

A submission to the House of Representatives Standing Committee on Industry and Resources' inquiry into the development of the non-fossil fuel industry in Australia.

I thank the House of Representatives for providing me with the opportunity to make a submission to this inquiry. In my submission I have provided a general statement followed by some specific statements dealing with the terms of reference and the questions of nuclear weapons and social dysfunction, followed by a summary statement.

I wish to make it clear that I do not stand for or against uranium mining, but do believe that mankind and his technology is not yet mature enough to properly handle its inherent problems.

Many of the points I have raised here have undoubtedly been raised before, either in other fora or in other submissions to this inquiry, and although I have a firm background in the physical and social sciences I have left the more in-depth arguments to those who have a greater knowledge in their respective fields than do I.

I believe that the evidence now points to the fact that mankind cannot continue to recklessly use this planet's resources with scant regard to both the environment and the future. This matter has now become pronounced to the extent that it requires immediate attention, and it is hoped that this inquiry will be at least a first step towards a solution.

Consequently I wish the Committee well during this inquiry and trust that Parliament will use it wisely to make decisions that are acceptable to Australians in general and at all social levels, and to the world as a whole.

General Statement

I believe that the argument that the effects of global damage caused by industrialisation is becoming manifest as changes in our climate (namely global warming), is being used not to stimulate a long-overdue inquiry into issues related to use of fossil fuels but rather to re-open the debate on uranium mining.

The Hon Mr Prosser's statements evidence this: "Australia possesses enormous deposits of uranium. Olympic Dam in South Australia alone contains some 34 per cent of the world's known uranium reserves", and "With higher prices now being paid for uranium on world markets, demand increasing and nations looking for ways to reduce greenhouse gas emissions, the time is right to examine the further development and export of Australia's uranium resources".

However, the terms of reference of this inquiry appear to me to be too limited in scope, ignoring the long-term prospects of development of alternative means of power generation in favour of short-term monetary gains through continued support of the uranium mining industry.

To have a full and informed debate on the development of the non-fossil fuel industry in Australia is also to acknowledge and understand the potential contributions of possible and alternative power sources such as cold-fusion, and geothermal, solar, wind and tidal power. While I recognise that the Committee has indicated that it *may* conduct subsequent case studies of other non-fossil fuel energy sectors, there is no firm commitment to do so.

I believe that Parliament should, at the outset of this inquiry, make it plain to the Australian public whether or not the benefits of other non-fossil fuel industries will be debated in terms of:

- i) their potential contributions to effectively reducing greenhouse gas emissions, and
- ii) their potential for mitigating the need to rely upon further expansion of the uranium mining industry.

If Parliament is unwilling to embrace a wider discussion on these matters, then it should make it clear the reasons why it is so inclined, and indicate when it is willing to undertake such an inquiry. A final decision on any development of the uranium mining industry should then be postponed to take the findings of this separate inquiry (should it proceed) into account.

Now that I have offered a general statement with regards to this inquiry, I progress to more specific matters dealing with the set terms of reference.

Statements related to Terms of Reference of the Inquiry

a) *global demand for Australia's uranium resources and associated supply*

It is a reasonable assumption that increased global demand for uranium, mainly for use in additional reactors (predominantly in south-east Asia) will undoubtedly act to increase and maintain high prices in the near future, in a fashion similar to what is happening to the world fuel oil price. This provides an opportunity for Australia to cash in on what will likely become a lucrative market in the not too distant future. However, it is important to realise that this will represent only a short-term monetary gain, as Australia's current known reserves of uranium are finite and indeed expected to last only for around fifty years, unless of course, other deposits are found.

Regardless of how much additional uranium is discovered and mined, the resultant financial gain will remain a short-term consideration, and may be significantly less than anticipated given uranium mining in Australia is currently controlled by major multinational companies – which seems to be the usual repository for our mining income.

