

19 August 2011

Mr Neale Burgess MP
Chair
Economic Development and Infrastructure Committee
Parliament of Victoria
Parliament House
Spring Street
East Melbourne Victoria 3002

Dear Mr Burgess

Inquiry into greenfields mineral exploration and project development in Victoria

There has been no greenfields uranium exploration in Victoria at least since the passage of the Nuclear Activities (Prohibitions) Act 1983.

The Act explicitly prohibits a person from exploring, mining or quarrying for uranium; and makes it an offence against the Act to contravene that prohibition.

It is time to change that situation.

The Australian Uranium Association represents 36 companies engaged in the exploration for and mining, milling and export of uranium. The Association's Members account for all of Australia's production and exports, all of Australia's uranium development projects and most of the exploration activity.

Included with this submission is a briefing document that provides detailed background on the uranium industry in Australia and its connection with the civil nuclear fuel cycle.

The Australian Uranium Association considers that there is no good reason to maintain the current legislative prohibition and good reasons for its removal. The result of repeal of the legislation and of making the uranium industry subject to existing Commonwealth and State laws on the matter would be that applications to explore for and mine uranium in Victoria would be examined and decided on their merits as is the case with any exploration or mining project.

Economic context

The current Inquiry is an inquiry by the Parliament's Economic Development and Infrastructure Committee into benefits and drivers of and barriers to greenfields mineral exploration and development. The context for the Inquiry is the need to set the scene for the Victorian economy to expand in the face of Australia's two speed economy, which is acting negatively on the State's growth prospects.

Victoria's is an exemplar case of Australia's two-speed economy, with Victoria running at the slower of the two speeds.

Victoria's 2011-12 Budget soberly documents Victoria's economic position:

- While the renewed resources boom provides many economic opportunities, it has placed upward pressure on the Australian dollar, presenting a major challenge for Victoria's traditional exporters, particularly in education, tourism and manufacturing.
- Strong demand for mineral and energy commodities will support growth in the resource-rich states and territories over the medium term. Overall, this will bring substantial national economic benefits. However, competition for labour and capital and the high Australian dollar will to some extent offset the national benefits of the mining boom on states and territories, such as Victoria, where mineral resource development has had a lower priority.
- Structural adjustments in the national economy are favouring employment in the mining and business service industries, while the share of employment in the manufacturing industry, which is relatively more important for Victoria, is falling.
- Over the medium term, the Victorian economy needs to adjust to the change in relative prices caused by high terms of trade and the strong Australian dollar. This can only be achieved through efforts to boost productivity.
- Victoria's productivity growth has been falling in the past decade. In the five years to 1999-2000, average annual productivity growth of 2.8 per cent was achieved, but this dropped to an average annual rate of 0.7 per cent in the five years to 2009-10 – well below the national average.
- Victoria has long been recognised as a national leader in competition and regulation reform, but Victorian regulation is becoming increasingly complex and costly.

The Victorian economy is forecast to grow by 3.0% in 2011-12 and by 2.75% in the outlook years. By comparison, the WA economy, an economy operating at the faster of the two speeds, is forecast to grow by 4.5% in 2011-12 and by 4.0% in the outlook years.

The Victorian Government has identified several means for addressing the State's economic challenges, including regulation reform and productivity growth.

The removal of the current legislative ban on uranium exploration and mining represents an opportunity in both those areas.

The removal of the ban would be a clear case of regulatory efficiency. **Attachment 1** outlines why the current legislation is not efficient and why it is a departure from best practice regulation.

Two key points emerge from the Attachment: that legislation should be based on evidence; and that, after 28 years, there is a strong case on 'best practice' grounds for review of the Act.

The removal of the ban in favour of a merit-based approach would also clear the way for a new area of economic activity in Victoria, one which does not currently exist. This would be a clear benefit to

Victoria, allowing the State to attract investment that would not otherwise occur and enabling resources within the State to shift to activities that are potentially more rewarding than existing economic activities.

An example of the impact of the removal of bans on uranium development is the removal of the ban in Western Australia late in 2008. Following that, uranium exploration investment increased from \$26.8 million in 2007-08 to \$80.4 million in the first nine months of 2010-12 (ABS 84120).

It is not yet clear what Victoria's uranium resource might be. On the basis of the available geoscientific evidence, Victoria's uranium endowment appears very modest. Official data are not comprehensive and there has been no Victorian exploration for nearly 30 years to indicate how prospective Victoria is for uranium.

What appears to be a modest uranium endowment is not a reason for resisting legislative change on the grounds of potentially limited economic benefit. In fact, the reverse is the case.

