be acquired, but the size of the fleet and location of their construction.<sup>87</sup>

By July 2014, the Government and Defence had revised the highly-ambitious future submarine capability requirements described in the 2009 Defence White Paper. The capability aims specific to range, endurance and speed would now be consistent with Collins, and the enhancements would focus on stealth and sensors. <sup>98</sup> Unfortunately, in the meantime, five critical years had expired. With every passing year, the options open to government have diminished while the risk of a capability gap has grown stronger.

#### Delays have stymied previous possibilities and driven new options

Arguably, the time delays in advancing the project resulted in the Government's decision to reduce the key options under consideration from four to two.

The missed opportunity to conduct a formal Project Definition Study is another key example of the diminishing policy options as a result of delays. Such an approach may have been the ideal strategy for managing the inherent risks relating to the search for the unknown capability solution. White believes it still is, while others would argue that time no longer permits a Project Definition Study approach. White contends that:

A far better approach would be to give all three contenders (and, preferably, the Swedes as well) a couple of years to develop their designs in parallel, so that by the time the choice is made the government would know much more about what it is buying, whether it will work, and how much it will cost. This approach—called a project definition study, or PDS—is proven by long experience to be not just the best, but also the quickest way to proceed in major defence acquisitions when nothing already available meets your needs.<sup>89</sup>

With time fast running out to avoid a capability gap, the Government may now be driven to adopt alternative policy options. Two obvious options exist. First, the Government could extend the life of the current Collins submarines. The Government has explored this option through the Submarine Life Evaluation Program but has not released the study or committed to this course of action. Apart from sensitivities over making key details about the submarines' service life public, there remains uncertainty over how long the Collins can be kept in service, which makes more challenging the Government's decision-making process. 90 Second, the Government could buy or lease an interim submarine. 91

The 2013 Defence White Paper made clear that the Government had ruled out the option of replacing the Collins with a nuclear-powered submarine. However, the continued delay in progressing the project has meant the nuclear option remains credible in the eyes of many stakeholders. As recently as 2015, one of Australia's peak defence industry associations, the Australian Industry Group Defence Council, urged the Australian Government to consider buying or leasing a nuclear submarine fleet. However, the continued out the option of replacing the Collins with a nuclear option of replacing the project has

Federal politicians from both sides of politics have also expressed strong support for the nuclear option. <sup>94</sup> The issue of why nuclear submarines were not an option was also the question most frequently asked by the public during the public consultation process in support of the 2015 Defence White Paper. <sup>95</sup> Such comments and interest demand some attention by the Government, adding to a policy-making process that is fast running out of time.

Another significant implication of the delay in the submarine process has been the advancement of new, bold policy options. Perhaps the boldest of these is the possibility of acquiring the Japanese Soryu class submarine, or a derivative of it. The driving factors behind the more recent focus on the Japanese option include the Government's view that the Soryu closely matches Australia's capability requirement and reduces the risks concerning the Australian-built option. Procuring submarines from Japan has also only recently become feasible through Japan's relaxation of its arms trade restrictions. The possibility gained further momentum through the close relationship between Prime Minister Abe and Tony Abbott when he was Prime Minister.

The Government's interest in sourcing the future submarine from Japan has had a polarising impact on the policy debate. Then Prime Minister Tony Abbott described the Japanese Soryu-class submarine as the 'best conventional submarine in the world'.96 Conversely, RAN submarine specialist (and retired submariner and Rear Admiral) Peter Briggs has argued that Japan's Soryu-class does not meet Australia's requirements regarding payload, endurance and mobility, contending that it would lead to 'cost, performance and schedule risks that are best handled as a developmental project rather than as an off-the-shelf acquisition'.97

The availability of new options is not of itself a negative development, particularly given the limited options open to government thus far—and the looming threat of a capability gap. However, bold new options at this stage of the process serve to add further confusion and complexity to an already perplexing and time-sensitive policy process. Sourcing submarines from Japan also raises a whole new

suite of critical issues—which would need to be thoroughly worked through—including the implications for the Japan-Australia relationship, not to mention serious geostrategic considerations.<sup>98</sup>

The delay in the future submarine policy making has been exacerbated by the turmoil in Australian politics. In the six years since the 2009 Defence White Paper's announcement of the future submarine, Australia's Prime Minister has changed five times, with six changes of Minister for Defence. The political narrative has changed with the change in political leaders. The change of government at the 2013 federal election is perhaps the most glaring example of the changing political narrative regarding the submarines. As Graeme Dobell points out, had the Labor Party won the election:

The resurrected Rudd government would be steering the submarine course set out in Labor's 2009 and 2013 Defence White Papers. Japan wouldn't have surfaced. There'd be no Option J. No Japanese submarine in the running. Repeat, no Japanese submarine even in the field.<sup>99</sup>

## Where to from here?

The next 6-12 months are more critical than ever for the future submarine. The prospect of a capability gap is now a pressing issue for senior policy makers and will add another dimension to what is already a complex process. At this point, not only does the submarine solution remain elusive, so does the policy process to reach the solution. Compounding the problem is the lack of information regarding the prospects, costs and risks of the Collins' Submarine Life Evaluation Program.

Perhaps not surprisingly, the political courage to progress the future submarine project will be weaker where there is an absence of strategic justification, a coherent implementation strategy and a known capability solution. The risks to the process are further heightened by the potential destabilising effects of Defence's recently-announced First Principles Review. These include the disbanding of Capability Development Group, development of a new end-to-end process for capability development, re-integration of DMO into Defence, and the removal of several senior positions within DMO. 100

The political narrative appears to have become more confused with inconsistent, if not contradictory, comments from government cabinet ministers. In late 2014, then Treasurer Joe Hockey said that 'we don't have time to go through a speculation process', adding that 'we [also] do not have time for people to suggest that they can build something that hasn't been built'. <sup>101</sup> A few months later, in February 2015, the Government announced a 'competitive evaluation process'. <sup>102</sup>

Notably, this phrase is not formally identified in the Defence Procurement Policy Manual, which is 'the primary reference document for all Defence officials, procurement officers and others involved in the procurement process'. Despite the Treasurer's earlier remarks, the process now underway requires the competing bidders to articulate how they would design and build a new submarine. The Japanese will also be challenged in articulating how the Soryu could be modified to meet Australia's requirements, given their lack of experience working through such procurement processes.

At this stage, the next steps in the policy process remain uncertain. It remains to be seen whether the process will facilitate an assessment of comparable options. Moreover, as at the time of writing, the Government has still not indicated when it will release the proposed 2015 Defence White Paper. With its release will come broader policy commitments and great expectation around the question of how the future submarine will be accommodated within the ADF's force structure, both from a capability and cost perspective.

## Section 5 - The politics of price

The cost aspect of the future submarine continues to be a major issue of contention which fuels the political and policy debate. To date, there is no generally-agreed estimate for the cost of the future submarine, which adversely impacts on the Government's ability to progress the project. Whatever key decisions future governments take in relation to the capability options for the future submarine, the cost implications will be extremely significant.

The Australian Government faces a challenging fiscal environment as it works to return the budget to surplus in coming years which, of itself, has been a major political issue. It is also acutely aware of the

huge cost burden that the future submarine represents, given that 'once it starts, the Future Submarine Program will run for a very long time and perhaps not finish'. <sup>104</sup> The implications of the future submarine for the budget and the force structure prompted the former Minister for Defence David Johnston to inject some financial perspective into the narrative when he said that 'we need a highly effective future submarine capability, but not at any cost'. <sup>105</sup>

#### The cost of what?

The estimated cost of building the new submarines has varied wildly. This has fuelled the politics and the confusion. The former Labor Government was apparently working to a budget of \$41 billion to build 12 future submarines based on the requirement as outlined in the 2009 Defence White Paper. Davies estimated the cost would be around \$36 billion for the 2009 Defence White Paper version and approximately \$16.8 billion for an evolved Collins version. ASC has claimed it could construct the new fleet in South Australia for under \$24 billion. German submarine manufacturer ThyssenKrupp Marine Systems has given a figure of \$20 billion, although this does not include design or Defence's project-management costs.

