

## Nuclear Fuel Cycle Royal Commission Tentative Findings Response

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1. The Nuclear Fuel Cycle Royal Commission in its Tentative Findings Report, hereafter referred to as TFR, devotes most of its attention to safety issues and economic benefits.
2. The TFR rightly states that “both social consent and community consent must be obtained for any new nuclear activity to commence in South Australia”.
3. However, there are a number of framing matters that need to be challenged and seriously re-considered.
4. The first of these is the largely unspoken, unacknowledged assumption that the political stability Australia and the potential client states currently enjoy, will continue virtually indefinitely, indeed out to and beyond 100,000 years. One only has to consider the social, economic and political changes and upheavals occurring right now in the Middle East and Europe to see how ‘permanent’ arrangements really are vulnerable to unravelling in a very short period of time.
5. Linked to 4 above is the reliance on signed international agreements viz paragraph 125 for example, as the basis for moving forward with confidence, albeit with some caveats. While formulating and using international agreements are integral to ‘life in a globalised world’, the issue under consideration is of such magnitude, has such potential to unleash negative consequences, that the pre-cautionary principle invoked at the commencement of the Risks and Challenges section in the report ought to be foregrounded and embraced more substantially. The use of statements like “... mature international systems that provides peer review and guidance... [and] it requires planning for all *credible* risks... [as well as] ... nuclear and radioactive materials are *routinely* transported” (emphasis added) actually hide many of the dangers and inherent risks in becoming deeply, perhaps irrevocably, enmeshed in the nuclear fuel cycle.
6. Much of the case for South Australia considering embracing the waste storage aspect of the nuclear fuel cycle relies on favourable geological structures and conditions. However, paragraph 76 acknowledges that making long term predictions about there being stable and safe geological conditions for the next 100,000 years is very fraught. I totally agree with this cautionary note. Indeed, it may be the case that due to climate change and other natural processes of geological change which continue to occur all of the time, what is presently judged to be safe according to best information available, will in hindsight, look foolhardy and reckless.
7. Thirdly, there is a presumption that the countries which have and continue to accumulate nuclear waste, will actually pay the price for disposal over a very extended period and across

changes in government(s) and changes that will continue to unfold as global population growth rockets towards 9-10 billion by 2050. What happens if one or more opts out of contractual arrangements even at the risk of having heavy fines imposed by some oversight regulatory body? How many client countries would need to opt out to make a nuclear waste storage facility unviable? What happens to the incredibly expensive and imposing waste management and storage infrastructure if by some chance a much cheaper, safer, and less resource intensive method of safe storage is discovered or invented? Impossible, even unlikely? I don't think so. Just reflect on the IT revolution and the advances that have occurred in nano- technology and particle physics in recent years. Perhaps it may seem subversive, but would the go-ahead to invest in a nuclear waste storage facility have to be linked to a ban on any further research on safe storage in order to safeguard the enormous investment the state and Commonwealth (and others) will have to make?

8. Fourthly, the idea of building something and presuming it will have an in-tact and safe operating life of 100,000 years and there will people with the knowledge, values, processes and technology to deeply understand and safely manage what has been bequeathed to them, seems to be gilding the lily to say the least. It is bordering on the absurd, if not actually absurd, and indeed, unethical. In making this statement, I realise Australia produces nuclear waste and some of the products from this bring benefits in medicine and in other fields. This raises 2 points at least. We do have an obligation to deal with our *own* waste. And secondly, it may require in light of best knowledge available embracing what I have labelled as absurd and unethical. Key points of difference however, with the TFR are scale and motivation. Looking after our own waste is a matter of necessity and an obligation; embracing the waste of others is a matter of opportunity- an opportunity with too high a risk tag and too high a price tag. Two of the oldest built structures in the world still standing are the Barnenez in France (4800 BC) and the Megalithic Temples in Malta (3500-2500 BC). In light of what is proposed in the TFR, both of these are just in their infancy! Yes, each is above the ground and most of the nuclear waste storage will be underground. But building a facility even with the very best of inputs to last for 100,000 years at least?

9. Fifthly is the opportunity cost issue. Paragraph 91a in the TFR informs that the total cost of establishing and operating a nuclear waste facility is \$145 billion. Further, paragraph 91d states that "approximately 1500 full-time jobs [will be created] during a construction period of about 25 years, peaking to about 4500, and more than 600 jobs once operations begin". The job creation seems very modest given the cost outlays. Modelling on what other kinds of economic developments could occur with much lower risks for a similar cost is essential to enable the public to understand what other option(s) could be available to "significantly improve the economic welfare of the South Australian Community".

10. In summary, the confidence placed in the robustness of the assumptions that underpin the TFR is unwarranted especially given the fluidity and complexity of international relationships. While it is the case that as a nation we have an obligation to engage in world events and play our part as 'global citizens', embracing the nuclear fuel cycle on a grand scale by becoming the world's major repository for nuclear waste, is too precarious and exposes our country to a toxic legacy for eons.