Removing the prohibitions will give rise to opportunities to establish the scale of Victoria's endowment. Allowing such a test will itself have some economic benefit – the investment in uranium exploration that would not have taken place otherwise – even if it shows Victoria has little uranium.

On the other hand, if the test shows Victoria has economic uranium deposits, then further economic benefits can be expected.

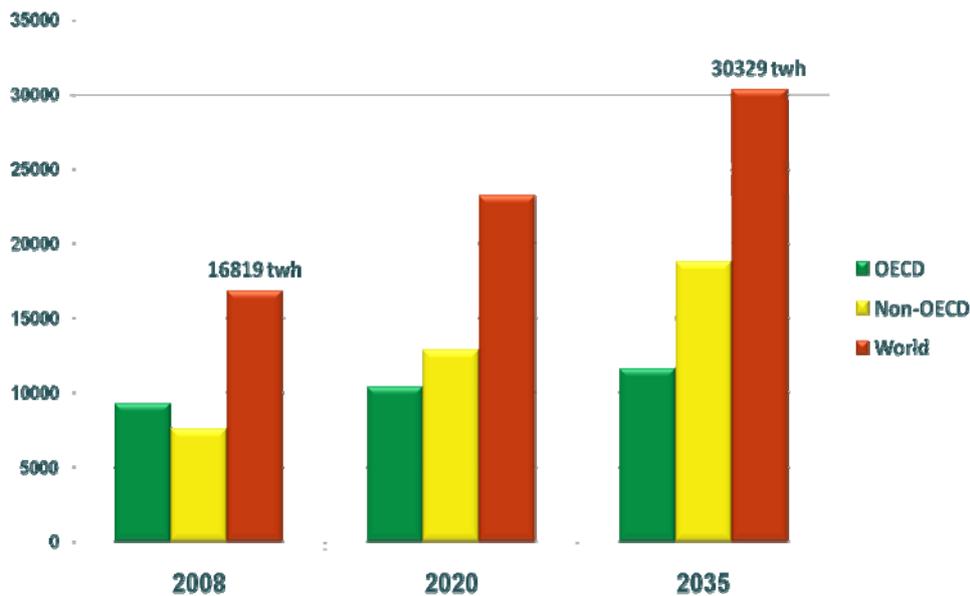
The global energy and climate change context

Uranium development is being driven by global demand for nuclear power which, in turn, is driven by population growth, by the aspirations of people in rapidly developing countries to become wealthy in the way we in Australia experience and know well; and by climate change.

These push factors will drive countries to increase their supply of electricity and to source it from fuels that help address climate change.

Under these global influences, the International Energy Agency forecasts that the demand for electricity will grow by 80% to 2035:

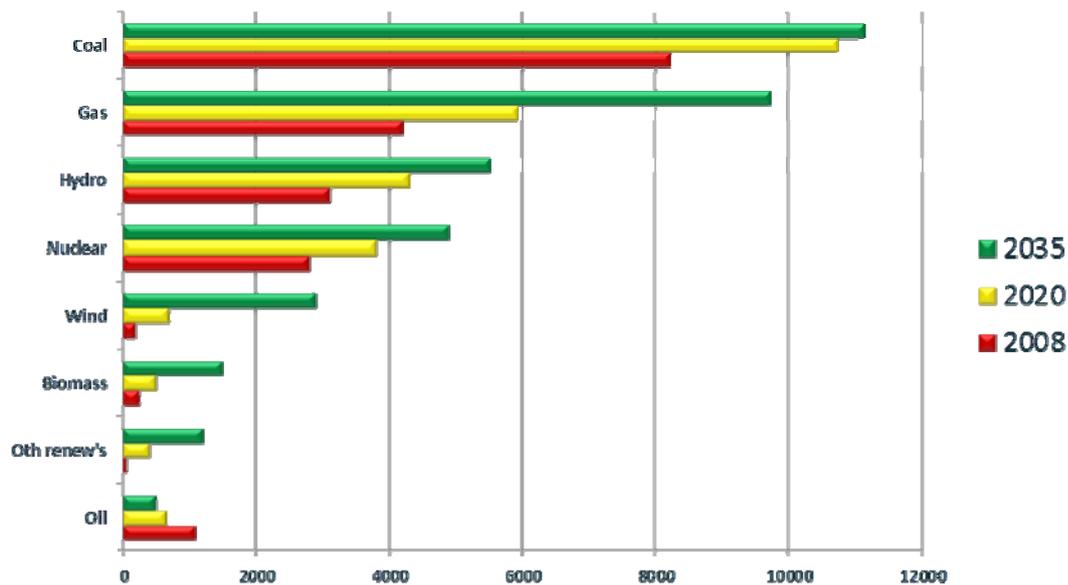
Future electricity consumption (2008 to 2035)