The variability in the cost estimates over time reflects the reduced capability expectations of the future submarine from what was originally stated in the 2009 Defence White Paper, the competitive rivalry between submarine builders and the fact that industry players are generally unaccountable for the cost estimates they provide outside of formal contractual commitments. The huge variability in cost estimates, however, is best explained by the fact that the analysis and debate has occurred in a policy vacuum. There continues to be no explicit capability specification and no readily-available solution, which also has major implications for the estimated costs of through life support.

The cost implications of the future submarine will be massive regardless of which capability option is ultimately selected. The then Shadow Defence Minister David Johnston acknowledged prior to the 2013 federal election that the cost of ownership of the Collins was around \$1 billion per annum, representing a huge burden on Navy and the Australian taxpayer. That cost burden was weighing heavily on his mind when he noted that 'when someone says to me, let's go with an evolved Collins, I get a little bit nervous about that'. 110

The evolved Collins remains a policy option for the Government. It remains to be seen whether the cost implications of a new design as the other remaining option will be even greater. Political nervousness about cost perhaps also explains then Prime Minister Abbott's inference in February 2015 that the Government was considering a reduction in the number of submarines from 12 to  $8.^{111}$ 

#### Cost of local versus foreign build

The cost implications of an Australian build versus foreign procurement remain highly contentious. Australia's Productivity Commissioner Gary Banks asserted in 2011 that:

The case for spending A\$36 billion or so on another dozen homemade submarines when imported alternatives could be purchased for a fraction of the cost (and risk) has never been adequately explained publicly—notwithstanding the generally acknowledged failure of the Collins Class precedent.<sup>112</sup>

Two subsequent and contrasting studies highlight the disagreement over the issue of the cost of local versus foreign build. The RAND study mentioned earlier highlighted that Australia pays a premium of 30-40 per cent for naval warships built entirely in-country. However, a 2014 study commissioned by the Economic Development Board of South Australia argued that the cost of building locally would be no more expensive than overseas. Thomson has separately identified fundamental flaws with both of these studies, which in turn highlights the difficulty faced by policy makers in accessing reliable financial options analysis.

The Government is also acutely aware of the strong public sensitivity concerning the possibility of the submarines being sourced from Japan, rather than building them locally in Adelaide for cost reasons. In answer to an on-line poll of 1000 respondents in September 2014 on the question of 'Do you support or oppose the Government buying submarines from Japan if it is cheaper than building them in Australia?', 51 per cent were opposed compared to 28 per cent in support.<sup>116</sup> A poll taken in February 2015 found

that 37 per cent of voters thought that Australia's replacement submarines should be built in Australia, even if it costs more than having them made overseas, while only 12 per cent thought they should only be built in Australia if the cost is less. 117 This underlines the political challenge faced by Government in determining a prudent build strategy that avoids alienating South Australian voters in particular.

#### Opportunity cost

The commitment to the future submarine will impact the defence budget significantly and present major opportunity costs that are yet to be publicly communicated. The Government has emphasised that the 2015 Defence White Paper will be fully-costed, with then Prime Minister Abbott saying in June 2015 that:

The Defence White Paper to be released in the next few months won't be an unfunded wish list; it will be a costed, sustainable, long-term plan.... For the first time, there has been an externally validated assessment of defence costs so that we can be more confident that defence spending is finally value for money.'118

In the absence of such public validation, serious questions remain unanswered, despite the reality that the future submarine will commit a disproportionately high level of current capital expenditure over its life cycle. Alan Dupont has argued that:

[I]t makes no strategic sense to allocate the lion's share of the defence budget to capabilities that have little or no utility for the conflicts most likely to engage the ADF ... [and that the cost of submarines risks] the loss of other important capabilities and imperiling the ability of the ADF to meet all its declared objectives.<sup>119</sup>

Another perspective on the narrowness of the costing debate has been provided by former Chief of Navy Vice Admiral Griggs, who argues that an informed public debate of the costs of the future submarines should include strategic consideration of the costs imposed on Australia's potential adversaries created by their need to counter Australia's submarine capability. 120

In summary, governments will be extremely mindful of the need to balance the opportunity costs of investing in the future submarines with the drastic consequences of losing a conflict in which submarines matter. While both sides of politics are firmly committed to the future submarine, they will be likely to reserve their final political judgment until they are comfortable the opportunity cost that submarines impose on the broader force structure is clear and acceptable. To date, the relevant information they require to make this judgment is not known.

#### Conclusion

Australia's future submarine project has not progressed as expected since its announcement as a major capability priority in the 2009 Defence White Paper. Six years later, key questions remain unanswered, such as why Australia needs submarines, how many we need, whether Australia is capable of building them, what is the best capability option, what they will cost, what are the opportunity costs and so on.

This paper has analysed five major reasons for the delays in progressing the project to date. First, the Government is compelled to pursue the future submarine in close alignment with the current Collins class submarines, which has created policy and decision making complexity and uncertainty. Second, Australia's naval shipbuilding challenges have constrained the Government's ability to manage the project as it might have otherwise preferred. In particular, dealing with the systemic structural issues in Australia's naval shipbuilding industry, sorting out the role of ASC in the future submarine project and reaching a sensible position on the nation-building versus capability debate have complicated the policy development process.

Third, strong vested and stakeholder interests have shaped the Government's approach to the project. Fourth, the absence of a clear requirement, a coherent strategy and a genuine solution for the future submarine have delayed the process. In particular, these factors have stymied previously feasible policy options and resulted in new alternatives being introduced. The project's progress to date highlights that the political courage to drive the future submarine project will be weaker where credible policy options are lacking. Fifth, the huge cost implications of the future submarines has forced the Government to

proceed with extreme caution, a situation that is further exacerbated by lack of certainty over the project cost and Australia's challenging fiscal circumstances.

The delays in advancing the project come at a cost to the Australian taxpayer and the nation's national security interests. Cost and risk have increased. Policy options which once existed no longer exist. One of the greatest concerns is that the delays in the policy-making process have created the serious likelihood of a capability gap. Government is now faced with the delicate issue of extending the Collins submarine, an option which introduces new complexities, risks and costs.

A common thread throughout the key factors for the delays in the project has been the politicisation of submarines since the Collins class problems arose in the 1990s. This trend has continued and has been further exacerbated by the turbulent political environment in Australia since the announcement of the future submarines in the 2009 Defence White Paper. While both major political parties have shared a commitment to the future submarine, the political narratives have differed and evolved. Lacking genuine bipartisan support, the future submarine project has lurched to the present so-called 'competitive evaluation process'.

The stakes are now high. The consequences of further inaction, obfuscation and politicisation of the future submarine project are significant, with the project placed precariously at the policy cross-roads. Australia's government and industry need to deal urgently with the longstanding and systemic issues undermining Australia's naval shipbuilding industry.

Smarter strategies need to be developed for engaging with vested interests and stakeholder groups. A clear strategy and coherent implementation plan need to be developed expeditiously. The policy options that remain must be considered in a thorough yet urgent manner. These challenges are not insurmountable but they are critical, and include learning from the lessons of Collins and cutting through the current policy complexity.<sup>121</sup>

#### **Notes**

Editor's note: this paper was written before the election of Malcolm Turnbull as Prime Minister in September 2015. It has been updated to reflect that change but not the subsequent policy implications or progress since.

Department of Defence, *Defending Australia in the Asia Pacific Century: Force 2030*, (Defence White Paper 2009), Commonwealth of Australia: Canberra, 2009, p. 70.

Department of Defence, *Defending Australia in the Asia Pacific Century*, p. 17. The 2009 Defence White Paper further states at page 70 that 'the complex task of capability definition, design and construction must be undertaken without delay, given the long lead times and technical challenges involved'.

