

**A Submission by Robert Pritchard to the Senate Standing Committee
Examining the Bill to Amend the Australian Radiation Protection and Nuclear
Safety Act 1998 (ARPANS Act) and the Environment Protection and
Biodiversity Conservation Act 1999 (EPBC Act)**

Despite Australia becoming a party to the international Convention on Nuclear Safety in 1996, many Australians doubted we would ever have a need for nuclear power, hence the insertion of outright bans against the development of nuclear facilities in the ARPANS Act and the EPBC Act.

It has now become vital for Australia to contribute more to the war against climate change. The removal of the nuclear bans would be a key option for achieving this.

The Year to Close the Door on Outdated Rhetoric

In 2023, 33 countries are producing nuclear energy. These include the US, Canada, the UK, France and Germany, and of course our closer neighbours – Japan, India, and China. The number of new countries turning to nuclear is increasing.

Australia should now close the door on 25-years of outdated rhetoric and outdated thinking. New approaches to technology, design and construction are advancing the environmentally smart, scientifically proven, and cost-efficient option of smaller and more efficient reactors.

Australia could make a significant contribution to the war against climate change by the strategic development of a modern, comprehensive nuclear industry, drawing on 60 years of experience in nuclear research and production of nuclear medicine.

The Broad Benefits of Modern Nuclear Technology

In addition to generating dispatchable, low-emissions electricity for the grid, modern nuclear reactors can produce process heat for the manufacture of hydrogen and other industrial products.

A modern nuclear industry would provide direct and indirect, flow-on employment, and workforce skill development opportunities. It would align with the strategic intent of a modern industrialised workforce for advanced manufacturing and defence. It would also provide other economic development and skill transfer benefits for the workforce, trade unions and local communities, including indigenous and remote communities.

Nuclear Safety and National Security

Australia has been a member of the Convention on Nuclear Safety since its inception in 1996. Modern modular reactors are designed to be intrinsically safe. Earlier versions have been safely in use by our allies in their submarine industries for over 60 years. Future iterations of modern reactors could complement Australia's contribution to the AUKUS defence arrangements.

More broadly, a modern nuclear industry could reliably underpin our energy security and bolster our national security. At the same time, it would provide Australian consumers with a more climate-friendly, reliable and cost-competitive energy market.

Siting of Nuclear Facilities

An obvious option to site nuclear facilities is to convert existing coal-fired power station sites. Other sites can be identified by community engagement. Modern small modular reactors are air-cooled and do not need to be sited near the coast for water supply. Australian states could initiate model nuclear hubs linked to the transmission grid to enhance system optimisation.

Poor Energy Policy

In 2018, I elaborated on the potential benefits of nuclear power in my paper '*Nuclear Power and its Potential Role in Economic Development in Australia*', EPIA Public Policy Paper Number 2/2018.

In 2022, I suggested that Australia had won the 'wooden spoon' award in the nuclear power race in my paper '*The Wooden Spoon Award: The Nuclear Energy Prohibitions in Australia*', EPIA Public Policy Paper Number 4/2022.

I emphasised in the above papers, and I reiterate here, that Australian energy policy has failed Australia in five ways: first, by contributing to the destabilisation of Australia's power supply system; secondly, by disregarding nuclear energy as a key means of significantly reducing greenhouse gas emissions; thirdly, by failing to enhance Australia's scientific and engineering skills; fourthly, by failing to optimise the development of the Australian economy; and, fifthly, by turning a blind eye to Australia's energy security and its national security.

An Historic Political Opportunity

Australia now has an opportunity to make history by expanding its vast uranium resources and developing a significant new industry with sovereign capability.

We can pursue our climate change goals while expanding the nation's economic development. Nuclear development can also proceed alongside renewables, cleaner fossil fuels and other energy options.

Required Legislative Action

For these advances to take place in Australia, the bans on development of nuclear facilities under the ARPANS Act and EPBC Act would need to be removed.

A possible alternative legislative process could be for both Acts to exempt the development of nuclear facilities that are approved under the law of an individual State. This would enable individual States to host future facilities under either state or Commonwealth regulatory arrangements.

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This submission is a personal submission. I disclose that, for more than ten years, I have served as Executive Director of the Energy Policy Institute of Australia, as Chairman of the St Baker Energy Innovation Fund (an Australian venture capital fund) and as Chairman of SMR Nuclear Technology, a Sydney-based nuclear energy consultancy.