Source: After IEA World Energy Outlook 2010, New Policies scenario

The IEA also forecasts the following mix of electricity sources with nuclear power increasing its supply absolutely and maintaining its share:

World electricity generation by type (2008 to 2035)



Source: After IEA World Energy Outlook 2010, New Policies Scenario

Nuclear power is an attractive option from a climate perspective because it produces no greenhouse emissions in generating electricity and low emissions on an output basis, comparable to renewables, across the lifecycle (that is, when all the activities associated with nuclear power – from mining through fuel manufacture through electricity generation to decommissioning and waste management – are taken into account).

The table below illustrates this:

Electricity generating technologies: CO2 emissions

Technology	CO ₂ emissions (g/kWh _{el})
Coal	900
Oil	700
Gas	450
CCS	170-280
Nuclear	65
Large hydro	45-200
Small hydro	45
Wind	≈65
Solar PV	40/150-100/200
Concentrating solar	50-90
Geothermal	20-140
Biomass	35-85

Source: *Current state of electricity-generating technologies – a literature review*, Centre for Integrated Sustainability Analysis, The University of Sydney, June 2009

The salient point is that there is a continuing and growing demand for uranium and nuclear power driven by a permanent feature of the world economy: a growing demand for clean electricity.

The economic case for uranium mining in Victoria is that it can add to the State's economic activity and facilitate exploration investment in a mineral, demand for which is driven by long term fundamental global economic factors.

Mining and other legislation provides a framework for uranium mining

The objects of the Nuclear Activities (Prohibitions) Act 1983 Act are 'to protect the health, welfare and safety of the people of Victoria and to limit deterioration of the environment in which they dwell by prohibiting the establishment of nuclear activities and by regulating the possession of certain nuclear materials, in a manner consistent with and conducive to assisting the Commonwealth of Australia in meeting its international nuclear non-proliferation objectives.'

It is not necessary to prohibit uranium mining and milling to give effect to the objects of the Act.

There are at least five pieces of State and Commonwealth legislation that can achieve the objects of the Act in whole or in part, including:

- The Commonwealth Environmental Protection and Biodiversity Conservation Act (EPBC)
- The Commonwealth Australian Radiation Protection and Nuclear Safety Act (ARPANS Act)
- The Commonwealth Safeguards Act
- The Victorian Radiation Act
- The Victorian Mineral Resources (Sustainable Development) Act

The legal framework for the uranium industry operates – or could operate in Victoria - as follows:

- A company seeking to explore for or mine uranium in Victoria would be subject to the Mineral Resources (Sustainable Development) Act for permits and licences and on-going regulation of minerals development activity
- New uranium mines or significant expansion of existing mines require assessment and approval under the Environment Protection and Biodiversity Conservation Act 1999.
- As part of Australia's non-proliferation framework, a company seeking to mine uranium must obtain a permit from the Australian Safeguards and Non-Proliferation Office (ASNO) under the Safeguards Act 1987.
- A uranium mining company would be subject to the Victorian Radiation Act, the purpose of which is 'to protect the health and safety of all persons and the environment from the harmful effects of radiation'. The Act gives effect to Victoria's commitment to the ARPANSA's National Directory for Radiation Protection and incorporates the Radiation Protection Principle, which underpins all radiation protection activity.
- Victoria would participate in the Commonwealth's national radiation dose register, established to enable radiation doses received by uranium workers to be tracked over time.
- The transportation of nuclear material is regulated by ASNO, which issues permits to transport nuclear material under specified restrictions and conditions. The permits specify the requirements to be met to ensure that nuclear material is secure at all times when in transit. The permit holder may be required to have a transport plan detailing the security procedures to be observed.
- The Code of Practice for the Safe Transport of Radioactive Material, which has been adopted by all States and Territories, governs the transport of radioactive material, including uranium.
- Radioactive waste is managed under three national ARPANSA codes regulating: the Code of Practice for the Disposal of Radioactive Wastes by the User (1985), the Code of Practice for the Near Surface Disposal of Radioactive Waste in Australia (1992) and the Mining Code.
- The export of uranium requires a permit issued by the Commonwealth Minister for Energy, Resources and Tourism. Before permits are issued, safeguards clearances from ASNO must be obtained. ASNO reports each year that it fully accounts for the uranium oxide exported from Australia and that it is only used for peaceful purposes.
- Australia's uranium may only be exported to countries that are signatory to the Nuclear Non-Proliferation Treaty (NPT) and that have entered into a bilateral treaty with Australia setting conditions additional to the NPT.

