



AUSTRALIA'S URANIUM INDUSTRY

Worldwide, nuclear power accounts for around 15 per cent of total electricity generation and Australia's uranium industry plays an important part in the global electricity market. In 2010-11 Australia exported 6,950 tonnes (t) of uranium oxide (U_3O_8) valued at \$610 million.

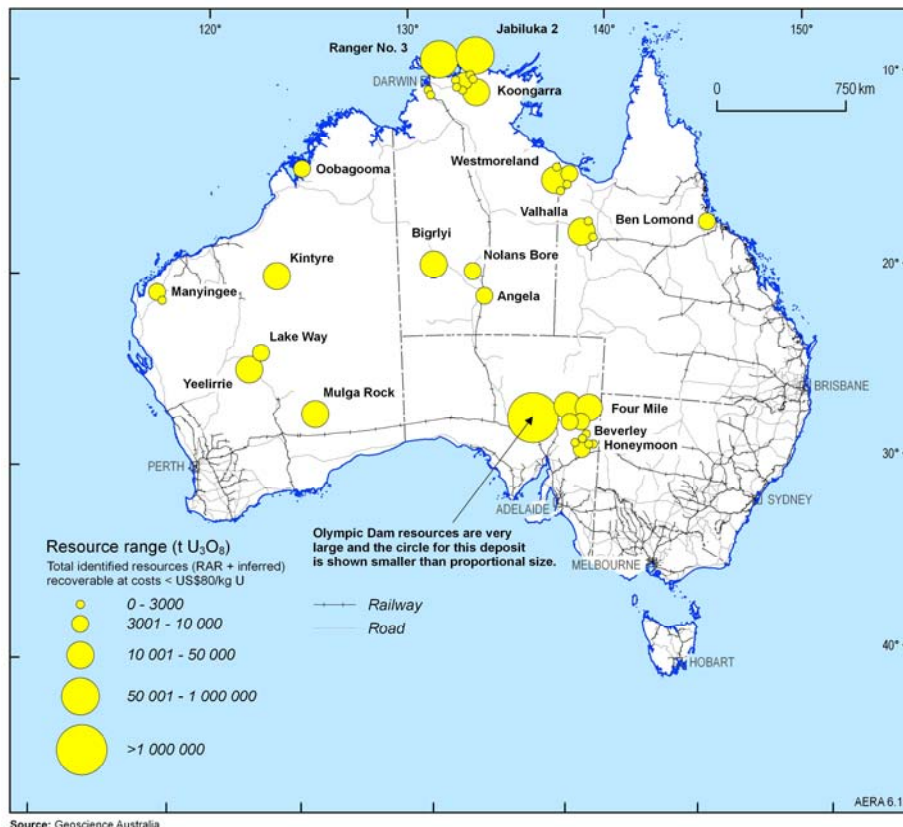
Australian policy is that Australian uranium can only be sold to countries with which Australia has a nuclear cooperation agreement, to make sure that countries are committed to peaceful uses of nuclear energy. They must also have safeguards agreements with the International Atomic Energy Agency (IAEA), including an Additional Protocol.

Australia's uranium exports also support global efforts to address climate change by avoiding the further production of significant quantities of greenhouse gas emissions. According to the Australian Academy of Sciences, 10,000t of Australian uranium exports replaces the generation of 400 million t of CO_2 from conventional power sources.

Uranium reserves

Australia has the largest share of uranium resources globally, with 33% of the world's reasonably assured resources recoverable at costs less than US\$130/kg of uranium. Given our large resources and reputation as a secure long-term supplier, Australia is well placed to capitalise on any expansion of the global nuclear power industry. Maps of Australia's uranium deposits and highly prospective regions are available through [Geoscience Australia](http://www.ga.gov.au).

Identified Uranium Resources – March 2010





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Uranium mines

The Australian Government supports the development of a sustainable Australian uranium mining sector in line with world's best practice environmental and safety standards.

Australia currently has four operating mines – the Olympic Dam, Beverley and Honeymoon mines in South Australia and the Ranger mine in the Northern Territory. Honeymoon is Australia's newest mine, having commenced production in late 2011.

Numerous expansions and new projects are set to come online in the medium term. For example, the proposed multi-billion dollar expansion of the Olympic Dam mine has the potential to make it the world's largest uranium mine. On 1 May 2012 work commenced on the decline which will allow the operator of Ranger, Energy Resources of Australia, to begin underground exploration of the 'Ranger 3 Deeps' ore body. The Beverley mine is currently extending operations after the discovery of two new deposits in the project area, and several uranium prospects in South Australia and Western Australia are expected commence in the next few years. Western Australian projects alone are forecast to produce a joint 5000t U₃O₈ per annum by 2014.

Uranium production

In 2011 Australia remained a significant producer of uranium worldwide.

Australia's production of uranium in 2010-11 was 6,950t U₃O₈. The Bureau of Resources and Energy Economics (BREE) estimates production to 13,500t U₃O₈ by 2016-17 and up to 25,000t U₃O₈ by 2030 due to Western Australian mines coming online in the short term and the possible Olympic Dam Expansion.

Australia's uranium is used in civilian nuclear power reactors in the United States of America, Japan, France, United Kingdom, Finland, Sweden, South Korea, China, Belgium, Spain, Canada and Taiwan.

