

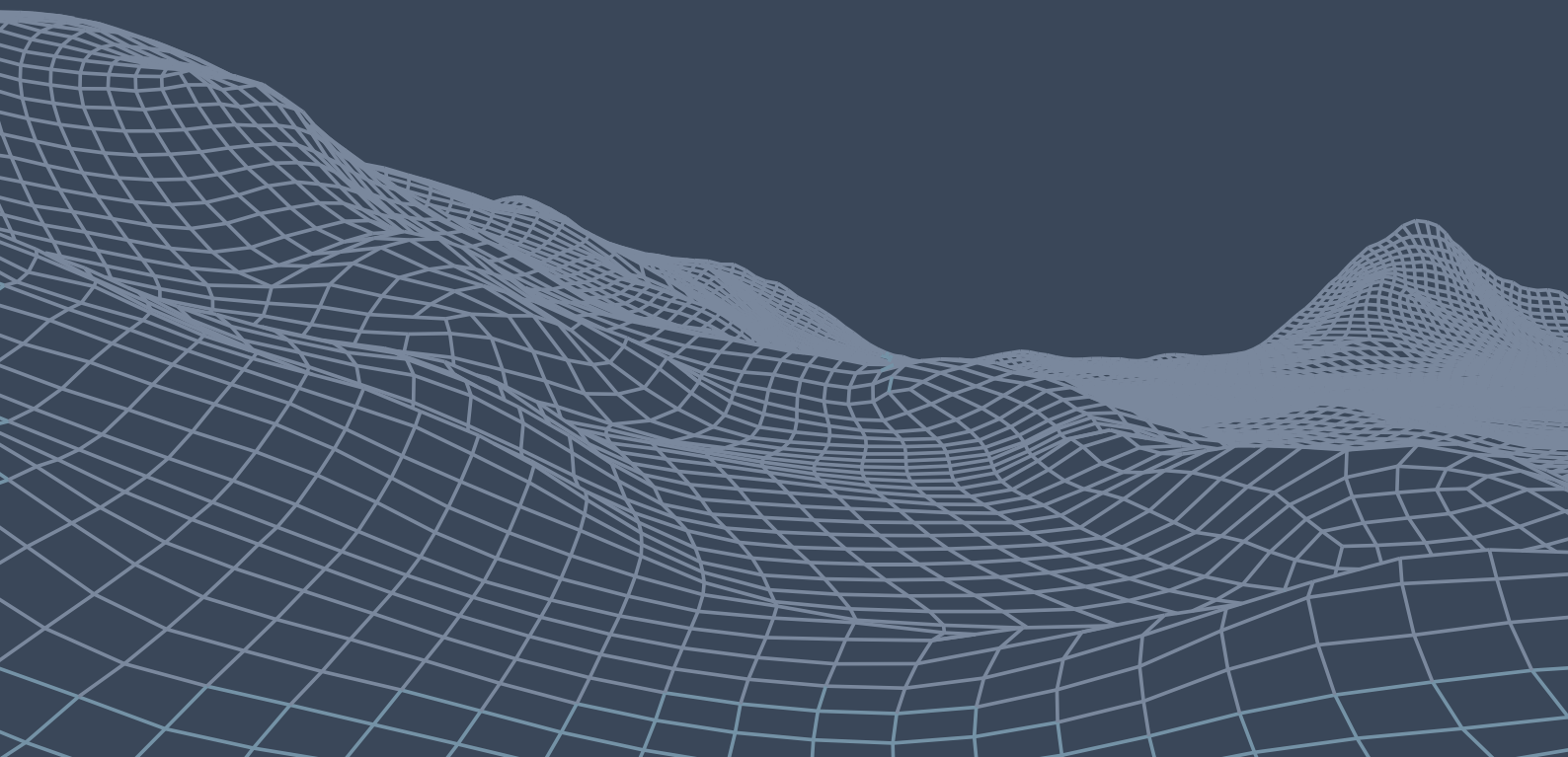


Is Australia's AUKUS submarine pathway really 'optimal'?

➤ Dr Elizabeth Buchanan and Dr Richard Dunley

The Australian Government, alongside its AUKUS partners, is implementing an ambitious, complex plan for Australia to field nuclear-powered, conventionally-armed submarines.

