

Australian Uranium

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The Australian Uranium Industry: An Overview

By Hai Pham

Since its beginnings in the 1930s, the Australian uranium industry has developed substantially, making Australia one of the world's major producers and exporters of uranium. This success is tempered by the fact that the Australian market though faces unique challenges. Due to its highly regulated business environment and uneasy political position, the Australian uranium industry has often been required to adopt a wider business focus and difficult locales to remain operational. This paper presents an overview of the Australia Uranium industry by first discussing the country's uranium resources and then making classification of current players based on legislative effects.

Australia is well described in the global uranium industry as the "lucky country" with vast low-cost uranium resources. In terms of resource abundance, it ranks first of any nation with approximately 1,347,877 tons of known recoverable resources^(Fig 1). This is in comparison to Kazakhstan and Canada, of which Australia has 1.4 times and 2.6 times the quantity of recoverable resources, respectively¹.

Country	Tonnes of Extractable U ₃ O ₈ at given sale price		
	Less than \$40USD per Kg	Less than \$80USD per Kg	Less than \$130USD per Kg
Australia	1,231,132	1,266,509	1,347,877
Kazakhstan	481,241	715,399	962,381
Canada	438,443	523,349	523,349
USA		120,283	403,302
South Africa	168,808	293,340	401,646
Namibia	145,493	280,186	332,971

¹ Australia Uranium Policy Research, Bakers Investment Group, <http://www.bakersgroup.com.au/Media/Research/Research%20Note%20Australian%20Uranium%20Policy%20-%20December%202008.pdf>



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Niger	203,851	265,871	265,871
Brazil	164,976	272,759	328,656
Russia	93,281	203,304	203,304
Uzbekistan	107,033	107,033	115,959
Ukraine	40,705	89,962	105,939
Mongolia	19,104	73,054	73,054
Rest of world	75,018	275,248	528,678
Total U₃O₈	3,238,656	4,486,298	5,592,987

Figure 1: Known recoverable resources and cost of extraction as at Jan 2005

Source: Deloitte Insight Economics, Australian Uranium Association

Australia's uranium resources are also known for having a low cost of extraction compared to other nations. Of Australia's recoverable resources, 37% are expected to cost less than \$US 40 to extract and 27% less than \$US 80².

The resources are distributed in a fairly clustered manner throughout Australia with three quarters of the known and inferred resources found in South Australia and more specifically at the Olympic Dam – the world's largest deposit³. Other significant resources have also been found in Northern Territory, Queensland and Western Australia.

Despite all of this abundant resource, Australia has no significant demand for uranium. The country's uranium is only exported to countries that have committed to nuclear safeguard agreements. Total export volume in 2007 was 10,232 tons of uranium oxide, representing 23% of the world uranium production³. This contribution ranks second in all the uranium producing nations. Canada is the top producer with a 28% contribution, although it holds less than half of Australia's reserves¹.

The performance of Canada has shown that Australia has produced below its potential. One of the key reasons for this is the previous government's

² Australia's Uranium Research Note, Parliamentary Library, <http://www.aph.gov.au/library/pubs/rn/2006-07/07rn17.htm>

³ Outlook for Uranium Industry, Deloitte insight economics, <http://aua.org.au/files/AUA%20Deloitte%20Report%20FINAL.pdf>

Australian Uranium

Bakers Research Note

regulatory framework, notably the “Three Mine Policy” introduced by the Australian Labor Party in 1983¹. This policy, basically limited the Australian uranium industry to three existing mines, thereby removing incentives for new mine development in the country. This decision has shaped the market structure in which players are classified according to their principle activities (exploration and production) and locations (domestic and overseas), distinctly.

Uranium Players

Producers vs. Explorers

As at December 2008, it is estimated that around 50 Australian companies have uranium operations as their principle activities⁴. However, uranium production is concentrated to a handful of giant uranium companies operating in the existing three mines. These companies include: BHP Billiton Ltd who owns and operates Olympic Dam Mine in South Australia; Energy Resources of Australia Ltd (which is 60% equity owned by Rio Tinto) operating at Ranger Mine, Northern Territory; and Healthgate Resources Ltd (an unlisted company) who are producing uranium in Beverley Mine, South Australia.

