CRITIQUE OF THE SWITKOWSKI REPORT

Dr Ziggy Switkowski headed the Howard government's Uranium Mining, Processing and Nuclear Energy Review (UMPNER), which produced a report in late 2006. The following is the summary of a critique of the Switkowski/UMPNER report prepared by the EnergyScience Coalition. The detailed critique is posted at: <www.energyscience.org.au>

The Switkowski report misses the point (Prof Jim Falk)

* The narrow terms of reference set by the federal government have restricted the Switkowski panel to a study of nuclear power, not a serious study of energy options for Australia. A body of existing research indicates that the objectives of meeting energy demand and reducing greenhouse emissions can be met with a combination of renewable energy and gas to displace coal, combined with energy efficiency measures, without recourse to nuclear power.

Economics (Dr. Mark Diesendorf)

* The Switkowski report makes questionable assumptions that are highly favourable to nuclear power. In reality, nuclear power is likely to cost more than double dirty coal power and hence even more than wind power. The report's very low estimates of the costs of nuclear electricity are achieved by means of a magician's trick.
* The report cites studies on the external costs of electricity generating technologies. The low environmental and health costs obtained are misleading, because these studies do not include the main hazards of nuclear power - the proliferation of nuclear weapons and terrorism - and most do not treat adequately the hazards of rare but devastating accidents.

CO2 emissions (Dr. Mark Diesendorf)

* The Switkowski report evades the issue of the large increases in CO2 emissions from mining and milling uranium ore as the ore grade decreases from the current high-grade to low-grade over the next few decades.

Renewable energy (Dr. Mark Diesendorf)

* The report has no basis for its claim that "Nuclear power is the least-cost low-emission technology ..." How can the Switkowski panel assert that nuclear is least cost, when it has neither performed any analysis nor commissioned any on this topic? To the contrary, wind power is a lower cost, lower emission technology in both the UK and USA and would also be lower cost in Australia. Hot dry rock geothermal power should be commercially available within a decade and is likely to be less expensive than nuclear power. So are some power stations burning biomass from existing crops and existing plantation forests.

Weapons proliferation and uranium safeguards (Prof Richard Broinowski)

* Switkowski's recommendation to expand Australian uranium exports is irresponsible in today's political climate: the international non-proliferation regime is deeply flawed, pressures exist for both vertical and horizontal nuclear weapons proliferation, and Australian nuclear materials are increasingly likely to end up in weapons programs.
* Despite statements from as high as the Prime Minister from within the current Federal Government advocating extending nuclear fuel cycle of activities in Australia, the report is correctly dismissive of the economic potential and technical capacity of Australia to participate in these, at least in the medium term.

Uranium enrichment (Prof Jim Falk)

* The Switkowski report is pessimistic about the short- to medium-term prospects for uranium conversion, uranium enrichment, fuel fabrication or spent nuclear fuel reprocessing industries to be established in Australia.
* On the issue of enrichment, the report concludes 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."

A doctor's perspective (Dr. Bill Williams)

* The report optimistically asserts that 25 nuclear reactors could give an 8-18% reduction in Australia's greenhouse gas emissions by 2050, but is silent on the vast amount of weapons-useable plutonium the reactors would produce.
* The report fails to seriously address the vulnerability of nuclear reactors to sabotage resulting in catastrophic radiation emergencies.
* The report is silent on known and quantified increased risks to workers in nuclear industry, and it is silent on multiple reported and controversial clusters of childhood cancers and congenital malformations in the vicinity of nuclear reactors.
* The report is silent on the well-documented capacity of low-level ionising radiation to injure chromosomes and the long-term genetic implications, i.e., gene pool effects and generational toxicity.
* The report fails to anticipate 'necessary' increases in the power of police and other surveillance authorities associated with a nuclear power program, in addition to

the potential for restrictions on the public's right-to-know and to resist imposition.

Uranium mining (Dr. Gavin Mudd)

* The Switkowski report fails to properly account for the increasing environmental cost of uranium mining. This includes the magnitude of mine wastes, the long-term impacts on surface water and groundwater resources, the energy costs of extraction which will invariably increase in the future for proposed mines, and the true life-cycle greenhouse emissions.
* Uranium market / nuclear power scenarios in the past have always proven to be overoptimistic, often by a large margin.
* The current "boom" in uranium exploration from 2004-2006 has not seen any new economic deposit discovered at all - only further drilling at known deposits or prospects.
* There are no "well established plans" for rehabilitation at Ranger as the mining-milling plan changes every year. Additionally, the current bond held by the Australian Government is only one-fifth of the estimated cost of full rehabilitation. For Olympic Dam, the bond held by the South Australian Government is only one-tenth of the estimated cost.
* The Beverley and Honeymoon projects are not required to rehabilitate contaminated groundwater following mining.
* Not one former Australian uranium mine site has demonstrated successful and stable long-term closure of mine wastes (tailings, waste rock and/or low grade ores).

Radioactive waste (Dr. Jim Green)

* The Switkowski report notes that 25 power reactors would produce up to 45,000 tonnes of spent nuclear fuel but is silent on the proliferation and security implications of the 450 tonnes of plutonium contained in that amount of spent fuel. That amount of plutonium would suffice for about 45,000 nuclear weapons. Neighbouring countries would be encouraged to develop a fissile material production capability.
* The Switkowski report floats the possibility of exporting spent nuclear fuel to the USA although that is at best a remote prospect. The report then ignores the inquiry's term of reference regarding importation of spent nuclear fuel and high-level nuclear waste for disposal in Australia.
* The report stresses the need for public acceptance of waste management proposals but is silent on the draconian imposition of a nuclear dump in the NT. An expanded nuclear industry in Australia would very likely result in further impositions of nuclear facilities on unwilling communities.
* A member of Switkowski's panel, Prof. Peter Johnston, has previously criticised the federal government over its incompetent handling of radioactive waste issues but there is no mention of these ongoing problems in the report.

Further comments (Dr. Jim Green)

Dr Switkowski falsely claims that: "There is no country that has moved from civilian nuclear power to nuclear weapons." In fact five of the 10 countries to have built nuclear weapons did so with crucial technical support and/or political cover from peaceful programs.

The economic claims of the 2006 Switkowski report were assessed by UNSW academic Ben McNeil in the Journal of Australian Political Economy in 2007. He concluded that "the direct and external costs of introducing nuclear energy to Australia greatly exceed those used by the [Howard] government to justify its position. ... From a marginal cost perspective, the Switkowksi report's conclusion that nuclear energy is the 'least cost low-emission baseload technology option' is particularly dubious, given that costs of other baseload options like biomass, carbon capture and storage and geothermal technologies were not reviewed. Moreover, an examination of the likely subsidies required to ensure nuclear energy viability in Australia's partially liberalised energy market suggests considerable political and economic risk in comparison to other more agile and less risky energy options."

Ben McNeil, June 2007, The Costs of Introducing Nuclear Power to Australia, Journal of Australian Political Economy #59, http://web.maths.unsw.edu.au/~bmcneil/publications/McNeil.JAPE.pdf

More information:

* EnergyScience Coalition www.energyscience.org.au
See the detailed critique of the Switkowski report, relevant briefing papers (inc. #16 on baseload power), and the 'EnergyScience in the Media' section.

* Greenpeace commissioned an expert panel to respond to the Switkowski panel:
www.greenpeace.org/australia/resources/reports/nuclear-power/more-nuclear-what-internation
and
www.greenpeace.org/australia/resources/reports/nuclear-power/panel-comment-nukes-report
Those reports can also be accessed via:
www.greenpeace.org/australia/resources/reports/nuclear-power