The Victorian Radiation Act and the Victorian Mineral Resources (Sustainable Development) Act provide an overarching framework that helps meet the goals of the Nuclear Activities (Prohibitions) Act 1983 within Victoria.

The purpose of Mineral Resources (Sustainable Development) Act is 'to encourage economically viable mining and extractive industries which make the best use of resources in a way that is compatible with the economic, social and environmental objectives of the State.'

This purpose is elaborated upon in the objectives of the Act which describes the principles of sustainable development including:

- community wellbeing and welfare should be enhanced by following a path of economic development that safeguards the welfare of future generations
- there should be recognition of the need to develop a strong, growing, diversified and internationally competitive economy that can enhance the capacity for environment protection;

- measures to be adopted should be cost effective and flexible, not disproportionate to the issues being addressed
- both long and short term economic, environmental, social and equity considerations should be effectively integrated into decision-making.

The purpose of the Radiation Act is ‘to protect the health and safety of persons and the environment from the harmful effects of radiation.’

The Act seeks to meet that goal through the application of the Radiation Protection Principle, described as follows:

The Radiation Protection Principle is the principle that persons and the environment should be protected from unnecessary exposure to radiation through the processes of justification, limitation and optimisation where-

(a) justification involves assessing whether the benefits of a radiation practice or the use of a radiation source outweigh the detriment

(b) limitation involves setting radiation dose limits, or imposing other measures, so that the health risks to any person or the risk to the environment exposed to radiation are below levels considered unacceptable

(c) optimisation-

(i) in relation to the conduct of a radiation practice, or the use of a radiation source, that may expose a person or the environment to ionising radiation, means keeping-

(A) the magnitude of individual doses of, or the number of people that may be exposed to, ionising radiation; or

(B) if the magnitude of individual doses, or the number of people that may be exposed, is uncertain, the likelihood of incurring exposures of ionising radiation-

as low as reasonably achievable taking into account economic, social and environmental factors...

Existing Victorian and Commonwealth legislation meets the health, safety, welfare and environmental objectives of the Nuclear Activities (Prohibitions) Act 1983.

The Commonwealth Safeguards Act meets the non-proliferation objectives of the Nuclear Activities (Prohibitions) Act.

In addition, the application of the EPBC Act to uranium development, in practice, meets the objectives of the Nuclear Activities (Prohibitions) Act.

There have been two cases in recent years where the Commonwealth Environment Minister has been required to make decisions under the Act in connection with the uranium industry.

In the first of those, concerning the expansion of the Beverley uranium mine in South Australia, the then Environment Minister, the Hon Peter Garrett MP, said that the conditions of his approval ‘will ensure the highest standards of environmental management by the mine operator’.

In the Minister's second decision, concerning the Four Mile uranium mine, also in South Australia, he said that 'I am certain this operation poses no credible risk to the environment'.

In both cases, the Minister emphasised the 'rigorous and comprehensive assessment' he had undertaken and the 'comprehensive, scientifically robust and transparent process' that had been followed. It was as a consequence of those assessment processes that the Minister made his decisions, which were decisions on advice and on merit in accordance with the EPBC Act.

Regarding environmental impact of uranium mining, all mining – for all minerals – has some impact on the environment. That impact is the trade-off that societies absorb in order to enjoy the benefits of mining.

The impact of uranium mining on the environment is similar to that of any other minerals development activity of similar scale conducted in similar environments. The environmental issues mining in general has to address – water management, tailings, dust etc – are also the issues uranium mining has to address.

As Minister Garrett's two decisions indicate, there is no reason to suppose that uranium miners are less skilful at managing those issues than the miners of any other mineral.

The available evidence from regulatory authorities also shows that the uranium industry meets the objects of the Nuclear Activities (Prohibitions) Act in practice.

While there are incidents from time to time, as in the mining of any mineral at any mine, the environmental record of uranium mining in Australia is very good.

The Ranger uranium mine in the Northern Territory is a mine that has been studied intensively for 30 years by the Supervising Scientist Division, an agency of the Federal Environment Department, which reports annually on the mine's environmental performance.

In its 2009/10 Annual Report, the Supervising Scientist reported that: 'At Ranger mine the 2009–10 wet season was around average with rainfall of 1596 mm. During the year there were no reported incidents that resulted in any environmental impact off the immediate minesite. The extensive monitoring and research programs of the Supervising Scientist Division confirm that the environment has remained protected through the period.'