In this instalment of *The Debate Papers*, Dr Elizabeth Buchanan and Dr Richard Dunley assess whether the AUKUS Optimal Pathway is the best way forward to realise Australia's strategic interests.



Optimal Pathway: the best option left



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The AUKUS Optimal Pathway is a risky endeavour and faces many challenges, but given the limited options left to Australian officials and policymakers, it is probably the best pathway forward.

There is an Irish joke where a lost tourist asks an old man by the side of the road: “Can you tell me how to get to Dublin?” After a few minutes of thinking, the man replies, “Well, you don’t want to start from here.” His response rings true for several of Australia’s current defence endeavours, but it is particularly appropriate for the AUKUS Optimal Pathway. Is the pathway the best available solution to the problem set given to Vice-Admiral Jonathan Mead and his US and UK counterparts? Probably. Is it the way any country would choose to acquire nuclear-powered submarines? Most certainly not.

To understand the issues, it is necessary to go back to September 2021. Then-Prime Minister Scott Morrison announced that Australia would abandon the French-designed *Attack*-class submarine program to instead build nuclear-powered submarines (SSNs) of unspecified design in South Australia on roughly the same timeframe.¹ To any reasonably well-informed observer at the time, it was apparent that the proposal was utterly implausible.

A number of issues had to be addressed for Australia to acquire SSNs. One problem was the time frame. The rapid deterioration of Australia’s strategic environment demands that the Royal Australian Navy (RAN) acquire additional capability as soon as possible. Australia’s current *Collins*-class submarines are a formidable conventional submarine, but they were built in the 1990s and are quickly approaching the end of their planned service life. Even with the 10-year Life of Type Extension (LOTE), the first *Collins*-class boat will be decommissioned by the late 2030s.²

Seventeen years to find a replacement sounds like a long time, but for a country hoping to start an SSN construction line from scratch, it is not.

For this reason, Vice-Admiral Mead stated in October 2021 that his group were considering a “mature design” from either the United Kingdom or the United States to “accelerate the delivery of the first submarine.”³ The problem with this approach was that Australia was looking to get on board at precisely the wrong moment in both countries’ build cycles. Both countries were in the latter stages of procuring their current SSN designs and were starting work on replacements.⁴ Committing to building either *Virginia* or *Astute*-class submarines in the 2030s would have locked Australia into an outdated and soon-to-be orphan capability. Furthermore, both the United Kingdom and the United States were focused on the build of their replacement ballistic missile submarines (SSBNs) and would have struggled to provide the immediate support necessary to rapidly stand-up production in Adelaide.

The Optimal Pathway does a good job of squaring these circles. The deployment of US and UK boats to Australia as part of Submarine Rotational Force – West (SRF-W) is the fastest way to increase the number of capable submarines in the region in response to strategic circumstances. The purchasing of three (possibly five) *Virginia*-class submarines from the United States as a ‘stop-gap’ capability also has obvious advantages. It means that the RAN becomes a nuclear navy, gaining experience operating SSNs a decade before any indigenously built capability is likely to hit the water.

It also provides the breathing space for Australia to truly jointly design a submarine (SSN-AUK-US) with the United Kingdom. This approach is important for a number of reasons. Firstly, the smaller, cheaper and less personnel-intensive British design was always going to be a better fit for Australia in the long run. Secondly, it means that Australia and the United Kingdom can develop a shared industrial base to support the joint fleet. The British submarine industry has suffered since the end of the Cold War from the basic issue that the Royal Navy has too few boats to make it truly viable. A joint fleet will increase numbers from 10 nuclear-propelled submarines now (SSNs and SSBNs) to roughly 20, which would more sustainably support a joint industrial base. In addition, the breathing space offered by the ‘stop-gap’ submarines helps ensure that Australian construction is feasible, if not straightforward. This is critical for the domestic political viability of the project.