Department of Defence, *Defence Capability Plan 2009*, Commonwealth of Australia: Canberra, 2009, pp. 171-2.

Department of Defence, *Defending Australia in the Asia Pacific Century*, p. 70. In comparing the 2009 and 2013 Defence White Papers, Andrew Davies surmises that 'the government remains committed to a large long-range submarine, but is perhaps not as wedded to the extremely demanding criteria of the 2009 ambition—although care should be taken when reading too deeply into the particular wording of White Papers': Andrew Davies, 'The Future Submarine Project', *Security Challenges*, Vol. 9, No. 2, 2013, p. 88.

Department of Defence, Defence White Paper 2013, Commonwealth of Australia: Canberra, May 2013, p. 82.

Department of Defence, *Defence White Paper 2013*, p. 82.

- B Department of Defence, *Defence White Paper 2013*, p. 83.
- David Johnston, 'Future submarine project, women in combat', *Australian Parliament House* [website], 8 May 2013, available at <a href="http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22media%2Fpressrel%2F2715770%22">http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22media%2Fpressrel%2F2715770%22</a> accessed 17 June 2015. The Minister said 'I want to confirm on behalf of the Coalition that we are firstly committed to submarines for the Royal Australian Navy, they are a very important and vital and special capability as a deterrent. Secondly, I want to confirm that the 12 submarines as set out in the 2009 Defence White Paper and then again in last Friday's Defence White Paper are what the Coalition accepts and will deliver. We will deliver those submarines from right here at ASC in South Australia'.
- Sean Costello and Andrew Davies, 'How to buy a submarine: defining and building Australia's future fleet', Australian Strategic Policy Institute (ASPI) [website], 29 October 2009, p. 2, available at <a href="https://www.aspi.org.au/publications/strategic-insights-48-how-to-buy-a-submarine-defining-and-building-australias-future-fleet">https://www.aspi.org.au/publications/strategic-insights-48-how-to-buy-a-submarine-defining-and-building-australias-future-fleet</a> accessed 17 November 2015.
- 11 Cameron Stewart, 'Three-way submarine race', *The Australian*, 21 May 2015.
- Andrew Davies, 'Subaqueana australis the future evolution of Australia's submarines', *ASPI* [website], 11
  November 2011, p. 6, available at <a href="https://www.aspi.org.au/publications/subaqueana-australis-the-future-evolution-of-australias-submarines-by-andrew-davies">https://www.aspi.org.au/publications/subaqueana-australis-the-future-evolution-of-australias-submarines-by-andrew-davies</a> accessed 17 November 2015. The feasibility of achieving an all-encompassing solution would appear to be more difficult following the current Government's exclusion of Sweden from the 'competitive evaluation process'.
- Ray Griggs, 'The Role of Submarines in a Maritime Strategy', Speech by Chief of Navy to the ASPI Future Submarine Conference, *Navy* [website], 9 April 2014, pp. 8-9, available at <a href="http://www.navy.gov.au/sites/default/files/documents/CN ASPI Speech 09April2014.pdf">http://www.navy.gov.au/sites/default/files/documents/CN ASPI Speech 09April2014.pdf</a> accessed 28 May 2015.
- Peter Yule and Derek Woolner, *The Collins Class Submarine Story Steel, Spies and Spin,* Cambridge University Press: New York, 2008, p. 391.
- Malcolm McIntosh and John Prescott, *Report to the Minister for Defence on the Collins Class Submarine and Related Matters*, Commonwealth of Australia: Canberra, June 1999, Annex A.
- McIntosh and Prescott, Report to the Minister for Defence on the Collins Class Submarine and Related Matters, p. 5.
- Greg Combet, 'From Collins to Force 2030: the challenge of the future submarine', Speech by the Minister for Defence Materiel and Science to the Sydney Institute, *Australian Parliament House* [website], 4 November 2009, available at <a href="http://parlinfo.aph.gov.au/parlInfo/download/media/pressrel/QD4V6/upload\_binary/qd4v60.pdf;fileType=application%2Fpdf#search=%22media/pressrel/QD4V6%22">http://parlinfo.aph.gov.au/parlInfo/download/media/pressrel/QD4V6/upload\_binary/qd4v60.pdf;fileType=application%2Fpdf#search=%22media/pressrel/QD4V6%22</a> accessed 28 May 2015.
- Mikayla Novak, 'Lock Periscopes on the best deal for Australia', *The Canberra Times*, 21 February 2015.
- 'How Royal is the Australian Submarine Fleet', *Hungry Beast* [blog], available at <a href="https://www.youtube.com/watch?v=bttdcCavGBw">https://www.youtube.com/watch?v=bttdcCavGBw</a> accessed 13 June 2015. This video clip has been viewed over 78,500 times.
- Hugh White, 'Our military strategies indefensible', *Sydney Morning Herald*, 15 May 2012.
- Andrew Davies, 'Sub par management: the Coles review and the Collins Class', *The Strategist* [blog], 12 December 2012, available at <a href="http://www.aspistrategist.org.au/sub-par-management-the-coles-review-and-the-collins-class/">http://www.aspistrategist.org.au/sub-par-management-the-coles-review-and-the-collins-class/</a> accessed 13 June 2015.
- For an example, see John Kerin, 'Australia's submarine fleet amongst world's worst', *Australian Financial Review*, 12 December 2012.
- Julian Kerr, 'Sea 1000: Australia's Future Submarine is slow to surface', *Jane's Navy International*, 13 April 2012, available at <a href="http://www.janes.com/magazines/ihs-janes-navy-international">http://www.janes.com/magazines/ihs-janes-navy-international</a> accessed 7 May 2015.
- Stephen Smith, 'Paper presented by the Minister for Defence Stephen Smith to the Australian Strategic Policy Institute', *Minister for Defence* [website], 19 July 2011, available at <a href="http://www.minister.defence.gov.au/2011/07/19/paper-presented-by-the-minister-for-defence-stephen-smith-to-the-australian-strategic-policy-institute-national-gallery-canberra/">http://www.minister.defence.gov.au/2011/07/19/paper-presented-by-the-minister-for-defence-stephen-smith-to-the-australian-strategic-policy-institute-national-gallery-canberra/</a> accessed 16 June 2015. Smith said 'without having confidence in our capacity to sustain our current fleet of submarines, it is very difficult to fully commence, other than through initial planning, the acquisition program for our Future Submarine'.
- James Goldrick, 'Future Australian Submarine Capability', *Proceedings of the United States Naval Institute*, Vol. 139, No. 6, June 2013, p. 78.