Due to the Three Mine Policy, many Australian companies have moved their production overseas. For example, Paladin Energy Ltd and Mintails Ltd have their uranium production base in Namibia and South Africa, respectively. Likewise, Black Range Mineral Ltd is carrying out mining in the USA. The Three Mine Policy was in effect for 25 years until April 2007 when it was repealed, giving access for new mine development³. A fourth Australian uranium mine, the Honeymoon Project, owned by Canadian-based company, Uranium One Ltd, has recently entered a demonstration phase for production. Other prospective mines in the waiting list include Jabiluka

and Koongarra in Northern Territory and Kintyre & Yeelirie in Western Australia. Although these perspective mines are owned by the existing Australian producers, the change in government policy is expected to widen the spectrum of local uranium miners.

Contrasting to the uranium producers, the majority of explorers are small and medium capitalized firms. Exploration companies operate throughout Australia, but predominantly in Northern Territory and South Australia. Given the regulated domestic market, these firms tend to diversify their asset portfolio by either investing in overseas markets or operating as multi-mineral explorers. Key players in this sector with significant uranium potential include multi-mineral explorer Summit Resources Ltd – who operates in a joint venture with Valhalla Uranium/Resolute Mining on the Valhalla Deposit. Pure uranium player, Deep Yellow Ltd, has their exploration in three different states of Australia as well as South Africa.

Company Locale

Domestic and International Operations

Besides their operating activities, uranium companies are also classified according to their operation locale. Company activities are both Commonwealth and State/Territory regulated. While the Commonwealth manages the general regulation in terms of environmental protection and export controls, the States and Territories administer daily mining operation and approval processes³. Different states will have different sets of regulation, therefore providing different levels of incentives for business and investment.

Activity	NSW	VIC	WA	QLD	SA	NT	TAS
Exploration	x	x	✓	✓	✓	✓	✓
Production	x	x	x	x	✓	✓	✓

⁴ Bakers Investment Group Research Data

Australian Uranium

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Figure 2: Australian States and Territory legislation on mining development

Source: *Australian's Uranium industry*, Mallesons Stephen Jaques

For example, South Australia and Northern Territory are strong proponents of uranium mining, declaring their attitude of, "open for business"¹. In South Australia, Olympic Dam is undergoing a three-stage expansion that will increase production from 4000 to 19,000 tons per annum³. The two states together with Tasmania allow both the exploration and production of uranium. Meanwhile, Western Australia and Queensland only permit exploration and Victoria and NSW do not allow any uranium exploration or mining (Fig 2). This could explain why majority of uranium players have their sites in South Australia and Northern Territory.

In overseas operations, the Australia cohort is widely seen as most active in Africa, especially Namibia and South Africa. This region, being known for having considerably economic uranium resources, provides many investment incentives to uranium companies. For example, Namibia provides clear cut land ownership and attractive taxation and royalty fees for foreign companies⁵ and South Africa has built up infrastructure in place that promotes the country to be one of the major uranium players in the world⁶.

In summary, Australia's uranium market is characterised by a few big producers and a large group of explorers. Different operation locales provide different implications for the business. Due to the domestic regulations, most companies have their domestic operations in favorable States and Territories such as the Northern Territory and South Australia. In addition, companies are expanding their presence in overseas markets to take advantage of

other nations' natural resource blessings, including infrastructure and mining-friendly governments. Meanwhile, the recent changes to Australian policy has opened up more opportunities for the industry's players. Australia, known for its abundant resources, is well positioned to make itself the world uranium leader.

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⁵ "Follow the yellow cake road", <http://www.miningnewspremium.net/StoryView.asp?StoryID=11774>

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⁶ South Africa seen as pivotal source of uranium supply, http://www.miningweekly.com/article.php?a_id=110948

Australian Uranium

Bakers Research Note

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