

Dear Standing Committee on Environment and Planning,

Please accept this submission to the Victorian Parliament's Standing Committee on Environment and Planning 'Inquiry into nuclear prohibition'.

Nuclear power is a dangerous distraction from real movement on the pressing energy decisions and climate actions we need. Rather than fuel carbon emissions and radioactive risk through domestic coal power plants and the export of coal and uranium, Australia should embrace the fastest growing global energy sector – renewables – and become a driver of clean energy thinking and technology. Renewable energy is affordable, low risk, clean, and popular. Nuclear is simply not. Our shared energy future is renewable, not radioactive.

I support legal bans prohibiting the development of nuclear power in Australia for the following reasons:

1. **Waste:** Nuclear reactors produce long-lived radioactive wastes that pose a direct human and environmental threat for many thousands of years and impose a profound inter-generational burden. Radioactive waste management is costly, complex, contested and unresolved, globally and in the current Australian context. Nuclear power cannot be considered a clean source of energy given its intractable legacy of nuclear waste.
2. **Water:** Nuclear power is a thirsty industry that consumes large volumes of water, from uranium mining and processing through to reactor cooling. Australia is a dry nation where water is an important resource and supply is often uncertain.
3. **Time:** Nuclear power is a slow response to a pressing problem. Nuclear reactors are slow to build and license. Globally, reactors routinely take ten years or more to construct and time over-runs are common. Construction and commercialisation of nuclear reactors in Australia would be further delayed by the lack of nuclear engineers, a specialised workforce, and a licensing, regulatory and insurance framework.
4. **Cost:** Nuclear power is highly capital intensive and a very expensive way to produce electricity. The 2016 South Australian Nuclear Fuel Cycle Royal Commission concluded nuclear power was not economically viable. The controversial Hinkley reactors being constructed in the UK will cost more than \$35 billion and lock in high cost power for consumers for decades. Cost estimates of other reactors under construction in Europe and the US range from \$17 billion upwards and all are many billions of dollars over-budget and many years behind schedule. Renewable energy is the cheapest form of new generation electricity as the CSIRO and the Australian Energy Market Operator concluded in their December 2018 report.
5. **Security:** 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. On many levels nuclear is a power source that undermines confidence.
6. **Inflexible or unproven:** Existing nuclear reactors are highly centralised and inflexible generators of electricity. They lack capacity to respond to changes in demand and usage, are slow to deploy and not well suited to modern energy grids or markets. Small Modular Reactors (SMRs) are not in commercial production or use and remain unproven and uncertain. This is no basis for a national energy policy.

7. Safety: All human made systems fail. When nuclear power fails it does so on a massive scale. The human, environmental and economic costs of nuclear accidents like Chernobyl and Fukushima have been massive and continue. Decommissioning and cleaning up old reactors and nuclear sites, even in the absence of any accidents, is technically challenging and very costly.

8. Unlawful and unpopular: Nuclear power and nuclear reactors are prohibited under existing federal, state and territory laws. The nuclear sector is highly contested and does not enjoy broad political, stakeholder or community support. A 2015 IPSOS poll found that support among Australians for solar power (78–87%) and wind power (72%) is far higher than support for coal (23%) and nuclear (26%).

9. Disproportionate impacts: The nuclear industry has a history of adverse impacts on Aboriginal communities, lands and waters. This began in the 1950s with British atomic testing and continues today with uranium mining and proposed nuclear waste dumps. These problems would be magnified if Australia ever advanced domestic nuclear power.

10. Better alternatives: if Australia's energy future was solely a choice between coal and nuclear then a nuclear debate would be needed. But it is not. Our nation has extensive renewable energy options and resources and Australians have shown clear support for increased use of renewable and genuinely clean energy sources.

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