- Daniel Wills, 'Australia's Collins Class submarines well below international standards: report', *The Advertiser*, 12 December 2012.
- Research Paper 3, Parliamentary Research Service: Canberra, 2001-02, p. iv, available at <a href="http://www.aph.gov.au/binaries/library/pubs/rp/2001-02/02rp03.pdf">http://www.aph.gov.au/binaries/library/pubs/rp/2001-02/02rp03.pdf</a> accessed 7 May 2015.
- Government of Australia, 'Lessons of the Collins Submarine Program for Improved Oversight of Defence Procurement', p. 47.
- Government of Australia, 'Lessons of the Collins Submarine Program for Improved Oversight of Defence Procurement', pp. 6-8.
- Kevin Andrews, 'Speech by the Minister for Defence to the RUSI Submarine Summit', 25 March 2015, available at <a href="http://pacificsentinel.blogspot.com.au/2015/03/aus-minister-for-defence-speech-rusi.html">http://pacificsentinel.blogspot.com.au/2015/03/aus-minister-for-defence-speech-rusi.html</a> accessed 27 May 2015. In later references, then Minister Andrews made more definitive references to 'Labor's valley of death': see Kevin Andrews, 'Transcript Expert Advisory Panel on the Future Submarine Competitive Evaluation Process', Minister for Defence [website], 5 June 2015, available at <a href="http://www.minister.defence.gov.au/2015/06/05/minister-for-defence-transcript-expert-advisory-panel-on-the-future-submarine-competitive-evaluation-process-5-june-2015/">http://www.minister.defence.gov.au/2015/06/05/minister-for-defence-transcript-expert-advisory-panel-on-the-future-submarine-competitive-evaluation-process-5-june-2015/</a> accessed 5 June 2015.
- Bill Shorten, 'Coalition risks thousands of Australian shipbuilding jobs', *Leader of the Opposition* [website], 6 June 2014, available at <a href="http://billshorten.com.au/coalition-risks-thousands-of-australian-ship-building-jobs">http://billshorten.com.au/coalition-risks-thousands-of-australian-ship-building-jobs</a>> accessed 1 July 2015.
- McIntosh and Prescott, Report to the Minister for Defence on the Collins Class Submarine and Related Matters, p. 22.
- RAND Corporation, *Australia's Naval Shipbuilding Enterprise Preparing for the 21st Century*, RAND; Santa Monica,, 2015, p. iii, available at <a href="http://www.rand.org/pubs/research\_reports/RR1093.html">http://www.rand.org/pubs/research\_reports/RR1093.html</a> accessed 7 May 2015.
- John Kerin, "Tony Abbott wanted "offshore build" for submarines, RAND review told', *Australian Financial Review*, 16 April 2015. Kerin said 'so confident was RAND that Australia was taking the project overseas that it included a table on page 38, which summarised future acquisition strategies as including only one option for the submarines to replace the ageing Collins class with an "offshore build".
- Andrew Davies, 'The case for naval shipbuilding: opportunities, costs and benefits', *The Strategist* [blog], 20 April 2015, available at <a href="http://www.aspistrategist.org.au/the-case-for-naval-shipbuilding-opportunities-costs-and-benefits/">http://www.aspistrategist.org.au/the-case-for-naval-shipbuilding-opportunities-costs-and-benefits/</a> accessed 10 June 2015.
- RAND Corporation, Australia's Naval Shipbuilding Enterprise Preparing for the 21st Century, p.xxxviii. ASPI's Mark Thomson agrees that the first two of these three conclusions are justifiable but questions the lack of rigour and transparency regarding how the model takes account of how foreign exchange, labour rates and productivity combine to determine production costs/prices. Thomson also highlights that the RAND study does not consider the critical aspect of commercial arrangements nor does it consider the issues of ASC: see ASPI, *The Cost of Defence ASPI Defence Budget Brief 2015-2016*, ASPI: Canberra, 2015, pp. 210-24, available at <a href="https://www.aspi.org.au/publications/the-cost-of-defence-aspi-defence-budget-brief-20152016/ASPI-Cost-of-Defence-2015.pdf">https://www.aspi.org.au/publications/the-cost-of-defence-aspi-defence-budget-brief-20152016/ASPI-Cost-of-Defence-2015.pdf</a> accessed 8 June 2015.
- Andrews, 'Speech to RUSI Submarine Summit'.
- Paul Johnson, 'Naval Gazing', *Adelaide Advertiser*, 24 March 2015.
- <sup>39</sup> Chris Burns, 'The Manufactures', *Adelaide Advertiser*, 24 March 2015.
- Patrick Walters, 'The Making of the 2009 Defence White Paper', *Security Challenges*, Vol. 5, No. 2, Winter 2009, p. 10.
- 41 Costello and Davies, 'How to buy a submarine', p. 3.
- For example, see Government of Australia, *Future of Australia's naval shipbuilding industry future submarines, Part II,* Commonwealth of Australia: Canberra, November 2014, p. 22. Interim CEO ASC Stuart Whiley said 'Australia is much better prepared than it was in the 1980s, when it was decided to design and build Collins. Since then we have learned and achieved so much. We have developed a quarter of a century of submarine capability and knowledge. We have developed key technical and supply chain capability across Australia and we have learned to work together effectively as one team and we are now ready to help deliver the separate solution for the future'.
- Kevin Andrews, 'Subs project underlines firm commitment to Defence', *Weekend Australian*, 28 February 2015, available at <a href="http://www.theaustralian.com.au/opinion/subs-project-underlines-firm-commitment-to-defence/story-e6frg6zo-1227242092701">http://www.theaustralian.com.au/opinion/subs-project-underlines-firm-commitment-to-defence/story-e6frg6zo-1227242092701</a> accessed 7 May 2015.

- Brice Pacey, 'Sub Judice: Australia's future submarines', *Kokoda Papers*, No. 17, January 2012, p. 5, available at <a href="http://www.regionalsecurity.org.au/Resources/Documents/KP17.pdf">http://www.regionalsecurity.org.au/Resources/Documents/KP17.pdf</a> accessed 17 November 2015.
- 45 Australian Parliament, 'Senate Hansard', 25 November 2014, p. 9198, available at <a href="http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;db=CHAMBER;id=chamber%2Fhansards%">http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;db=CHAMBER;id=chamber%2Fhansards%</a> 2Fedf5b96a-d52d-4197-bf93-30e1e6514fbb%2F0034:guery=Id%3A%22chamber%2Fhansards%2Fedf5b96a-d52d-4197-bf93-30e1e6514fbb%2F0000%22> accessed 19 July 2015. Johnston said that 'ASC was delivering no submarines in 2009 for \$1 billion. ASC was delivering no submarines for Australia in 2009 for \$1 billion. They have no [sic] improved their output, thankfully, after two or three visits from Mr Coles to tell them how to do it properly. They are \$350 million over budget on three air-warfare destroyer builds. I am being conservative. It is probably more than \$600 million but because the data is so bad I cannot tell you. You wonder why I am worried about ASC and what they are delivering to the Australian taxpayer! Do you wonder why I wouldn't trust them to build a canoe?'. Johnston's comments were widely reported in the media, drew negative comment from a range of vested interest groups and created a political furore: see John Kerin, "Rhetorical flourish" blamed for canoe comment', AFR Weekend, 26 November 2014, available at <a href="http://www.afr.com/news/policy/defence/rhetorical-flourish-blamed-for-canoe-comment-20141126-">http://www.afr.com/news/policy/defence/rhetorical-flourish-blamed-for-canoe-comment-20141126-</a> 11uiuw > accessed 12 July 2015.
- James Bennett and staff, 'Air Warfare Destroyer: Government to put control of troubled warship program out to tender as cost hits \$9 billion', *ABC News*, 22 May 2015, available at <a href="http://www.abc.net.au/news/2015-05-22/air-warfare-destroyer-hobart-launch-techport-adelaide/6487870">http://www.abc.net.au/news/2015-05-22/air-warfare-destroyer-hobart-launch-techport-adelaide/6487870</a> accessed 31 May 2015. South Australian Premier Jay Weatherill accused the federal government of deliberately sabotaging the launch of the third Air Warfare Destroyer by leaking details from the audit undertaken by the Australian National Audit Office. If that was the Government's strategy, it seemed to achieve its objective with Mark Thomson commenting in the same article that 'it's going to be very hard in Cabinet to muster support on doubling down on Australian industry to build the next generation of submarines or warships'.
- Rex Patrick, 'Dreamtime Part 1 Seeking a sovereign capability', *Asia Pacific Defence Reporter*, Vol. 40, No. 7, September 2014, p. 72.
- Andrew Davies and Mark Thomson, 'How to buy a submarine Part 2', ASPI: Canberra, June 2014, p.3, available at <<a href="https://www.aspi.org.au/publications/how-to-buy-a-submarine-part-2/SI72\_Submarines.pdf">https://www.aspi.org.au/publications/how-to-buy-a-submarine-part-2/SI72\_Submarines.pdf</a>> accessed 17 November 2015.
- 49 ASPI, The Cost of Defence ASPI Defence Budget Brief 2015-2016, p. 3.
- Department of Defence, *Defence White Paper 2013*, p. 82.
- ABC, 'Promise Check: Build Australia's new submarine fleet in Adelaide', *ABC* [website], 7 November 2014, available at <a href="http://www.abc.net.au/news/2014-11-07/build-australias-new-submarine-fleet-in-adelaide-promise-check/5731260">http://www.abc.net.au/news/2014-11-07/build-australias-new-submarine-fleet-in-adelaide-promise-check/5731260</a> accessed 14 June 2015.
- Robert Nutbrown, 'SEA 1000 Revisited More than just a numbers game', *Australian Defence Business Review*, May/June 2014, Vol. 33, No. 3, p. 42.
- Robert Nutbrown, 'Turning Japanese Japan surfaces as strong contender to partner with Australia for SEA 1000', *Australian Defence Business Review*, November/December 2014, Vol. 33, No. 6, p. 16.
- Chris Kenny says 'former Defence Minister David Johnston was a fool to promise the subs would be built in Adelaide especially when it wasn't official Coalition policy and that is largely why he lost his job': Chris Kenny, 'Decision must be best for all', *Adelaide Advertiser*, 24 March 2015.
- Department of Defence, *Defence Issues Paper 2014*, Commonwealth of Australia: Canberra, 2014, p. 25, available at < <a href="http://www.defence.gov.au/Whitepaper/docs/DefenceIssuesPaper2014.pdf">http://www.defence.gov.au/Whitepaper/docs/DefenceIssuesPaper2014.pdf</a> accessed 16 June 2015
- ASPI, The Cost of Defence ASPI Defence Budget Brief 2015-2016, p. 9.
- 57 RAND Corporation, Australia's Naval Shipbuilding Enterprise Preparing for the 21st Century, p. xxii.
- ASPI, The Cost of Defence ASPI Defence Budget Brief 2015-2016, p. x.
- Tony Abbott, 'Address by the Prime Minister to the Australian Strategic Policy Institute Conference', *Prime Minister* [website], 25 June 2015, available at <a href="http://www.pm.gov.au/media/2015-06-25/address-australian-strategic-policy-institute-conference-canberra">http://www.pm.gov.au/media/2015-06-25/address-australian-strategic-policy-institute-conference-canberra</a> accessed 1 July 2015.
- ASPI, The Cost of Defence ASPI Defence Budget Brief 2015-2016, p. x.
- 61 Jay Weatherill, 'History shows we should build here', Adelaide Advertiser, 24 March 2015.

