

15 November 2024

Committee Secretary
House of Representatives Select Committee on Nuclear Energy
PO Box 6100
Parliament House
Canberra ACT 2600

Via email: nuclear.reps@aph.gov.au

Dear Secretary

The South Australian Chamber of Mines and Energy (SACOME) is the leading industry association representing the South Australian resource and energy sector, the powerhouse of the State's economy.

SACOME welcomes the opportunity to make this submission to the House of Representatives Select Committee Inquiry into Nuclear Power Generation in Australia.

SACOME notes that the role of the House Select Committee on Nuclear Energy is to:

(S)pecifically inquire into and report on the consideration of nuclear power generation, including deployment of small modular reactors, in Australia, including:

- a) deployment timeframes;
- b) fuel supply, and transport of fuel;
- c) uranium enrichment capability;
- d) waste management, transport and storage;
- e) water use and impacts on other water uses;
- f) relevant energy infrastructure capability, including brownfield sites and transmission lines;
- g) Federal, state, territory and local government legal and policy frameworks;
- h) risk management for natural disasters or any other safety concerns;
- i) potential share of total energy system mix;
- j) necessary land acquisition;
- k) costs of deploying, operating and maintaining nuclear power stations;
- l) the impact of the deployment, operation and maintenance of nuclear power stations on electricity affordability; and
- m) any other relevant matter.

SACOME's longstanding position is that all low-emission technologies should be considered as part of the future energy mix to ensure both rapid decarbonisation and energy reliability.

SACOME and its member companies continue to express clear public statements of support for the Paris Agreement and have made significant commitments and progress to reduce emissions well ahead of 2050 targets.

However, SACOME submits that meeting net-zero at the speed and scale set by national and State government targets cannot be achieved with renewables alone, despite South Australia's successful uptake of wind and solar power.

SACOME has consistently advocated for the use of nuclear energy in Australia and restates its long-held position of support for enabling nuclear power generation in Australia.

Nuclear Power and the Energy Transition

The role of nuclear power in Australia cannot be divorced from the broader context of the current state of the energy market.

Australia's energy market is undergoing a period of transformation and nowhere has this been more pronounced than in South Australia, which has been at the forefront of the national energy transition.

South Australia's experience is that of a disorderly transition, where energy policy goals have been set and pursued in relative isolation, resulting in unintended consequences elsewhere in the energy grid, and significant investment in regulatory and physical infrastructure to respond to the realities of increasingly decentralised energy generation.

Nuclear energy offers a zero-emissions energy source with the ability to provide reliable and dispatchable baseload power in extremely large quantities, with the potential to complement the existing use of renewables.

Such an outcome is predicated on removing the prohibitions on nuclear generation that presently operate in Australia.

The lead time for the development of a country's first nuclear installation, pursuant to the International Atomic Energy Agency's (IAEA) [Milestones Approach](#), is between 10-15 years. SACOME submits that Australia should create the optionality for use of nuclear power as priority action.

South Australian Context

South Australia is already a nuclear jurisdiction and, absent Commonwealth prohibitions, has the potential to capture the full value of the entire nuclear fuel cycle. This is a view shared by [Kevin Scarce](#), South Australia's former Royal Commissioner for the Royal Commission into the Nuclear Fuel Cycle, despite his original findings in 2016 that the construction of a nuclear power plant *at that time* would be uneconomic.

South Australia is a world class uranium province and a major exporter of uranium oxide, with 28% of the world's uranium resources and 80% of Australia's uranium.

Uranium production and export in South Australia occurs under a stringent regulatory framework governing the whole of the uranium supply chain. South Australia boasts a 35 year record of proven safe uranium handling and transportation.

The State is also home to the world's largest known single deposit of uranium at Olympic Dam and hosts one of the only ports in the nation approved for the export of uranium products with a well-developed regulatory regime governing the uranium supply chain.

Uranium is one of the state's major mineral commodities produced, with total sales values of \$521 million in 2020. Between 2000 and 2020, South Australia produced and exported over \$6.7 billion of uranium oxide from several mines across the State including BHP's Olympic Dam, Heathgate Resources' Beverley and Beverley North mines, Quasar Resources' Four Mile mine, and Boss Energy's Honeymoon mine, which was restarted in June 2021.

During that same time, mineral exploration companies spent \$470 million exploring for uranium in South Australia.