Risks and critiques

This is not to suggest that the Optimal Pathway is risk-free. Every step of the AUKUS Pillar I endeavour comes with significant risks and potential downsides. The issue that has received by far the most public attention so far is Phase 2 — the sale of *Virginia*-class submarines from the United States.⁵ US shipyards are currently failing to produce the number of SSNs demanded by the US Navy.⁶ While US lawmakers have thus far shown remarkable bipartisan political support for AUKUS, including for the sale of US SSNs, some remain concerned about transferring submarines to the RAN at the expense of US Navy capability.⁷ Such concerns will become far more acute if the current injection of funds into the industrial base does not produce results, or if there is a change of administration in the White House.⁸

Other critics have questioned the viability of Phase 3 — specifically, the decision to design and build SSNs with the United Kingdom.⁹ Critics point to the challenges that are currently besetting the British submarine service and question Britain’s economic capacity and political will.¹⁰ Many of these concerns are well-founded. Still, the risk of the United Kingdom pulling the plug on its SSN capability seems small. Doing so would mean abandoning Britain’s nuclear deterrent. British SSNs play a crucial role in protecting their ballistic missile submarines against threats from Russia and elsewhere, particularly when leaving and entering port. Furthermore, the two platforms share an industrial base that could not be sustained for SSBNs alone. These would seem like very strange times for the United Kingdom to impair its nuclear deterrent. The Royal Navy’s SSN-AUKUS will almost certainly be delivered both later than planned and over budget, but the fears it will not be delivered at all are overblown.

The area where we have seen the least public discussion has been on Phase 1, the LOTE of Australia’s existing *Collins*-class submarines and the rotation of US and UK submarines to Perth. Even this component of the partnership is far from risk-free. The refit of the *Collins*-class is a huge industrial challenge for Australia, and it comes at a time when many other projects, including SSN-AUKUS, the *Hunter*-class frigates and SRF-W facilities, will be competing for the same pools of money and human resources. If the *Collins* LOTE fails, it will have huge implications, not only for Australia’s short to medium-term capability but also for the training pipeline on which the rest of the AUKUS project depends.

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Missed opportunities

This catalogue of risks raises the obvious question — was there a better way? Once the decision was made in 2021 to develop an Australian SSN capability, there were few other options. The only obvious question mark hangs over Phase 2. The transfer of US *Virginia*-class submarines to Australia in the early 2030s has become a litmus test for the success of the entire AUKUS project, something that is deeply ironic given that it seemed utterly inconceivable only a week before the Optimal Pathway announcement.

Prior to the Optimal Pathway announcement, there had been much talk about Australia acquiring an interim conventionally powered submarine (SSK) to bridge the gap between the retirement of the *Collins*-class and the domestic production of SSNs.¹¹ This was categorically ruled out by the RAN on the grounds that it would see the service operating three different classes of submarine at the same time.¹² It was, however, widely believed that this was a cover for the Navy's real concern: that once the new SSKs were delivered, the SSN project would quietly be dropped. This cynicism appears to have been justified, as the Optimal Pathway envisages the RAN operating three different classes of submarine at the same time, with the added complexity of two of them being nuclear-propelled. In reality, it appears that the Optimal Pathway selected the *Virginia*-class option because it offered speed to capability. This is an example of where decision-makers accepted additional political and industrial risk in an effort to both resolve inconsistent demands being placed upon them and mitigate strategic risks. Was this balancing of risks well judged? Only time will tell.

Those given the job of crafting the AUKUS Optimal Pathway were handed a veritable hospital pass. Over the previous decade, both Defence and political leadership had failed to provide Australia with an appropriate submarine capability to replace the *Collins*. This meant that any future project would be operating with a gun to its head in terms of timeframe. The decision to switch to nuclear-propelled submarines, whatever the merits of that decision in terms of strategy and capability, served to dramatically increase the scale of the challenge. The Optimal Pathway does an excellent job of crafting a potential route for success. This does not mean that the project will necessarily run smoothly, nor that the decision to go down this path is worth the costs and risks associated. But, given the complexity of the question asked of Australia's public servants, it is difficult to see a better alternative.

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Right capability, wrong pathway: Australia's SSN quest



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Rather than pursue the unrealistic and costly quest of an Australian-built fleet of SSNs, the Australian Government should focus its energies on an enhanced US SSN capability from Australian shores.

