SUBMISSION TO THE OTHER LEGISLATION AMENDMENT (REMOVING NUCLEAR ENERGY PROHIBITIONS) BILL 2022

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I make this Submission in a personal capacity only. I am not employed by, nor do I represent, any vested interest, commercial, political, or otherwise. I am a chemical engineer, holding degrees in applied science, chemical engineering and business administration, plus post-graduate qualifications in environmental studies and energy studies. I am a Fellow of the Institution of Chemical Engineers, a Fellow of the Australian Academy of Technology and Engineering, and a Foundation Fellow of the Australian Institute of Company Directors.

Executive Summary

I make this Submission in good faith, having made other similar Submissions over the years promoting the sensible adoption of nuclear energy by Australia to generate emissions-free electricity -- all of which appears to have achieved nothing.

As is well known, we remain the only G20 country which has legislated bans on the use of nuclear technology for peaceful purposes. In today's world this is a failure of competent Government, and remains a black mark against our nation in a world which is grappling with the very real challenges of adverse climate change.

If we are to make progress in this matter we must be realistic and deal with the issues which present themselves -- not push them off into various Inquiries which, despite the best efforts of many both inside and outside Parliament, seem to come to nothing.

The simple fact is that there are various provisions in various Acts of Parliament which have been raked over by several well-meaning Inquiries which have all made useful and sensible recommendations, but these are mostly lost in the subsequent partisan political bias. Meanwhile the rest of the world moves on, leaving Australia to be conspicuous in its befuddlement about an issue which should be at the top of Government concern.

I do not propose to canvass once again the need for commitment on this issue ; rather, I list a few simple points below which I hope will encourage positive action before it is too late.

Points to consider

1. There are now 55 new nuclear reactors under construction around the world in 15 countries. This, plus the following relevant data, is taken from World Nuclear News.

2. Nuclear power generated 10% of world electricity in 2021, which included 19% in the USA from that country's 50 nuclear plants in 28 States.

3. The IPCC estimates that emissions from coal are 60 times more in volume than from nuclear power plants. China's coal consumption has more than doubled in the last 20 years and now accounts for 53.8 % of world coal consumption, but that nation also has 54 operating nuclear reactors with another 23 on the way.

4. Nuclear fuel has 10,000 times the power density of coal and emits no emissions.

5. The United Arab Emirates will have 4 x 1400 MW nuclear reactors online by the end of 2025. Three of these plants are already operating, having been built over the past eight years by Korea Electric Power Company. South Korea has 24 nuclear reactors.

6. The UK plans to have 24 GW of nuclear power on line by 2050.

7. Countries with announced plans for new reactors, some large some small, include Argentina, Qatar, Bangladesh, Kazakhstan, Bulgaria, Canada, Czech Republic, France, Egypt, The Netherlands, Poland, Romania, Estonia, Nigeria and the UK.

8. Meanwhile in Australia, planned closures of existing coal-fired power stations include Liddell (2000 MW) in April 2023, Eraring (2880 MW) in 2025, and Yallourn (1480 MW, brown coal) in 2028. Despite this concerning outlook plus growing public anxiety in recent years, the potential for clean nuclear energy to generate electricity to help replace this needed power for the longer-term remains banned by law.

Conclusion

Without wishing to be alarmist, it is easy to conclude that Australia is letting itself fall into a bleak and very difficult electricity future. The current Federal Labor Government appears wedded to an electricity grid comprising mainly intermittent, weather-dependent, low capacity-factor, non-dispatchable, wind and solar energy being 'firmed' by expensive battery technology and pumped-hydro where this is thought to be feasible.

Careful analysis might suggest that this is not a sufficiently secure base to underpin modern industry, while also providing reliable all-weather affordable electric power for domestic consumers.

Whatever the case, there is ample evidence to suggest that the current Federal policy needs to be changed to include a formal comprehensive examination of the use of nuclear energy in this country, probably in Small Modular Reactor form (SMRs), to meet community and industry needs. **The first step must be the immediate withdrawal of the current legal bans on the use of this technology for electricity generation, so that thorough analysis can be done, decisions made, and investment attracted if viable.**

In my view, failure to do this will undermine Australia's chance for a prosperous future in a world which is facing very real threats from climate change. The only people who can remove this ban in a secure bipartisan way are our Federal politicians, and they will no doubt be judged accordingly. Barry Murphy 5 / 12 / 22