- Economic Development Board South Australia, 'Economic analysis of Australia's future submarine program', October 2014, available at <a href="http://economicdevelopmentboardsa.com.au/wp-content/uploads/2013/06/2014">http://economicdevelopmentboardsa.com.au/wp-content/uploads/2013/06/2014</a> 10 22-EDB-economic-analysis-of-Australias-future-submarine-program.pdf> accessed 17 November 2015.
- Henry Ergas and Mark Thomson, 'On Economics and Submarines', *The Strategist* [blog], 29 October 2014, available at <a href="http://www.aspistrategist.org.au/on-economics-and-submarines/">http://www.aspistrategist.org.au/on-economics-and-submarines/</a> accessed 10 June 2015. Key flaws identified include the assumption that a foreign build option would involve heavy maintenance being conducted offshore, assumptions regarding exchange rates which increase the premium for offshore build, ignoring the fact that recent in-country shipbuilding had incurred significant premiums, ignoring the agency problems of local build, and the fundamental flaws of using an input-output model to model the economic impact.
- See Defence SA Advisory Board's website at < <a href="http://www.defencesa.com/defence-sa/defence-sa-advisory-board">http://www.defencesa.com/defence-sa/defence-sa-advisory-board</a>
- 65 Sarah Martin, 'We must build subs, not rent them, Houston and Cosgrove warn', *The Australian*, 25 October 2012.
- Lisa Cox, 'Senator Sean Edwards gives bizarre interview about Tony Abbott's submarine promise', *Sydney Morning Herald*, 10 February 2015. This incident was also highlighted in a Four Corners report: see Michelle Grattan, 'Cabinet committee favoured foreign construction of subs: Four Corners', *The Conversation* [blog], 16 March 2015, available at <a href="http://theconversation.com/cabinet-committee-favoured-foreign-construction-of-subs-four-corners-38854">http://theconversation.com/cabinet-committee-favoured-foreign-construction-of-subs-four-corners-38854</a> accessed 7 May 2015. Kerr asserts that the Minister for Defence's announcement in February 2015 of a 'competitive evaluation process' and appointment of an oversight panel was appeasement of the anti-federal government sentiment in South Australia: see Julian Kerr, 'Evaluation of Collins-class replacements "underway", says Australia's defence minister', *IHS Jane's Defence Weekly*, 24 March 2015, available at <a href="http://www.janes.com/article/50181/evaluation-of-collins-class-replacements-underway-says-australia-s-defence-minister">http://www.janes.com/article/50181/evaluation-of-collins-class-replacements-underway-says-australia-s-defence-minister</a> accessed 7 May 2015.
- Nick Xenophon, 'Interview with Mark Colvin', *ABC PM*, 7 July 2015, available at <a href="http://www.abc.net.au/pm/content/2015/s4269209.htm">http://www.abc.net.au/pm/content/2015/s4269209.htm</a> accessed 10 July 2015. Xenophon said he delivered an emphatic message in Japan that 'unless the submarines are built in Australia, in Adelaide in particular, as promised by the Coalition, that it will become a huge political issue not just at the next election but beyond the next election' and that 'this is an issue that will be the biggest issue in my home state politically at the next Federal election, and indeed, one of the biggest issues at the next Federal election in terms of our sovereign capability'. He believes at least four lower house seats held by the Federal Coalition in South Australia are in jeopardy due to public concerns over the possibility of building the submarines offshore.
- Leah Maclennan, 'Workers, union to target Liberal seats in campaign to have submarines built in Australia', *ABC*, 27 February 2015, available at <a href="http://www.abc.net.au/news/2015-02-27/workers-to-target-marginal-liberal-seats-in-submarines-campaign/6269678">http://www.abc.net.au/news/2015-02-27/workers-to-target-marginal-liberal-seats-in-submarines-campaign/6269678</a> accessed 15 June 2015.
- 69 Maclennan, 'Workers, union to target Liberal seats in campaign to have submarines built in Australia'.
- Government of Australia, Part II, Future of Australia's naval shipbuilding industry future submarines, Australian Senate: Canberra, November 2014, pp. 103-6, available at <a href="http://www.aph.gov.au/Parliamentary Business/Committees/Senate/Economics/Naval shipbuilding">http://www.aph.gov.au/Parliamentary Business/Committees/Senate/Economics/Naval shipbuilding</a> accessed 17 November 2015.
- See the Submarine Institute of Australia's website at < <a href="http://www.submarineinstitute.com/about-sia/">http://www.submarineinstitute.com/about-sia/</a>>
- Andrews, 'Speech by Minister for Defence to RUSI Submarine Summit'. Then Minister Andrews said 'the strategy includes bimonthly meetings to monitor progress against planned activities that include preparation sessions for Australian industry, the development of company profiles to be provided to international partners, a schedule of interactions between the partners and state-based organisations, and visits by the partners to states across Australia to meet with company representatives and visit facilities'.
- Ian McPhedran, 'Former senior defence adviser now heading French sub builder', news.com.au [website], 16 May 2015, available at <a href="http://www.news.com.au/national/former-senior-defence-adviser-now-heading-french-sub-builder/story-fncynjr2-1227356703547">http://www.news.com.au/national/former-senior-defence-adviser-now-heading-french-sub-builder/story-fncynjr2-1227356703547</a> accessed 17 November 2015.
- ABC, 'Promise Check'.
- <sup>75</sup> Editorial, 'Dossier offers expert insight on sub debate', *Adelaide Advertiser*, 24 March 2015.
- Will Glasgow, 'PMO's Shearer strong on Subs', Australian Financial Review, 17 December 2014.
- Appearing as a witness before the Senate Economics References Committee, CEO DMO Warren King confirmed the reasons behind Australia's interest in Japan's submarine capability as follows: 'Realising that

Soryu was a submarine of about the size that we might be interested in, and understanding that they had a very well proven propulsion train, I thought it would be well worthwhile for me to go and visit Japan and ask them about their program—ask them, for example, whether they would be interested in supporting our program through the release of some of that technology, what restrictions might apply and whether there was any opportunity to pursue that course of action. Because of Japan's position up until that stage that course of action was not really viable. We had had previous visits, by the way, but their position on defence exports meant that it was not viable': Government of Australia, *Part II, Future of Australia's naval shipbuilding industry – Future submarines*, pp. 46-7.