The SSD has made similar reports for many years.

The environmental reporting for Australia's two other operating uranium mines, Olympic Dam and Beverley, indicate similar very good environmental performance. Environmental reporting for those mines is available on the website of the Department of Primary Industry and Resources of South Australia www.pir.sa.gov.au

Put another way, the unique property of uranium, its radioactivity, does not lead necessarily to poor environmental performance.

The available evidence also shows that the uranium industry meets the health and safety objects of the Nuclear Activities (Prohibitions) Act in practice.

Regarding worker and public health and safety, the radioactivity associated with uranium mining does not lead necessarily to poor occupational health and safety performance.

One issue in OHS management in uranium mining is radiation protection. Radiation protection policies and practices in uranium mining are governed by the Radiation Protection Principle that is at the heart of Victoria's Radiation Act.

In regulatory terms, the requirement for a uranium mining company in accordance with the National Directory for Radiation Protection, which informs Victoria's Radiation Act, is to ensure the level of radiation exposure for a worker is less than 20 milliSieverts per year averaged over five years and does not exceed 50 milliSieverts in any individual year. These requirements are for exposure in addition to background radiation. (Radiation is present always and everywhere, in the soil, from cosmic sources, in foods etc. Background radiation varies from place to place in the world, averaging about 2.4 milliSieverts but ranging from less than that to 100 milliSieverts a year in some places. In addition to background, people are exposed to radiation from a variety of artificial sources, the main one of which is medical. While occupational exposure is declining, medical radiation exposure is growing, especially in Western countries.)

In practice, radiation exposure at Australia's three mines is about 3 to 5 milliSieverts per year with maximum exposures no more than about 10 to 12 milliSieverts in a year.

The requirement for the public exposure in addition to background is 1 milliSievert per year. Exposure for the public in communities neighbouring uranium mines is less than 1 milliSievert.

The intention of the Nuclear Activities (Prohibitions) Act 1983 is to 'to protect the health, welfare and safety of the people of Victoria and to limit deterioration of the environment in which they dwell by prohibiting the establishment of nuclear activities and by regulating the possession of certain nuclear materials, in a manner consistent with and conducive to assisting the Commonwealth of Australia in meeting its international nuclear non-proliferation objectives.'

The means the Act employs to achieve this is to prohibit uranium exploration and mining. In our submission, this is unnecessary.

It is unnecessary for the following reasons:

- Existing Victorian and Commonwealth legislation meets the health, safety, welfare and environmental objects of the Nuclear Activities (Prohibitions) Act 1983.
- The Commonwealth Safeguards Act meets the non-proliferation object of the Nuclear Activities (Prohibitions) Act.
- The Australian Safeguards and Non-proliferation Office has reported in every year that exported Australian nuclear material is fully accounted for and is not used for non-peaceful purposes. This also meets the non-proliferation object of the Nuclear Activities (Prohibitions) Act.
- The application of the EPBC Act to uranium development, in practice, meets the objects of the Nuclear Activities (Prohibitions) Act by triggering science-based assessment processes that lead to merit-based decisions.
- The available evidence from regulatory authorities also shows that the uranium industry meets the environmental objects of the Nuclear Activities (Prohibitions) Act in practice.
- The available evidence also shows that the uranium industry meets the health and safety objects of the Nuclear Activities (Prohibitions) Act in practice.

This evidence strongly supports the Association's argument that a prohibition on uranium development is not required to achieve the objects of the Nuclear Activities (Prohibitions) Act 1983.

The Act should be repealed to permit the exploration for uranium to proceed in Victoria.

Facilitating a transition

The Committee may wish to consider some initiatives to facilitate the transition of Victoria to a uranium development State.

Such initiatives might include:

- Wide consultation on draft legislation repealing the current prohibiting legislation
- Victorian membership of the Commonwealth's Uranium Council, a government/regulator/industry consultative body which, among other things, facilitates information sharing among uranium policy makers, regulators and the uranium industry
- Visits by Victorian policy makers and regulators to sites for uranium exploration and mining in South Australia, Western Australia and the Northern Territory
- Consideration of the resources available to Victoria to administer a uranium industry in this State
- The establishment of an independent committee of experts to assist the relevant Victorian authorities in the initial stages of the industry's development; Western Australia undertook a similar initiative.

The Association would be pleased to discuss this submission with the Committee in its public hearings.

Yours sincerely

Michael Angwin
Chief Executive Officer