In addition to our natural advantages, South Australia is host to the Australian Radioactive Waste Agency (ARWA), and will host Australia's nuclear submarine fleet; four of which will likely be in dry dock at any one time, all equipped with Small Modular Reactors. These are nationally and internationally competitive advantages awaiting capitalisation.

Were the Parliament unable to agree on repealing the prohibitions on nuclear energy for the country at large, SACOME submits that the alternative of excising South Australia from these prohibitions should be considered owing to our unique jurisdictional advantages, underpinned by bipartisan support at the State level for nuclear powered submarines and uranium production, and increasing public support for nuclear energy as part of our energy mix.

International Context

Australia is an international outlier when it comes to nuclear power generation.

We are the only G20 country with a legislative prohibition on the development of nuclear power. Of those in the G20 that currently do not have nuclear, [Indonesia](#) is planning to introduce nuclear, [Italy](#) imports nuclear electricity, and [Saudi Arabia](#) has established a new agency to develop nuclear power.

All five permanent members of the United Nations Security Council – the United States, France, the United Kingdom, Russia, and China – are planning a significant expansion of their civil nuclear programmes.

[More than 50 countries](#) who do not currently use nuclear power are considering the introduction of nuclear power; 23 are in a pre-decision phase and 27 are actively pursuing the introduction of nuclear power, pursuant to the IAEA's Milestones Approach. It is incongruous to suggest that all these countries – or private operators in these countries – are acting against their own economic interests.

Of particular interest was Canada's development of its own [Small Modular Reactor \(SMR\) Roadmap and Action Plan](#), with input from the federal and provincial governments, industry, First Nations peoples, academia, and civil society. It was characterised as a "pan-Canadian" effort to not only secure SMRs for the purposes of decarbonisation but to position Canada to capture the full economic value of the manufacturing chain and to innovate in this highly complex field.

This long term policy thinking has culminated in the Canada Infrastructure Bank finalising an agreement with Ontario Power Generation and committing \$970 million towards site and preparatory work for Canada's first SMR. The SMR is due to be built and operational by 2029.

SACOME further notes the October 2024 [announcement](#) by the Biden administration of \$900 million in funding to support the initial domestic deployment of Generation III+ small modular reactor (SMR) technologies in the United States. This initiative is aimed at meeting rapidly growing demand for electricity while simultaneously meeting climate and decarbonisation goals.

Public Support

In July 2022, SACOME commissioned a sentiment survey to evaluate the views of the South Australian public and see if they were open to a balanced conversation on nuclear energy.

The survey included 600 South Australians from Greater Adelaide and regional South Australia, with the results reflecting the sentiment of other surveys conducted nationally.

The results found that more than six in 10 adults (63%) agree that given recent cost and reliability issues of the Australian electricity market, all energy sources, including nuclear, should be on the table for consideration.

Importantly, the survey highlights a significant knowledge gap in the community. Of those surveyed, only 22% have some knowledge or understanding of SMRs, and only 31% are aware of the environment and decarbonisation benefits of nuclear energy.

In addition to the survey commissioned by SACOME, other recent polls reveal an increase in community support for nuclear energy:

- A True North poll conducted in 2021 revealed [63% of South Australians support nuclear power](#) and increasingly there is a call for an informed public debate – youth in particular are calling for it.
- A [Lowy Institute poll](#), released in June 2022, reported a majority – 52% of Australians – favoured overturning the ban on nuclear power, up from 47% in the previous year.
- A [poll commissioned by the Institute of Public Affairs in June 2022](#) identified that a majority of Australians backed nuclear power, with 53% agreeing that Australia should build nuclear power plants to supply electricity and reduce carbon emissions.

Conclusion

South Australia is already a nuclear jurisdiction.

Removing legislative impediments to allow nuclear power generation would give South Australia the opportunity to capture the full value of the nuclear fuel cycle in a State with existing nuclear capabilities at a time where zero-emission power generation is an urgent global priority.

Nuclear offers a safe, demonstrated and available pathway to support industrial decarbonisation and realisation of national net-zero targets.

SACOME reiterates that all low-emission technologies should be considered as part of the future energy mix to ensure both rapid decarbonisation and energy reliability.

Once again, SACOME thanks the Committee for the opportunity to provide comment and welcome the opportunity to make a verbal submission if the Committee convenes hearings.

Yours sincerely



Rebecca Knol

Chief Executive Officer

South Australian Chamber of Mines & Energy