Finances aside, two of the key questions are: what response will be made to the greenhouse gas pollution problem once the uranium mines are exhausted and the nuclear power plants shut down? Will Parliament then seek alternative solutions or simply return to reliance on fossil fuels or resign future generations to dealing with the problem – when it may already be too late for them?

If Parliament is truly concerned about the development of the non-fossil fuel industry, then these questions need to be tackled now, and not fifty or a hundred years in the future. In line with this, I believe that it is imperative that the current state of other non-fossil fuel sectors be debated to decide if it would not better to improve support mechanisms for development of other long-term non-fossil fuel sources such as solar power, rather than focus on a short-term industry such as uranium mining.

By adopting this approach, I believe that Australia can put itself into a position where it is at the forefront of research and development into alternate energy systems, much as it was with the solar power industry some twenty years ago. If successful, there is significant scope to benefit both financially and environmentally from the long-term prospects of these clean energy systems.

b) *strategic importance of Australia's uranium resources and any relevant industry developments*

Given the short-term and finite nature of Australia's uranium reserves, it is difficult to argue that they are of sufficient strategic importance to warrant an expansion of this sector of the mining industry. An alternate argument is that it may be more beneficial to further regulate the industry to restrict production and use the principles of supply and demand to maintain a higher price for uranium in the future – as has often been used with respect to oil production and to devastating effect by the OPEC countries.

If Australia had a nuclear power generation capacity of its own, then it could possibly be argued that uranium would attain greater economic and national strategic value. I must ask then, why Australia, with the exception of the ANSTO facility, holds a large quantity of the world's uranium resources but has not developed a nuclear capacity and does not have the ability to reduce its own reliance on fossil fuels in this manner – even if it is only a short-term prospect?

As the situation currently stands, Australia will continue to lag further behind in technological advances related to nuclear power and medicine – there hopefully being no interest in nuclear weapons. Continued expansion of uranium mining, without corresponding development of the nuclear industry within Australia will send this country down the well-worn path of selling its resources and assets and buying back the end products at exorbitant prices and a net loss to our economy.

The question of nuclear armament

In the current political climate, all uranium should be considered of strategic importance and available for development of nuclear weapons instead of peaceful generation of energy. Recent developments in the Korean Peninsula, Iran and Pakistan would point towards a failure of International Agreements and a general inability to enforce them, suggesting that there is no possible means of ensuring that uranium from Australia cannot be used for such a dreadful purpose.

Neither is this danger restricted only to manufacture of nuclear warheads. The reported use of depleted uranium shells in the Gulf Wars, Bosnia and Herzegovina by the United States and Great Britain indicates that even Australia's allies would not hesitate to use this material to achieve their goals. I refer Parliament to the United Nations Human Rights Commission's 1995 report: 'Depleted Uranium in Bosnia and Herzegovina: Post-conflict Environmental Assessment' for further discussion on the effects of this material.

To date, at least seven countries to my knowledge (India, France, China, Israel, Russia, the United States and Great Britain) have the capacity to manufacture nuclear missiles, and despite treaties of Non-Proliferation, the number of countries seeking them continues to grow. Those states that desire to go down the path of nuclear development are intimidated and Australia and its allies view even development of peaceful uses such as nuclear power stations or medicines with suspicion.

While this sad state of affairs continues, there is a significant threat to the entire world – the only real solution being to destroy all nuclear weapons and leave uranium in the ground. Given the current state of immaturity, political instability, paranoia and madness that is apparent across this world can I do not believe that Parliament can provide any real assurance that uranium will not be returned to Australia or sent to other in a less-than friendly fashion.

I recognise that Australia cannot be responsible and should not be held accountable for the actions of others, but can opt for the moral high ground and refuse to supply material to any country that could use it for nuclear weaponry of any sort, even including its allies. I would therefore urge Parliament to discuss this matter and state clearly and concisely where it stands with respect to the use of uranium in the manufacture and deployment of arms on a worldwide basis.

c) potential implications for global greenhouse gas emission reductions from the further development and export of Australia's uranium resources

Nuclear power systems may well have lower greenhouse gas emissions than fossil fuel systems, but there will be a short-term increase in the quantity of greenhouse gases emitted at the front end of the process due to the energy required to construct and operate additional mines and ore-processing plants.