Australia sits at the heart of a maritime geo-strategic theatre — the Indo-Pacific. Its ability to adequately navigate strategic competition within this arena will necessitate an uplift in its maritime capabilities. Accordingly, Australia is right to pursue a conventionally-armed nuclear-powered submarine capability. But we must think differently about what possessing an SSN capability *looks* like.

The SSN value proposition is well-known. An SSN's endurance, range, and deterrent value make it a logical fit for Canberra as it navigates an increasingly perilous Indo-Pacific strategic environment. An SSN capability could provide utility across the shaping, competition and conflict phases of its strategic continuum. Crucially, Australia's Indo-Pacific interests, anchored by the ability to maintain free and open maritime trade routes, overlap with its United States ally.

Australia cannot (and will not) be able to do *everything* when it comes to Indo-Pacific strategic competition. Though its geography is expansive, its population is not. Beyond the latent workforce challenge posed by the manufacture of an indigenous SSN capability, Australia also faces a money problem.¹³ An SSN program requires considerable and enduring uplift in funding for Defence.

Australia's geography is a strength we continue to overlook. Australia must put its advantages as a "suitable piece of real estate" at the centre of its SSN quest.¹⁴ It would seem that its issues standing up and operating a sovereign SSN capability can be mitigated by fully supporting an enhanced US SSN capability from Australian

shores. In other words, deterrence around Australia can be strengthened through the increased presence of partners' capabilities, subduing (if not eliminating) the need for an Australian-built SSN-AUKUS.

This is more than a policy of strategic-free riding — this is about utilising Australia's "pit-stop power."¹⁵

The Optimal Pathway selected by the Australian Government ends with the SSN-AUKUS. Designed by the United Kingdom, featuring US weapons systems and nuclear propulsion, SSN-AUKUS is expected to start rolling off the UK production line in the 2030s. Australian-built SSNs are slated for the 2040s.

To blunt the sheer untimeliness of this pathway (unless we truly suspect that competitors will sit tight for 20 years until we are resourced and ready), a stop-gap measure has been put in place: second-hand US SSNs.

The pathway selected also incorporates enhanced port visits of SSNs at Submarine Rotational Force – West. Here, SRF-W would see one UK SSN (*Astute*-class) and up to four US SSNs (*Virginia*-class) boats. These UK and US SSNs are to begin rotations from 2027 and 2029, respectively.

AUKUS partners have opted not to work towards one shared submarine. The US future submarine, the SSN-X, is too expensive (for now) to be seriously considered by London and Canberra and has unfeasible crewing requirements.¹⁶ And so, the current pathway plans for a 'Frankenstein' SSN solution that is unlikely to ever eventuate.¹⁷

Enhanced SSN operations in the Indo-Pacific that place a ‘question-mark’ in competitors’ minds will be invaluable for deterrence. Does it really matter whether this is done by Australian, UK or US boats?

Setting down a pathway that ends with SSN-AUK-US is impractical given well-known structural barriers to raising, training, and sustaining an Australian SSN workforce.¹⁸ Short of conjuring up nuclear engineers or individuals interested in a submariner career, Australia would still have a technical skills gap to fill in shipbuilding. The solution sits with limiting the scope of its SSN ambition.

Australia’s future SSN capability should be envisioned as three to five *Virginia*-class SSNs, augmented by the enduring rotation of US-operated *Virginia* and UK *Astute* boats. Beyond providing optimal access for US Indo-Pacific strategic posture via SRF-W, Australia should unlock its pit-stop power value proposition in which (basic) maintenance and crew respite can be ensured for the US Navy. Such pit-stops are essential for any submarine to sustain operational needs while deploying force far from home. The SRF-W pit-stop will afford food, water, fuel, as well as medical, maintenance and sewage needs for foreign boats.

Australian naval officers are already progressing through US nuclear submariner school, rotating through US SSN maintenance programs, and undertaking operational exchanges on deployed US *Virginia*-class boats. This is an organic development towards interoperability with the United States and should remain the focus of a rectified pathway to Australia’s SSN capability end goal. Indeed, much of its Defence systems and capabilities are already in lockstep with the United States or are US-sourced.