- Rex Patrick, 'What Lies Beneath?', *Australian Pacific Defence Reporter*, Vol. 38, No. 10, December 2012/January 2013, p. 32.
- <sup>79</sup> Stewart, 'Three-way submarine race'.
- Kevin Rudd, 'Address to the RSL National Congress Townsville', 9 September 2008, available at: <a href="http://pandora.nla.gov.au/pan/79983/20091030-1529/www.pm.gov.au/node/5598.html">http://pandora.nla.gov.au/pan/79983/20091030-1529/www.pm.gov.au/node/5598.html</a> accessed 5 June 2015
- Mark Thomson, 'The three musts an essay about submarines', *ASPI* [website], 8 April 2014, p. 1, available at <a href="https://www.aspi.org.au/publications/miscellaneous-research/the-three-musts/The-three-musts-MarkThomson2.pdf">https://www.aspi.org.au/publications/miscellaneous-research/the-three-musts/The-three-musts-MarkThomson2.pdf</a>> accessed 25 June 2015.
- Nic Stuart, 'The unmentionable question: do we really need a submarine?', *The Strategist* [blog], 22 January 2013, available at <a href="http://www.aspistrategist.org.au/the-unmentionable-question-do-we-really-need-a-submarine/">http://www.aspistrategist.org.au/the-unmentionable-question-do-we-really-need-a-submarine/</a> accessed 5 June 2015. Stuart argues that the opportunity costs of the future submarine have never been adequately explained, noting that 'a submarine can do a great deal and it would be a terrific capability to possess. But ask yourself, what, specifically, do we need a submarine for that couldn't be achieved in other, more cost effective ways'.
- 83 Combet, 'From Collins to Force 2030'.
- Andrew Davies and Mark Thomson, 'Mind the gap Getting serious about submarines', *ASPI* [website], April 2012, p. 11, available at <a href="https://www.aspi.org.au/publications/strategic-insights-57-mind-the-gap-getting-serious-about-submarines">https://www.aspi.org.au/publications/strategic-insights-57-mind-the-gap-getting-serious-about-submarines</a> accessed 17 November 2015.
- Davies, "The Future Submarine Project', p. 90. Elsewhere, Davies says the Government's decision to reduce from four to two options 'has removed the two least expensive, least risky, (probably) fastest and least capable options from the potential solutions. What we'll see is either an evolution of the Collins class or an entirely new design. Both of these options are likely to be expensive and involve significant project risk': see Andrew Davies, 'Future Submarines', The Strategist [blog], 3 May 2013, available at <a href="http://www.aspistrategist.org.au/future-submarines/">http://www.aspistrategist.org.au/future-submarines/</a> accessed 17 June 2015.
- Davies and Thomson, 'How to buy a submarine Part 2', p. 2.
- ASPI, The Cost of Defence ASPI Defence Budget Brief 2015-2016, p. 205.
- Andrew Davies, 'A realistic future submarine at last', *The Strategist* [blog], 1 August 2014, available at <a href="http://www.aspistrategist.org.au/a-realistic-future-submarine/">http://www.aspistrategist.org.au/a-realistic-future-submarine/</a> accessed 10 June 2015.
- <sup>89</sup> Hugh White, 'Submarine selection process a disaster in the making', *The Age*, 25 February 2015.
- Davies and Thomson, 'Mind the gap Getting serious about submarines'. Davies and Thomson make the point that ASC, the RAN and DMO are all unable to answer this fundamental question.
- White argues that 'if we are looking for an interim submarine, the obvious choice would be the German Type 214. These are relatively small submarines, but they are very good and thoroughly proven, have already been built in large numbers, and could be supplied from the German yards in Kiel quickly and with little risk': see White, 'Submarine selection process a disaster in the making'.
- Department of Defence, *Defence White Paper 2013*, p. 82.
- Innes Wilox, 'The Manufactures', *Adelaide Advertiser*, 24 March 2015.
- John Kerin and Christopher Joye, 'Labor Split on Nuclear Submarines', Australian Financial Review, 12 November 2012. This article claimed federal politicians in favour of further consideration of the nuclear submarine option included former Labor Minister for Defence Joel Fitzgibbon and 'top Coalition leaders'.
- 95 Brendan Nicholson, 'Defence White Paper: public repeatedly pushed for nuclear subs', The Australian, 2 July 2015.
- House of Representatives, Official Hansard, No. 2, 2015, Monday 23 February 2015, Commonwealth of Australia: Canberra, p. 884. Abbott said he has had 'discussions about submarine partnerships' with the

