

# URANIUM ENRICHMENT – ENRICHING AUSTRALIA?

Anti-nuclear & Clean Energy (ACE) Campaign  
Friends of the Earth, Australia  
[www.foe.org.au/anti-nuclear](http://www.foe.org.au/anti-nuclear)  
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Uranium enrichment plants can produce low-enriched uranium for power reactors, and they can produce highly-enriched uranium for nuclear weapons. Pakistan and South Africa developed their arsenals of nuclear weapons through the acquisition of enrichment technology. The Iraqi regime was pursuing uranium enrichment until its nuclear weapons program was terminated during and after the 1991 war. North Korea's nuclear weapons program – based on a uranium enrichment plant and a so-called experimental power reactor – is a source of international concern. There is enormous controversy over the current uranium enrichment program in Iran.

Former Australian Prime Minister John Howard likened a domestic uranium enrichment industry to building factories to knit garments from Aussie wool. But unlike enrichment plants, garment factories can't produce fissile material for Weapons of Mass Destruction.

We can safely assume that the Lucas Heights nuclear plant in Sydney never operated a secret knitting program. But in 1965, the Lucas Heights plant, then known as the Atomic Energy Commission, did begin a secret uranium enrichment program. It was known as the 'Whistle Project' – the idea being that workers would whistle as they walked past and studiously avoid any mention of the secret enrichment program underway in the building's basement. There is no doubt that the Whistle Project had a military agenda. In the archives of the University of New South Wales, you can find hand-written notes by the then chair of the Atomic Energy Commission, Sir Philip Baxter, in which he calculates how many nuclear weapons could be produced if the enrichment work proceeded as he hoped it would.

The enrichment work was publicly revealed in the 1967-68 Annual Report of the Atomic Energy Commission and the project proceeded in fits and starts until the incoming Hawke Labor government put an end to it in 1984.

In addition to the connection between uranium enrichment and WMD proliferation, the depleted uranium (DU) tailings waste produced in large volumes at enrichment plants can be used in munitions, such as those used by the US and NATO in Iraq, the Balkans and Afghanistan.

## Economics of enrichment in Australia

The 2006 Switkowski report stated: "The enrichment market is very concentrated, structured around a small number of suppliers in the United States, Europe and Russia. It is characterised by high barriers to entry, including limited and costly access to technology, trade restrictions, uncertainty around the future of secondary supply and proliferation concerns."

The Switkowski report concluded that "there may be little real opportunity for Australian companies to extend profitably" into enrichment and that "given the new investment and expansion plans under way around the world, the market looks to be reasonably well balanced in the medium term."

BHP Billiton's submission to the Switkowski panel stated:

*"BHP Billiton believes that there is neither a commercial nor a non-proliferation case for it to become involved in front-end processing or for mandating the development of fuel leasing services in Australia. Enrichment has massive barriers to entry – including access to technology and approvals under international protocols – and is concentrated with 4 large players: USEC, Areva, Urenco and Tenex, located within the nuclear weapon states of the United States, the United Kingdom, France and Russia respectively. ... We do not believe that conversion and enrichment would be commercially viable in Australia. ... The economics of any Australian conversion, enrichment or fabrication do not look positive, either individually or collectively. The global market is currently well supplied by services providers with strong customer relationships, economies of scale and scope, the necessary deep technological expertise and experience, solid reputations for delivery, and expansion plans in place."*

## More information:

- Briefing paper #7 @ [www.energyscience.org.au](http://www.energyscience.org.au)
- 'Enrichment: The coming oversupply', Nuclear Engineering International, 3 Nov 2009, [neimagazine.com/story.asp?sectionCode=76&storyCode=2054563](http://neimagazine.com/story.asp?sectionCode=76&storyCode=2054563)
- Greenpeace 2004 report on Silex: 'Secrets, Lies & Uranium Enrichment', [foe.org.au/sites/default/files/Silex-Greenpeace-report.pdf](http://foe.org.au/sites/default/files/Silex-Greenpeace-report.pdf)