When considering greenhouse gas emissions, it is important that Parliament also takes into account other environmental impacts given that the technology does not currently exist to ensure safe and environmentally acceptable mining of uranium ores. The poor records of uranium mines in Australia (and of Ranger and Beverly in particular) are evidence that “best practicable technology” is not good enough, and that significant improvements are required before any further expansion of the uranium mining industry can be considered by Parliament. In addition, and to my knowledge, there is no safe and environmentally acceptable means of disposal of nuclear waste – the end product of the nuclear industry.

I am also of the opinion that the effects of nuclear waste material (be it from mining, refining or energy production) on human health and on the environment have not been firmly established by the scientific community inside Australia.

What we do presume to know is that the ultimate effects of radiation can last for thousands, if not millions of years and can result in death and severe health problems both to those directly affected and their descendants. When debating this issue, I would encourage Parliament to scrutinise the evidence that has come to light since the Chernobyl disaster of 1986 and to use it wisely. For this purpose I refer Parliament to Annex J, Volume 2 of the United Nations Scientific Committee on the Effects of Atomic Radiations Report made during year 2000: "Sources and Effects of Ionising Radiation".

Finally on this point, the nuclear industry is not yet amenable to small-scale, common use technology, such as public transport. I think it is apparent that our current modes of transport are one of the major contributors to the greenhouse gas pollution of our atmosphere. While nuclear technology is incapable of servicing this facet of industrialisation, there is scope for other technologies (such as solar power) to be highly successful. This begs the question about what additional support Parliament will provide to non-nuclear, non-fossil fuel energy developers to allow them to address this issue.

A question of social dysfunction

In concert with inadequate technological development safeguards against nuclear attack, plans to expand uranium mining will lead to further social problems in Australia.

Lack of faith with industry regulation, with legislation and with mining companies in general, has led to significant distrust within Australia, both at a national and community level. In many instances and in Aboriginal society in particular, this has led to a breakdown in the underlying social structure resulting in increased health problems, crime and unemployment. This is not particular to uranium mining, but is endemic to the mining industry and becomes more noticeable where industrial developments occur in remote areas. I am inclined to believe that, given the ongoing nature of this problem, this effect of industry has been insufficiently examined and requires a considerable amount of more thought before a reasonable solution can be achieved.

Given that it is remote towns and Aboriginal communities, and not Canberra, that constitute a major part of the environment to be affected by increased uranium mining, is Parliament therefore willing to support a separate and full inquiry into the effects of the mining industry on social dysfunction in remote communities, or at least include it within the terms of reference of this inquiry and thereby address the full nature of concerns expressed? Or will Parliament once again base its decisions on its perception that such decision will be in the interests of Australia and once again brush aside concerns and problems of a more localised nature?

The problem of balancing the net benefit available through assumed reduced greenhouse gas emissions against the destructive costs of social dysfunction needs to be taken into account. Without a careful analysis of the cause and effects and extent of the damage that can be attributed to uranium mining I do not see how this can be achieved.

Given these implications, I am curious and wish to know how they would be incorporated into a calculation of the net benefits to greenhouse gas emission reductions derived from further development of Australia's uranium resources. I would also be interested to know how such net benefits are to be determined, what the actual net benefit would be, and how it could be expressed in terms of a decrease in global warming – especially given that fossil fuels will continue to be used on a worldwide basis during any development of Australia's uranium resources. Without a firm quantifiable evaluation of a net beneficial value, I do not see how Parliament can provide an acceptable answer to this question.

d) current structure and regulatory environment of the uranium mining sector

Australia's uranium mining industry claims to be one of the most highly regulated industries in this country (if not the world). However, given the magnitude of environmental and human health damage that can be caused by radiation emanating from their waste materials or leaks from their processes, it needs to be highly regulated. Taking this into consideration, I would venture to say that penalties applied under legislation relevant to the uranium mining industry, and perhaps the mining industry in general, are woefully inadequate. This is further complicated by the reluctance of regulatory authorities and State, Territory and Federal Governments to prosecute companies when "incidents" occur. I am sure that such behaviours would not be tolerated were any part of the nuclear industry situated in Canberra.