Correcting course

To salvage the SSN vision for Australia, the Government must abandon the SSN-AUKUS end-state goal. The SRF-W and *Virginia*-class SSN elements of the current pathway are optimal, but SSN-AUKUS is not. Instead, Australia should enhance its SRF-W offering to facilitate an uplift in US (and UK) SSNs utilising Australia’s geographical edge. It is time to reorient and correct course on its path to SSN capability.

A truly ‘Optimal Pathway’ is one that is more direct, incurs less risk and is more manageable at the workforce and cost level. Australia should be tapping into its geographical primacy. After all, the *actual* value-add Canberra provides to its partners in the Indo-Pacific era is its geography. Of course, we have already sweetened the AUKUS deal by injecting capital into the US and UK shipbuilding industrial bases — perhaps overzealously.¹⁹

Australia does not need to ‘own’ SSN capability to gain strategically from it. In many ways, this is the real problem that needs to be worked on. It can gain a capability uplift through enhancing partner-SSNs on station in Australia.

Even under the chosen pathway, some commentators are concerned about operational control and Australia’s freedom of action.²⁰ But it must be acknowledged that Australia does not possess a sovereign Defence capability. The Australian Defence Force could not mount a combat division overseas without US support. From munitions to strategic lift to platforms and third-line support (food, medicine, etc.) capabilities, Australia relies upon the United States. Sovereignty around *choice* to deploy Australian forces or capabilities is an entirely different matter — one which the Australian Government often exercises at odds with the United States. Take *Operation Prosperity Guardian* in the Red Sea for example: in late 2023, Australia was asked to support Washington’s multinational coalition but opted not to send a vessel.²¹

Nor does Australia have the ability to act in any real manner with unilateral freedom of action. Beyond its capability limits, its strategic narrative is just not geared to. Just look to the recently released National Defence strategic framework.²²

Enhanced SSN operations in the Indo-Pacific that place a ‘question-mark’ in competitors’ minds will be invaluable for deterrence. Does it really matter whether this is done by Australian, UK or US boats? Their operation is in Australian interests regardless.

Australia's pit-stop power could also feature a build and assembly offering. We could support the build of *Virginia*-class components or their assembly at Australian shipyards. In the future, Australia could continue to support the build or assembly of SSN-X components, with a goal to make the SSN-X Australia's future submarine once the cost is more sensible and if proof of concept for Australia to operate its own SSNs remains evident.

For now, Australia is on the wrong pathway to the right capability. The SSN-AUKUS is an unnecessary risk — for which Canberra is set to pay the price. The SSN-AUKUS is ambitious for all the wrong reasons and set to a timeline that is utterly unserious given the pace of strategic competition in the maritime Indo-Pacific.

Australia's SSN pathway should end at a sensible SSN solution, which reflects a future state of a boutique *Virginia*-class capability operated by Australia, bolstered by the presence of US and UK SSNs operating out of SRF-W. Some tough conversations need to be had with London, but it would not be the first time Canberra has backed out of a submarine deal. The United Kingdom would still have priority access to SRF-W to deliver on its own *Global Britain* agenda in the Indo-Pacific.

The real strategic uplift for AUKUS partners is encapsulated in Pillar II (advanced technologies). Before the Optimal Pathway decision, the United Kingdom was cracking ahead with its future submarine (previously SSN-R, now SSN-AUKUS), so let's leave London to it.²³ Plus, the United Kingdom must train its attention on its own domestic shipbuilding and personnel crises.²⁴

The SSN-AUKUS is ambitious for all the wrong reasons and set to a timeline that is utterly unserious given the pace of strategic competition in the maritime Indo-Pacific.

The Australian Government should pull the Band-Aid off quickly and prepare to 'kick the tyres' of the SSN-AUKUS before going all in. Instead of debating the ins and outs of a truly hypothetical SSN, Australia should seek to resolve the tension between its ambition to possess an SSN capability and its enduring resource (both living and non-living) constraints. Recasting its SSN end-state and leaning into its geographic advantage is the answer. The enhanced ability to maintain and host partner SSNs ensures a shared capability uplift in the Indo-Pacific maritime environment. Australians are smart and technologically capable — SRF-W will one day feature a highly-skilled workforce to sustain, maintain and operate SSNs out of an Australian 'pit stop.'

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