

Legislation Banning Nuclear Power in Australia Should Be Retained

Nuclear power in Australia is prohibited under the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999. In 2020 there is a review of the EPBC Act and there is a strong push from the nuclear industry to remove the bans.

However, federal and state laws banning nuclear power have served Australia well and should be retained.

Huge costs: Legislation banning nuclear power has saved Australia from the huge costs associated with failed and failing reactor projects in Europe and North America, such as the Westinghouse AP1000 project in South Carolina that was abandoned after the expenditure of at least A\$13.4 billion. The South Carolina fiasco could so easily have been replicated in any of Australia's states or territories if not for the legal bans.

There are many other examples of shocking nuclear costs and cost overruns, including:

- The cost of the two reactors under construction in the US state of Georgia has doubled and now stands at A\$20.4–22.6 billion per reactor.
- The cost of the only reactor under construction in France has nearly quadrupled and now stands at A\$20.0 billion. It is 10 years behind schedule.
- The cost of the only reactor under construction in Finland has nearly quadrupled and now stands at A\$17.7 billion. It is 10 years behind schedule.
- The cost of the reactors under construction in the United Arab Emirates have increased from A\$7.5 billion per reactor to A\$12 billion per reactor.
- In the UK, the estimated cost of the only reactors under construction is A\$25.9 billion per reactor. A decade ago, the estimated construction cost for one reactor in the UK was almost seven times lower. The UK National Audit Office estimates that taxpayer subsidies for the project will amount to A\$58 billion.

Too cheap to meter or too expensive to matter? Nuclear power has clearly priced itself out of the market and will certainly decline over the coming decades.

The nuclear industry is in crisis – as industry insiders and lobbyists freely acknowledge. Westinghouse – the most experienced reactor builder in the world – filed for bankruptcy in 2017 as a result of catastrophic cost overruns on reactor projects. A growing number of countries are phasing out nuclear power, including Germany, Switzerland, Spain, Belgium, Taiwan and South Korea.

Rising power bills: Laws banning nuclear power should be retained because nuclear power could not possibly pass any reasonable economic test. Nuclear power clearly fails the two economic tests set by Prime Minister Scott Morrison. Firstly, nuclear power could not possibly be introduced or maintained without huge taxpayer subsidies. Secondly, nuclear power would undoubtedly result in higher electricity prices.

Nuclear waste streams: Laws banning nuclear power should be retained because no solution exists to for the safe, long-term management of streams of low-, intermediate- and high-level nuclear wastes. No country has an operating repository for high-level nuclear

waste. The United States has a deep underground repository for long-lived intermediate-level waste – the only operating deep underground repository worldwide – but it was closed from 2014–17 following a chemical explosion in an underground waste barrel. Safety standards and regulatory oversight fell away sharply within the first decade of operation of the US repository – a sobering reminder of the challenge of safely managing dangerous nuclear wastes for tens of thousands of years.

Too dangerous: In addition to the very real danger of a nuclear reactor meltdowns – as the world has witnessed at Fukushima, Chernobyl and Three Mile Island – there are other dangers. Doubling nuclear output by the middle of the century would require the construction of 800–900 reactors. These reactors not only become military targets but they would produce over one million tonnes of high-level nuclear waste containing enough plutonium to build over one million nuclear weapons.

Pre-deployed terrorist targets: Nuclear power plants have been described as pre-deployed terrorist targets and pose a major security threat. This in turn would likely see an increase in policing and security operations and costs and a commensurate impact on civil liberties and public access to information. Other nations in our region may view Australian nuclear aspirations with suspicion and concern given that many aspects of the technology and knowledge-base are the same as those required for nuclear weapons.

Former US Vice President Al Gore has summarised the proliferation problem: "For eight years in the White House, every weapons-proliferation problem we dealt with was connected to a civilian reactor program. And if we ever got to the point where we wanted to use nuclear reactors to back out a lot of coal ... then we'd have to put them in so many places we'd run that proliferation risk right off the reasonability scale."

No social license: Laws banning nuclear power should be retained because there is no social license to introduce nuclear power to Australia. Opinion polls find that Australians are overwhelmingly opposed to a nuclear power reactor being built in their local vicinity (10–28% support, 55–73% opposition); and opinion polls find that support for renewable energy sources far exceeds support for nuclear power (for example a 2015 IPSOS poll found 72–87% support for solar and wind power but just 26% support for nuclear power). As the Clean Energy Council notes in its submission to the 2019 federal nuclear inquiry, it would require "a minor miracle" to win community support for nuclear power in Australia.

First Nations: Laws banning nuclear power should be retained because the pursuit of a nuclear power industry would almost certainly worsen patterns of disempowerment and dispossession that Australia's First Nations have experienced – and continue to experience – as a result of nuclear and uranium projects. To give one example (among many), the National Radioactive Waste Management Act dispossesses and disempowers Traditional Owners in many respects: the nomination of a site for a radioactive waste dump is valid even if Aboriginal owners were not consulted and did not give consent; the Act has sections which nullify State or Territory laws that protect archaeological or heritage values, including those which relate to Indigenous traditions; the Act curtails the application of Commonwealth laws including the Aboriginal and Torres Strait Islander Heritage Protection Act 1984 and the Native Title Act 1993 in the important site-selection stage; and the Native

Title Act 1993 is expressly overridden in relation to land acquisition for a radioactive waste dump.