Benefits from uranium mining

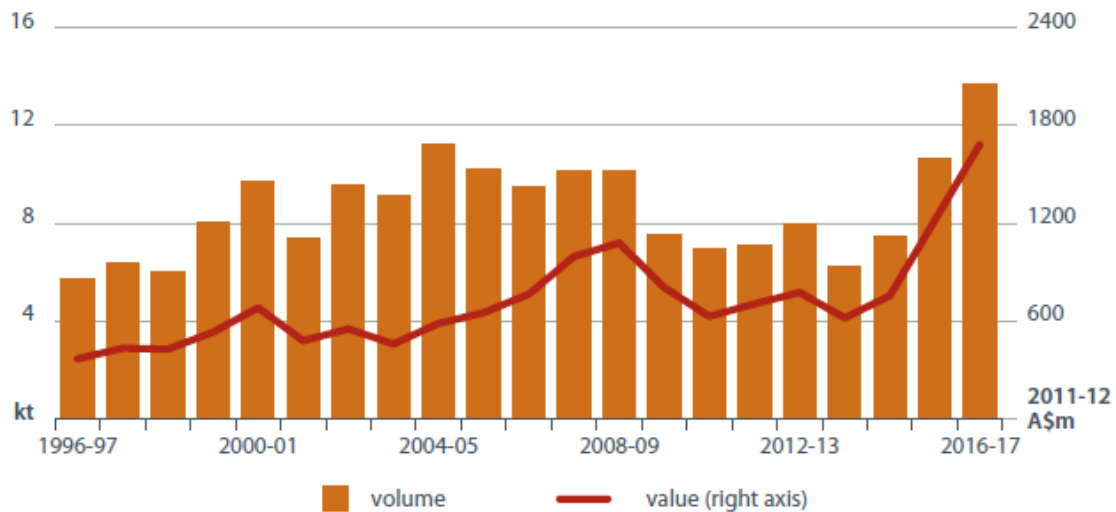
The current operational uranium mines employ approximately 4,200 people, mostly in remote areas of Australia where there are not abundant employment opportunities.

Uranium mining also generates significant revenue through royalty payments to traditional land owners and the respective state/territory government. The Commonwealth also generates revenue through the collection of company taxes.



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Australia's Uranium Exports



Source: BREE, ABS.

Uranium Price Forecasts

The uranium spot price averaged around US\$57 a pound for 2011, an increase of 20 per cent from 2010. In 2011, the spot price peaked at US\$73 a pound in January before dropping by 30 per cent to a low of US\$49 a pound in response to reactor closures in Japan and Germany that followed the Fukushima incident in March. However, with demand remaining high in other countries, particularly due to the start up of new reactors in China, India and the Republic of Korea, the uranium price stabilised in the second half of 2011, averaging around US\$52 a pound.

Between 2013 and 2017, uranium prices are projected to increase, as growth in consumption is projected to exceed growth in production. World uranium consumption is projected to increase, supported by the start up of a large number of reactors, particularly in emerging economies. Consumption of nuclear energy is expected to remain robust in countries such as the US and France.

By 2017 the uranium price is projected to reach around US\$69 a pound (in 2012 dollars), representing an average annual increase of 3 per cent in real terms.

Quarterly Uranium Price



Sources: BREE; The Ux Consulting Company, LLC <http://www.uxc.com/>



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Australian Government
Department of Resources
Energy and Tourism

International Nuclear Energy

As of April 2012, there were 435 operable nuclear reactors world wide¹. The strong demand for uranium as an energy resource is expected to grow with the global expansion of nuclear power. Many countries are adopting the use of nuclear power for the following reasons:

- the relative cost competitiveness of nuclear power versus the alternatives;
- security of supply and independence from fossil fuel energy imports;
- diversity of domestic electricity production and reduction in volatility arising from input fossil fuel costs; and
- reduction in greenhouse gasses and subsequent effects on global climate.

Projected new nuclear capacity worldwide 2013-17

Country	New reactors	New capacity (GWe)
Argentina	1	690
Brazil	1	1 340
Bulgaria	2	2 100
Canada	3	2 160
China	44	48 000
Chinese Taipei	2	2 600
Finland	1	1 600
France	2	3 500
India	10	8 400
Japan	1	1 400
Pakistan	2	680
Romania	2	1 440
Republic of Korea	6	7 400
Russian Federation	16	16 400
Slovakia	2	880
Ukraine	2	2 000
US	4	8 000
Total	101	108 590

Source: *World Nuclear Association*

Australian mines face increasing global competition as uranium exports in places such as Kazakhstan and Africa continue to grow. While secondary supply sources have played a significant role in the past, it is expected these will decrease following the completion of the US-Russian Federation Highly Enriched Uranium (HEU) feed deal. Apart from primary mine production, uranium can be sourced from spent nuclear fuel, downblended HEU from nuclear weapons, mixed oxide fuels and surplus stockpiles worldwide.

¹ World Nuclear Association: 'World Nuclear Power Reactors & Uranium Requirements'
<http://www.world-nuclear.org/info/reactors.html>



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Over the past few years 8,000t of uranium a year has been supplied through the US-Russia arrangement. Mine production is not initially projected to increase at a rate that can offset lower secondary supplies. Australia is well placed to make a greater contribution to meeting the projected increase in global demand for uranium because of its low cost uranium resources, development potential, strong record as a reliable supplier and skilled workforce.

As of April 2012, 62 nuclear power reactors are under construction and 160 are on order or planned. Influences on nuclear energy include the United States, with the recent announcement of the first reactor approval since the Three Mile Island incident in 1979; the United Kingdom where the Government has made a firm commitment to the future of nuclear energy; and Finland, Sweden and France, which have in place advanced strategies for radioactive waste management and disposal. This is in addition to an increasing reliance on nuclear power in some non-OECD countries.

Despite downward revisions to the expected expansion of nuclear energy due to the Fukushima incident, the International Energy Agency (IEA) still identifies it as an important portion of the future global energy mix given its low carbon emissions and contribution to energy security. Nuclear energy will play an essential role in any attempt to reduce global carbon emissions by 50 per cent by 2050.