- Germans, the French and the Japanese and that 'up till now, [those discussions] have been more detailed with the Japanese, because the Japanese make the best large conventional submarine in the world'.
- Peter Briggs, 'Why Australia should build its own submarine', *ASPI* [website], January 2015, p. 2, available at <a href="https://www.aspi.org.au/publications/why-australia-should-build-its-own-submarines/SI82">https://www.aspi.org.au/publications/why-australia-should-build-its-own-submarines/SI82</a> Australian submarines.pdf> accessed 17 November 2015.
- For a discussion of these implications, see Andrew Davies and Benjamin Schreer, "The strategic dimension of 'Option J' Australia's submarine choice and its security relations with Japan', *ASPI* [website], March 2015, available at <a href="https://www.aspi.org.au/publications/the-strategic-dimension-of-option-j-australias-submarine-choice-and-its-security-relations-with-japan">https://www.aspi.org.au/publications/the-strategic-dimension-of-option-j-australias-submarine-choice-and-its-security-relations-with-japan</a> accessed 17 November 2015.
- Graeme Dobell, 'Tony Abbott and a Japanese Sub', *The Strategist* [blog], 25 May 2015, available at <a href="http://www.aspistrategist.org.au/tony-abbott-and-a-japanese-sub/">http://www.aspistrategist.org.au/tony-abbott-and-a-japanese-sub/</a> accessed 19 June 2015.
- Mark Thomson, 'Not the last word on the first principles review', *The Strategist* [blog], 22 May 2015, available at < <a href="http://www.aspistrategist.org.au/not-the-last-word-on-the-first-principles-review/">http://www.aspistrategist.org.au/not-the-last-word-on-the-first-principles-review/</a> accessed 1 July 2015.
- <sup>101</sup> Jared Owens, 'Joe Hockey rules out open tender for new submarines', *The Australian*, 2 December 2014.
- Kevin Andrews, 'Strategic direction of the Future Submarine Program', *Minister for Defence* [website], 20 February 2015, available at <a href="http://www.minister.defence.gov.au/2015/02/20/minister-for-defence-strategic-direction-of-the-future-submarine-program/">http://www.minister.defence.gov.au/2015/02/20/minister-for-defence-strategic-direction-of-the-future-submarine-program/</a> accessed 7 May 2015.
- Department of Defence, *Defence Procurement Policy Manual*, October 2014, Commonwealth of Australia: Canberra, 2014, available at <a href="http://www.defence.gov.au/dmo/Multimedia/DPPM-9-5247.pdf">http://www.defence.gov.au/dmo/Multimedia/DPPM-9-5247.pdf</a> accessed 22 June 2015.
- Rowan Moffitt, 'Australia's Future Submarine', in Andrew Forbes (ed.), *The Naval Contribution to National Security and Prosperity*, Proceedings of the Royal Australian Navy Sea Power Conference 2012, Sea Power Centre: Canberra, 2013, p. 271.
- David Johnston, 'The Submarine Choice', Address by the Minister for Defence for the ASPI Conference, 9 April 2014, p. 7, available at <a href="https://www.aspi.org.au/data/assets/pdf">https://www.aspi.org.au/data/assets/pdf</a> file/0011/20720/Johnston-Speech.pdf accessed 20 May 2015.
- Andrew Davies, 'The number that refuses to submerge: \$36billion', *The Strategist* [blog],1 December 2014, available at <a href="http://www.aspistrategist.org.au/the-number-that-refuses-to-submerge-36-billion/">http://www.aspistrategist.org.au/the-number-that-refuses-to-submerge-36-billion/</a> accessed 15 June 2015. It should be noted that this is a claim made about the former Labor Government by the former Liberal Minister for Defence.
- Andrew Davies, 'What price the future submarine?', *ASPI* [website], 2 March 2012, pp. 1-2, available at <a href="https://www.aspi.org.au/publications/what-price-the-future-submarine-by-andrew-davies/Policy\_Analysis99\_Submarine\_costs\_mk2.pdf">https://www.aspi.org.au/publications/what-price-the-future-submarine-by-andrew-davies/Policy\_Analysis99\_Submarine\_costs\_mk2.pdf</a> accessed 18 June 2015.
- David Wroe, 'Australian-made submarines substantially cheaper than government suggests', *Sydney Morning Herald*, 21 November 2014.
- ASPI, The Submarine Choice Perspectives on Australia's most complex defence project, ASPI: Canberra, September 2014, p. 31 available at <a href="https://www.aspi.org.au/publications/the-submarine-choice-perspectives-on-australias-most-complex-defence-project/Strategy submarine choice.pdf">https://www.aspi.org.au/publications/the-submarine-choice-perspectives-on-australias-most-complex-defence-project/Strategy submarine choice.pdf</a> accessed 17 November 2015.
- Transcript of doorstop interview with Minister for Defence, 'Future submarine project, women in combat', 8 May 2013, available at <a href="http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p:query=Id%3A%22media%2Fpressrel%2F">http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p:query=Id%3A%22media%2Fpressrel%2F</a> 2715770%22> accessed 17 June 2015.
- Transcript of joint doorstop interview with the Prime Minister, Tony Abbott and Mr Matt Williams MP, Federal Member for Hindmarsh, Adelaide, 20 February 2015, available at <a href="http://parlinfo.aph.gov.au/parlInfo/download/media/pressrel/3676080/upload\_binary/3676080.pdf;fileType%3Dapplication%2Fpdf">http://parlinfo.aph.gov.au/parlInfo/download/media/pressrel/3676080/upload\_binary/3676080.pdf;fileType%3Dapplication%2Fpdf</a> accessed 18 July 2015. During this interview, the then Prime Minister said 'now sustainment alone on the basis of an eight submarine as opposed to a 12 submarine fleet will produce an ongoing 500 additional jobs. So, one way or another, there is going to be more submarine jobs here in South Australia'.
- Patrick, 'SEA 1000 and "Nation Building" The Industrial Tail Wagging the Capability Dog?', p. 53.
- 113 RAND Corporation, Australia's Naval Shipbuilding Enterprise Preparing for the 21st Century, p. xxxiii.

- Economic Development Board South Australia, 'Economic analysis of Australia's future submarine program', October 2014.
- Mark Thomson, 'Naval Deconstruction: RAND's shipbuilding report', *The Strategist* [blog], 5 May 2015, available at <a href="http://www.aspistrategist.org.au/naval-deconstruction-rands-shipbuilding-report/">http://www.aspistrategist.org.au/naval-deconstruction-rands-shipbuilding-report/</a> accessed 25 June 2015; and Ergas and Thomson, 'On economics and submarines'.
- Peter Lewis and Jackie Woods, 'That sinking feeling: saving money, losing support', *The Drum* [blog], 16 September 2014, available at <a href="http://www.abc.net.au/news/2014-09-16/lewis-and-woods-that-sinking-feeling/5747858">http://www.abc.net.au/news/2014-09-16/lewis-and-woods-that-sinking-feeling/5747858</a> accessed 8 June 2015.
- Essential Research, "The Essential Report', 17 February 2015, p. 11, available at <a href="http://essentialvision.com.au/documents/essential report">http://essentialvision.com.au/documents/essential report 150217.pdf</a> accessed 8 June 2015.
- Tony Abbott, 'Address by the Prime Minister to the Australian Strategic Policy Institute Conference', *Prime Minister* [website], 25 June 2015, available at <a href="http://www.pm.gov.au/media/2015-06-25/address-australian-strategic-policy-institute-conference-canberra">http://www.pm.gov.au/media/2015-06-25/address-australian-strategic-policy-institute-conference-canberra</a> accessed 1 July 2015.
- Alan Dupont, 'Inflection Point: the Australian Defence Force after Afghanistan', *Lowy Institute* [website], 29 March 2012, pp. 9-10, available at <a href="http://www.lowyinstitute.org/publications/inflection-point-australian-defence-force-after-afghanistan">http://www.lowyinstitute.org/publications/inflection-point-australian-defence-force-after-afghanistan</a> accessed 18 June 2015.
- Griggs, 'The Role of Submarines in a Maritime Strategy', pp. 8-9. Griggs argues that 'this aspect of the submarine discussion is largely absent in the public domain, if we are truly thinking strategically it needs to be there, front and centre'.

## **Additional reading**

- Aldred, Ken, 'Avoiding another Collins-class submarine fiasco', *News Weekly*, 20 August 2011, available at <a href="http://www.newsweekly.com.au/article.php?id=4887">http://www.newsweekly.com.au/article.php?id=4887</a>> accessed 7 May 2015.
- Andrews, Kevin, 'Strategic direction of the Future Submarine Program', *Minister for Defence* [website], 20 February 2015, available at <a href="http://www.minister.defence.gov.au/2015/02/20/minister-for-defence-strategic-direction-of-the-future-submarine-program/">http://www.minister.defence.gov.au/2015/02/20/minister-for-defence-strategic-direction-of-the-future-submarine-program/</a> accessed 7 May 2015.
- Andrews, Kevin, 'Door Stop interview at the RUSI Submarine Conference', 25 March 2015, available at <a href="http://kevinandrews.com.au/latest-news/2015/03/25/door-stop-interview-at-the-rusi-submarine-conference-25-march-2015/">http://kevinandrews.com.au/latest-news/2015/03/25/door-stop-interview-at-the-rusi-submarine-conference-25-march-2015/</a> accessed 27 May 2015.
- Archibald, David, 'The Case for More Collins Class Subs', *Quadrant*, 18 December 2014, available at <a href="https://quadrant.org.au/opinion/qed/2014/12/case-collins-class-subs/">https://quadrant.org.au/opinion/qed/2014/12/case-collins-class-subs/</a> accessed 7 May 2015.
- Armstrong, Shiro, 'The New Australia-Japan relationship', *East Asia Forum*, 6 July 2014 available at <a href="http://www.eastasiaforum.org/2014/07/06/the-new-australia-japan-relationship/">http://www.eastasiaforum.org/2014/07/06/the-new-australia-japan-relationship/</a> accessed 24 March 2015.
- Australian National Audit Office, 'Management of the Collins-class Operations Sustainment', Audit Report No. 23 2008-09 Performance Audit, Commonwealth of Australia: Canberra, 2009.
- Australian Strategic Policy Institute (ASPI), 'Naval Gazing The future of Australia's naval shipbuilding and repair sector', Special Report Issue 31, *ASPI* [website], May 2010, available at <a href="https://www.aspi.org.au/publications/special-report-issue-31-naval-gazing-the-future-of-australias-naval-shipbuilding-and-repair-sector/SR31">https://www.aspi.org.au/publications/special-report-issue-31-naval-gazing-the-future-of-australias-naval-shipbuilding-and-repair-sector/SR31</a> Naval gazing.pdf> accessed 10 June 2015.
- Briggs, Peter, 'Future submarine A growth in Australia's Navy's capability: some implications for the RAN', *Journal of the Australian Naval Institute*, Issue 139, March 2011, pp. 4-9.
- Briggs, Peter, 'Australia's future submarine capability research and development implications', *Journal of the Australian Naval Institute*, Issue 143, March 2012, pp. 45-51.
- Coles, John, *Study into the Business of Sustaining Australia's Strategic Collins Class Submarine Capability*, Commonwealth of Australia: Canberra, 2012.
- Corbett, Claire, 'Australia's \$60 billion submarine dilemma', *The Monthly* [website], August 2014, available at <a href="https://www.themonthly.com.au/issue/2014/august/1406815200/claire-corbett/australia%E2%80%99s-60-billion-submarine-dilemma">https://www.themonthly.com.au/issue/2014/august/1406815200/claire-corbett/australia%E2%80%99s-60-billion-submarine-dilemma</a> accessed 7 May 2015.