Too slow: Expanding nuclear power is impractical as a short-term response to climate change. An analysis by Australian economist Prof. John Quiggin concludes that it would be "virtually impossible" to get a nuclear power reactor operating in Australia by 2040. More time would elapse before nuclear power has generated as much as energy as was expended in the construction of the reactor. A University of Sydney report states that the energy payback time for nuclear power is 6.5–7 years. Taking into account planning and approvals, construction, and the energy payback time, it would be a quarter of a century or more before nuclear power could even begin to reduce greenhouse emissions in Australia (and then only assuming that nuclear power displaced fossil fuels).

Too thirsty: Nuclear power is extraordinarily thirsty. A single nuclear power reactor consumes 35–65 million litres of water *per day* for cooling. In the face of unpredictable rainfall and drought we cannot afford to go nuclear.

Water consumption of different energy sources litres / kWh

- * Nuclear 2.5
- * Coal 1.9
- * Oil 1.6
- * Combined Cycle Gas 0.95
- * Solar PV 0.11
- * Wind 0.004

Climate change and nuclear hazards: Nuclear power plants are vulnerable to threats which are being exacerbated by climate change. These include dwindling and warming water sources, sea-level rise, storm damage, drought, and jelly-fish swarms. Nuclear engineer David Lochbaum states. "I've heard many nuclear proponents say that nuclear power is part of the solution to global warming. It needs to be reversed: You need to solve global warming for nuclear plants to survive."

By contrast, the *REN21 Renewables 2015: Global Status Report* states that renewable energy systems "have unique qualities that make them suitable both for reinforcing the resilience of the wider energy infrastructure and for ensuring the provision of energy services under changing climatic conditions."

In January 2019, the Climate Council, comprising Australia's leading climate scientists and other policy experts, issued a policy statement concluding that nuclear power plants "are not appropriate for Australia – and probably never will be".

The future is renewable, not radioactive: Laws banning nuclear power should be retained because the introduction of nuclear power would delay and undermine the development of effective, economic energy and climate policies based on renewable energy sources and energy efficiency. A December 2019 report by CSIRO and the Australian Energy Market Operator finds that construction costs for nuclear reactors are 2–8 times higher than costs for wind or solar. Levelised costs for nuclear are 2–3 times greater per unit of energy

produced compared to wind or solar including either 2 hours of battery storage or 6-hours of pumped hydro energy storage (PHES).

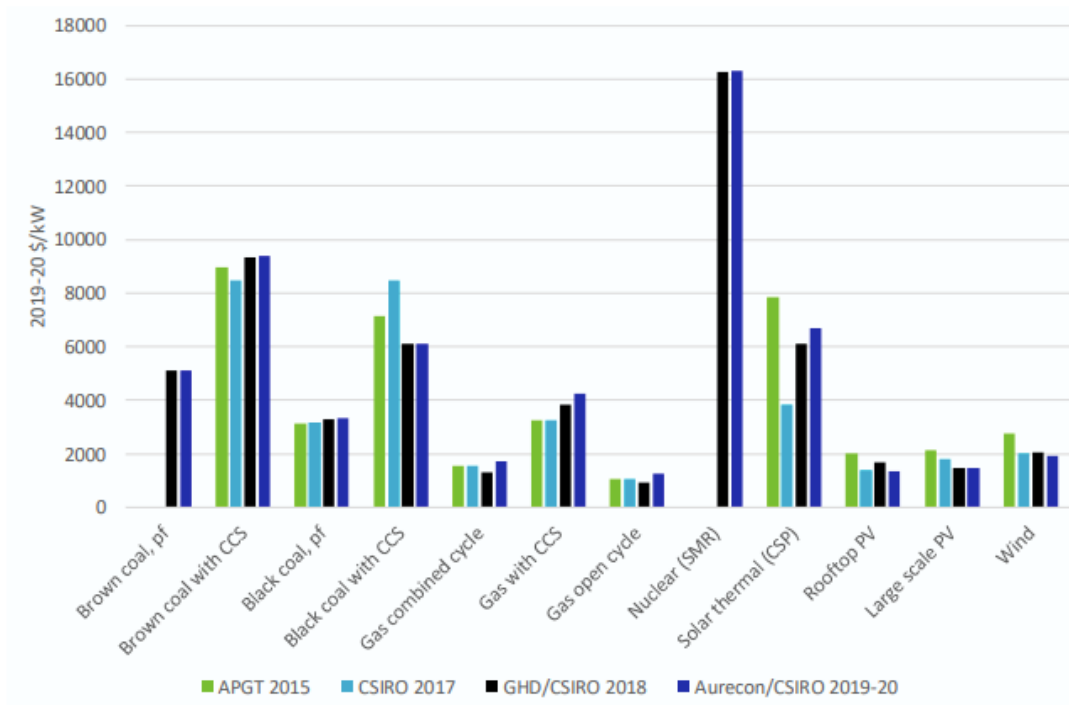


Figure 2-1 Comparison of generation technology capital cost estimates for 2019-20

Source: CSIRO / AEMO Dec. 2019 'GenCost' report.

The path ahead: Australia can do better than fuel higher carbon emissions and unnecessary radioactive risk. We need to embrace the fastest growing global energy sector and become a driver of clean energy thinking and technology and a world leader in renewable energy technology. We can grow the jobs of the future here today. This will provide a just transition for energy sector workers, their families and communities and the certainty to ensure vibrant regional economies and secure sustainable and skilled jobs into the future. Renewable energy is affordable, low risk, clean and popular. Nuclear is not. Our shared energy future is renewable, not radioactive.

More Information

- Climate Council, 2019, '[Nuclear Power Stations are Not Appropriate for Australia – and Probably Never Will Be](#)'
- WISE Nuclear Monitor, 25 June 2016, '[Nuclear power: No solution to climate change](#)'