Any weakening of industry regulation will inevitably result in the adoption of less than "best practicable technology" during exploration, mining and processing, with a subsequent increase in extreme and long-term environmental and social damage – brought about as companies seek to further increase their profit margins at the expense of the underlying tenets of environment, health and safety. I would like to know how the Australian Government intends to protect its citizens from the complications that will occur from rogue mining companies and other developers that will seek to take advantage of weakened regulations and that would undoubtedly continue to not be enforced. Indeed, the same question can be asked of multi-national companies, even those with allegedly good reputations, that would use mining and processing practices in Australia that are not tolerated in their home countries.

Further to this, the escalating cost of rehabilitation of minesites is becoming a problem for the Australian public in general. While legislation may require a bond to be paid by the mining company for this purpose, recent events surrounding the closure of the Mount Todd gold mine have revealed inadequacies in this process, with the taxpayers of the Northern Territory left to foot a bill costing millions of dollars. Parliament failed to either enforce or enact adequate legislation, leaving the public to pay for the environmental damage caused by a mining company – or to live with its consequences.

Is Parliament willing to strengthen, maintain and enforce regulation to ensure that improved technology and process are used, and that incidents similar to Mount Todd will not happen within an expanded uranium mining industry – knowing that the inevitable outcome of failed regulation would lead to significant contamination of our country, its waterways and potentially its citizens? Or would Parliament prefer to relax regulations and be prepared to sacrifice its people and its lands – including the World Heritage Kakadu National Park – for the sake of an immediate and potentially small financial gain from increased uranium mining?

Summary Statement

if the inquiry is to be restricted solely to questions around the uranium mining industry, I would like to suggest that the terms of reference be extended beyond the need for further mining of the resource to include the state of the technology that surrounds both mining and efficient use of nuclear fuels, and what can be done to support further development in this area. Only when this has been done, do I believe that Parliament would be in a realistic position to determine the true relevance of uranium mining to Australia's future.

In addition, I believe that the continued focus on uranium mining shows a lack of real vision on the part of Australia's Parliament. The scope of this inquiry should not be limited to uranium only, but also to other potential sources of non-fossil fuels such as cold fusion, geothermal, solar, tidal and wind power. Significant technological development in these areas needs to be investigated, supported and instigated through financial or other incentives to place Australia at the forefront of this new generation technology.

Should Parliament opt in favour of further exploitation of Australia's uranium resources in preference to these other sectors of the energy industry, then I believe that it should also address the matter of ensuring that the nuclear and the fossil fuel industries:

- (i) contribute effectively to research and development of other non-fossil fuel energy sources to ensure an improved quality of life for future generations both within Australia and world-wide in preparation for the time when their industries can no longer meet Australia's energy requirements,

- (ii) contribute effectively to improving technologies within their own sectors to ensure that environmental damage caused by their activities decreases, does not continue to occur and does not impact upon ourselves and our future generations,
- (iii) contribute effectively to resolving the question of the nuclear arms threat, and
- (iv) contribute effectively to resolving social dysfunctions that occur as a result of their activities, especially in remote areas.

Finally, I would like to request that this inquiry be presented as a fully transparent and open discussion on these and other matters submitted. Please consider televising the debate as it proceeds, as I am sure that many people within Australia that cannot travel to Canberra have an interest in this discussion.

I thank you for your time in attending my submission.

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