

Nuclear power is no solution to climate change

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The risks to human health of using uranium to provide electricity in the future provide sufficient reason not to develop a nuclear power industry. In combination, the risk of accidents at nuclear plants; releases of radioactive gases, problems disposing of nuclear waste and risks of terrorism and sabotage add up to a situation which is unacceptable for insurance companies and for the public of Australia.

A second compelling reason is that nuclear power is not as greenhouse friendly as it is made out to be. The basis on which the Australian government has put nuclear power up for consideration is that no other power source can meet base load power requirements with low greenhouse gas emissions.

The real story is that a huge amount of energy is required to produce nuclear fuel and to build nuclear power plants. Mining and enriching uranium is energy intensive, but on top of this is the huge cost and energy involved in waste disposal and the decommissioning of nuclear power plants at the end of their useful life.

Estimates reported by Dr Helen Caldicott in *Nuclear Power is Not the Answer* show that building and fuelling a nuclear power requires ten times the energy of a gas fired power station and the nuclear power plant would need to operate for ten years before it would pay off this energy debt. This calculation is based on uranium from high-grade deposits, which will largely be depleted over the next 30 years. As the industry mines lower grade ores, much more energy will be consumed in the mining and enrichment of uranium and by 2050, it is likely that nuclear power plants will produce higher greenhouse emissions than coal fired power.

If solar energy can be harnessed to produce electricity cheaper than nuclear power then surely that is enough to put an end to the nuclear debate.

A solar power station is being built in north-west Victoria, which will use photovoltaic modules to produce electricity directly from sunlight. At present, the cost of such power is more than coal, but the price of solar cells is forecast to reduce considerably over the next few years.

Another solar power project has been completed at the Liddell power station in NSW which involves solar thermal technology, where steam is produced to generate electricity.

One of the designers of this plant, Professor David Mills, says that the construction cost for a large solar thermal plant would come within the range of present coal plants. "Not in the mid range", he told the ABC 7.30 report, "but we don't have fuel costs." By comparison, nuclear power plants cost more than twice as much to build and the electricity cost is twice as much as coal fired power, according to a recent review by Ben McNeil of the University of New South Wales.

Solar thermal technology is on show in Australia at Liddell, but is now to be tested on a much larger scale in California. After 30 years trying to develop a solar industry in Australia, David Mills has moved his company to California, where serious efforts are being made to cut greenhouse emissions.

A feature of solar thermal power is that it can provide base load electricity. Unlike photovoltaic power, which only operates in sunlight, a solar thermal system can store energy as hot water for power generation during the night.

A fourth reason to reject nuclear power is that it will not help the Australian economy to buy 25 nuclear power plants at a cost of around \$4-5 billion each. We have a negative balance of payments of around \$1 billion a month at present and a much better alternative is to develop a home-grown renewable industry where wind, wave and solar power are produced with local products and the money from local jobs and taxes helps our own economy.

There is a need to start reducing greenhouse gas emissions immediately. Nuclear power is not achievable in Australia in less than 15 years and would only start to reduce greenhouse emissions ten years after the start of power production. Nuclear power is not the answer to future power needs. It has unacceptable risks, high costs and the greenhouse emissions are larger than renewable power.

Wind and solar power will become cheaper as technologies are refined and the projects become bigger. There are huge advantages of doing it ourselves, rather than paying billions of dollars to other countries for our future power.