- Cowan, Simon, 'Don't build subs just to save jobs', *The Drum* [blog], 10 December 2014, available at <a href="http://www.abc.net.au/news/2014-12-10/cowan-dont-build-subs-just-to-save-jobs/5955540">http://www.abc.net.au/news/2014-12-10/cowan-dont-build-subs-just-to-save-jobs/5955540</a> accessed 7 May 2015.
- Cox, Lisa, 'Senator Sean Edwards gives bizarre interview about Tony Abbott's submarine promise', *Sydney Morning Herald*, 10 February 2015.
- Defence SA Advisory Board, 'Guarding our edge Building and sustaining the future submarine in Australia', *Defence SA* [website], December 2012, available at <a href="http://www.defencesa.com/upload/media-centre/publications/cor/Defence%20SA%20Submarine%20Report.pdf">http://www.defencesa.com/upload/media-centre/publications/cor/Defence%20SA%20Submarine%20Report.pdf</a> accessed 1 June 2015.
- Department of Defence, *Future Submarine Industry Skills Plan A Plan for the Naval Shipbuilding Industry*, Commonwealth of Australia: Canberra, 2013.
- Dibb, Paul, 'A sovereign submarine capability in Australia's grand strategy', Centre of Gravity Series Paper No. 3, Strategic and Defence Studies Centre, Australian National University: Canberra, December 2012.
- Ellery, David, 'Sinking feeling: our subs "outdated", Canberra Times, 28 February 2012.
- Gillard, Julia, Stephen Smith and Jason Clare, 'Next Stage of future submarine project announced', *Minister for Defence* [website], 3 May 2012, available at <a href="http://www.minister.defence.gov.au/2012/05/03/prime-minister-minister-for-defence-minister-for-defence-minister-for-defence-materiel-joint-media-release-next-stage-of-future-submarine-project-announced/">http://www.minister.defence.gov.au/2012/05/03/prime-minister-minister-for-defence-minister-for-defence-minister-for-defence-minister-for-defence-materiel-joint-media-release-next-stage-of-future-submarine-project-announced/">http://www.minister.defence.gov.au/2012/05/03/prime-minister-minister-for-defence-min
- Gissick, Michael, 'Coles Mark II Learning from the Collins problems', *Australian Defence Business Review*, Vol. 32, No. 1, January/February 2013, pp. 14-7.
- Johnston, David, 'Opening address to the Submarine Institute of Australia Biennial conference', Fremantle WA, *Minister for Defence* [website], 12 November 2014, available at <a href="http://www.minister.defence.gov.au/2014/11/12/minister-for-defence-opening-address-to-the-submarine-institute-of-australia-biennial-conference-fremantle-wa/">http://www.minister.defence.gov.au/2014/11/12/minister-for-defence-opening-address-to-the-submarine-institute-of-australia-biennial-conference-fremantle-wa/</a> accessed 1 June 2015.
- Kerin, John, 'Nuclear submarine option pushed by industry', Australian Financial Review, 25 March 2015.
- Kilham, Michael, 'The Future Submarine Project, More Than Just a Boat', *Journal of the Australian Naval Institute*, Issue 138, December 2010, pp. 4-8.
- Medcalf, Rory, 'PM Abe sends a subtle message from Canberra', Australian Financial Review, 9 July 2014.
- Miles, Glenn, 'Australia's future submarine capability; an integrated plan for success', *Journal of the Australian Naval Institute*, Issue 143, March 2012, pp. 22-6.
- Murphy, Katharine, 'Submarine fleet 'should go nuclear', The Age, 5 September 2006.
- Novak, Mikayla, 'Sub decision should be divorced from industry policy as choice presents taxpayer risks', *Canberra Times*, 22 February 2015.
- Nutbrown, Robert, 'Yes we can?', *Australian Defence Business Review*, October 2013, Vol. 32, No. 8, pp. 30-4.
- Patrick, Rex, 'A Future Submarine Capability Blueprint', *Asia Pacific Defence Reporter*, Vol. 38, No. 6, July-August 2012, pp. 28-32.
- Patrick, Rex, 'Crew Size Under Pressure', Asia Pacific Defence Reporter, Vol. 39, No. 3, April 2013, pp. 20-3.
- Patrick, Rex, 'SEA 1000 and "Nation Building" The Industrial Tail Wagging the Capability Dog?', *Asia Pacific Defence Reporter*, Vol. 39, No. 1, February 2013, pp. 50-4.
- Patrick, Rex, 'The Art of the Possible', *Asia Pacific Defence Reporter*, Vol. 40, No. 9, November 2014, pp. 36-41.
- Patrick, Rex, 'Dreamtime Part 1 Seeking a sovereign capability', *Asia Pacific Defence Reporter*, Vol. 40, No. 7, September 2014, pp. 66-72.

- Patrick, Rex, 'Dreamtime Part 2 The evolution challenge', *Asia Pacific Defence Reporter*, Vol. 40, No. 8, October 2014, pp. 20-3.
- Patrick, Rex, 'Getting Australia's future submarine program back on track', *Asia Pacific Defence Reporter*, Vol. 41, No. 1, February 2015, pp. 48-54.
- Richards, Clint, 'Timing is Everything: Abe's playbook for military normalization', *The Diplomat* [website], July 2014, available at <a href="http://thediplomat.com/2014/07/timing-is-everything-abes-playbook-for-military-normalization/">http://thediplomat.com/2014/07/timing-is-everything-abes-playbook-for-military-normalization/</a> accessed 24 April 2015.
- Ryan, Mick, 'The Japanese Soryu-class Submarine: its potential to meet Australia's requirement', *Australian Defence Force Journal*, No. 189, November-December 2012, pp. 21-33.
- Shepherd, Tony, 'Federal Government and Opposition to present separate submarine plan at Australia's Future Submarine Summit in Adelaide', *Perth Now Sunday Times*, 25 March 2015.
- Smith, Stephen and Mike Kelly, 'Collins Class Submarines Update', *Minister for Defence* [website],14 June 2013, available at <a href="http://www.minister.defence.gov.au/2013/06/14/minister-for-defence-and-minister-for-defence-materiel-joint-media-release-collins-class-submarines-update/">http://www.minister.defence.gov.au/2013/06/14/minister-for-defence-and-minister-for-defence-materiel-joint-media-release-collins-class-submarines-update/</a> accessed 1 July 2015.
- Starick, Paul, 'Former Lib Minister urges Adelaide sub build', Perth Now Sunday Times, 25 March 2015.
- Stuart, Nicholas, 'Logic behind submarine spending is easily torpedoed', Canberra Times, 14 April 2014.
- Toohey, Brian, 'Let's get the facts right on submarines Australia may buy', *Australian Financial Review*, 1 March 2015.
- White, Hugh, 'Submarine shopping should start with a few key questions', *Sydney Morning Herald*, 7 February 2012.
- Yule, Peter and Derek Woolner, *The Collins Class Submarine Story Steel, Spies and Spin*, Cambridge University Press: New York, 2008.



http://www.defence.gov.au/adc/publications/publications.html

