

Submission to the Standing Committee on the Environment and Energy

by

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After working for thirty years as an analytical chemist/toxicologist in State Government laboratories I set up a surgical instrument sterilising business which I sold after fifteen years to enter retirement. I have never been a member of a political party but I do take a keen interest in politics as a private citizen. I also completed formal studies in Economics and Microbiology during my working life.

Nuclear Energy as a Power Source in Australia

If we continue the nuclear power moratorium, before long China will make an offer to buy all the Uranium we can dig out of Olympic Dam over the next 30 years. If they get in soon before the price goes up further it will resemble the export deal made for our North West Shelf gas in 2002. China and some other countries with inadequate coal, oil or gas supplies of their own are developing uranium and/or thorium power plants. Naturally the USA which is the largest exporter of oil does not lead the pack in nuclear power research. Their Department of Energy has participated in nuclear power research in China out of frustration with hurdles at home. Australia as one of the largest exporters of coal and gas will have similar hurdles to overcome before significant nuclear power programs are allowed to begin here.

What are our options?

1. Delay

Delay the conversation until modular nuclear power plants become widely available with safety records and waste storage facilities which satisfy the fearmongers. Only then would large mines, smelters and heavy industrial users be able to discard their high voltage transmission lines and generate their own emission-free power on-site. In the mean-time whenever we ramp up existing high-powered operations our demand for "fair dinkum" power and water will escalate together with our emissions. All our uranium, thorium and rare earth elements will be sold to countries who have already invested in research on emission-free energy and local manufacturing.

2. Act Now

Go ahead with plans to create a nuclear waste dump in South Australia and charge the rest of the world to use one of the most geologically stable places on the planet for their nuclear waste.

Plan ahead for a steady transition from our coal, oil and gas power plants to nuclear power plants using solar, wind and batteries as an intermediate step. Involve the public in the nuclear power

debate as South Australia did during the Royal Commission in 2016. Information and facts change attitudes.

Plentiful supplies of "fair dinkum" **emission-free** power will be needed to:

1. Desalinate inland water and seawater for mining, agriculture and hi-tech horticulture.
2. Produce hydrogen from water to fuel our vehicles and provide long term healthy competition for battery powered vehicles.
3. Produce ammonia for export and conversion back to hydrogen using the CSIRO's membrane technology.
4. Boost non-coal mining, smelting and manufacturing with power availability and prices on our side.

Work with Global Companies

In any Western democracy the above steps will not happen without global companies who make their money from coal, oil or gas being able to see the process as a safe investment opportunity. It is the role of Government to lead these companies through what must be a scary process for them but one which the Australian people at large desperately want to begin.

Mobile Nuclear Power

Cruise lines are only planning to change from bunker oil to LNG because of the public's concerns about nuclear power but all non-passenger ships could and should move earlier to nuclear power. Thorium has the potential to provide the safest mobile nuclear power for submarines and ships. It also has the potential to provide power using nuclear waste. If we have been paid to store the waste in the first place the economics make sense.

Harking back to the sale of all of our uranium, our super fund managers may offer to buy it for our own use if provided some encouragement from a forward planning government.