
OPPOSING NUCLEAR POWER: PAST AND PRESENT

BRIAN MARTIN

Abstract

Nuclear power seems to be making a comeback, touted as a solution to global warming. Yet the reasons why nuclear power was rejected in most countries decades ago - waste disposal, reactor accidents, nuclear proliferation, high cost, terrorism - remain much the same. Australian opponents of nuclear power can gain insights from earlier campaigns.

In the late 1970s, nuclear power was a big issue in Australia, probably the biggest environmental issue of the period, rather like global warming today. Anti-nuclear groups sprang up across Australia, as in many other countries. There was regular media coverage. Nuclear power was one of those issues you could bring up with acquaintances, knowing they would have heard about it and probably had a viewpoint.

In the 1970s, nuclear power programmes had begun in numerous countries, with plans for massive expansion. Promoters claimed nuclear power was essential, indeed inevitable. Nuclear power was supported by the governments of all the world's largest and most powerful countries, including the United States, Soviet Union, Germany, Britain, France, China and India.

Anti-nuclear activists had other ideas, and mounted highly effective campaigns that led to the stagnation or termination of ambitious nuclear programmes in most countries (Falk 1982; Rüdig 1990), in part by increasing the cost of nuclear power through more stringent safety requirements. This can be counted as one of the great successes of grassroots action against the combined might of governments, corporations and professional experts.

Today nuclear power is again on the agenda in a number of countries - including Australia - presented as a nonpolluting alternative to fossil fuels, without emissions of carbon dioxide and therefore part of the solution to global warming. But things have not changed very much: nuclear power was promoted back in the 1960s and 1970s as a solution to the looming shortage of fossil fuels. The main change is that global warming has become seen as the most important environmental problem. The problem now is too great a reliance on fossil fuels, not a shortage.

The arguments against nuclear power are just as strong as ever: nuclear power has unacceptable risks and it is not needed. However, good arguments are not enough to determine energy policy. It is also essential to campaign. To oppose nuclear power today, it's useful to review earlier campaigns.

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Earlier Campaigns

Of these objections, nuclear accidents and disposal of long-lived radioactive waste have had the greatest public impact worldwide. In Australia, arguments about proliferation have been unusually prominent, because Australia's primary role in the nuclear fuel cycle has been export of uranium rather than building power plants.

The Australian anti-uranium movement was fairly decentralised: decisions about campaigning were made in local groups, with coordination of strategic directions and major events through national meetings and networking (Martin 1982). In the mid-1970s, the main anti-uranium groups decided, through a national consultation, on three main targets. First were trade unions, because they had the capacity to block mining and export of uranium. Second was the Labor Party, because a future Labor government would have the capacity to stop nuclear developments, and the Liberals seemed much less receptive. Third was the general public: a mobilised public opinion would be a powerful force against the nuclear option.

To achieve these goals, the main effort was at the grassroots. Some of the earliest anti-nuclear activists were trade unionists; they liaised with non-union activists to mobilise rank-and-file support. The approach to Labor was through the party membership, for example through talks at branch meetings, as well as lobbying at top levels. Some left Labor politicians played a key role in opposing uranium mining. Methods to change the public perception of nuclear power included rallies, leaflets and badges, a national signature campaign to raise awareness, talks at schools and letters to newspapers.

These efforts had remarkable success. In 1977, both the Australian Council of Trade Unions and the Labor Party adopted anti-nuclear positions. Public opinion, initially pro-uranium, shifted considerably towards opposition.

The mass media both obstructed and facilitated this change. Prior to about 1975, nuclear power was largely unquestioned: to leave a valuable mineral,

uranium, in the ground seemed incomprehensible. The mass media reflected this dominant perspective, and largely followed the cue of the government (the pro-uranium Liberal government from November 1975 on) and mining interests. Anti-nuclear activists had a difficult time breaking into the news; demonstrations were often portrayed in a negative light. But once nuclear issues were on the agenda, media coverage often aided the movement: nuclear accidents, such as at Three Mile Island, Pennsylvania in 1979, became highly newsworthy. In those days before the Internet, the alternatives to the mass media were networks. Leaflets, meetings and conversations played a big role.

The Labor Party's anti-nuclear position was strongest at the membership level and weakest at the top. After Labor was elected nationally in 1983, it did not implement its anti-uranium platform. Instead, there was the compromise of the three-mines policy. To allow no new mines besides the three existing ones was a way of balancing pro- and anti-uranium pressures within the party.

Likewise, trade union opposition to uranium mining was strongest among the rank and file and weakest at the top. Some individual unions took industrial action against uranium export, or were prepared to, but the ACTU wouldn't risk a confrontation over the government about it.

Lessons

The lessons from this era are many. Here I'll pull out a few thoughts. The greatest strength of the movement was in raising public awareness. This put a strong constraint on nuclear developments. After the government overcame resistance by Aboriginal landowners (Graves 1978), uranium mining commenced, but no other parts of the nuclear fuel cycle - uranium enrichment, nuclear power plants, spent fuel reprocessing or waste disposal - were introduced, though all were advocated.

Labour leaders were a weak link in the anti-nuclear strategy regarding the labour movement. Labor Party leaders have repeatedly tried to weaken the party's anti-nuclear stance.

This is not too surprising, considering that governments have been the key driving force behind nuclear power worldwide (Jungk 1979). Corporations have got in on the act, to be sure, but nowhere is nuclear power competitive on an open market. Nuclear programmes have either been run by governments directly or operated with massive government subsidies.

Nuclear power is centralised power, in both a physical and political sense. It allows a small number of scientific, political and economic elites to make key

decisions about energy. So it is not surprising that political leaders - including Labor Party leaders - are more sympathetic to nuclear power than party members or the general public.

Moyer (2001) developed the Movement Action Plan, an eight-stage model of social movement campaigns. One of the key insights from this model is that activists often lose heart just when they are succeeding. That's what happened with the anti-uranium campaign. Three major campaigns were planned for 1979: a boycott of the ANZ Bank, which had strong connections to uranium mining; a statement for people to sign in defiance of the laws used to approve mining, laws with draconian penalties for dissent; and promotion of nuclear-free zones. But because uranium mining commenced that year, many activists became demoralised and the campaigns fizzled. Yet anti-uranium sentiment remained high throughout the community.

Changes

After the mid 1980s, nuclear power faded from the Australian political agenda, as the world nuclear industry stalled. Uranium mining continued but there was little challenge to the status quo. Nuclear advocates could make little headway. A small band of dedicated opponents maintained the pressure against nuclear expansion. There were campaigns of mass action that, in conjunction with indigenous resistance, blocked mines at Coronation Hill and Jabiluka.

As uranium prices began rising from about 2003, proponents of nuclear power advocated it as a solution to global warming and the Australian government began taking an interest (Falk, Green and Mudd 2006). In 2006 and 2007, Prime Minister John Howard made widely reported statements in favour of nuclear power, on environmental grounds. What had changed in the interim?

Most of the problems with nuclear power are much the same as in the 1970s (ACSI 2007). Nuclear reactor accidents remain a possibility. No convincing solution to the problem of long-lived radioactive waste has been proposed. Nuclear weapons proliferation has continued to occur - notably in Pakistan and North Korea - building on facilities and expertise from civilian nuclear operations. The alternatives to nuclear power - energy efficiency and renewable energy sources, especially wind power - have been further developed and implemented, becoming commercial realities (Diesendorf 2007).

Perhaps the biggest change since the 1970s has been environmental consciousness, which has become widespread. In the 1970s, being an outspoken environmentalist was seen as radical; some scientists

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were censored or even lost their jobs for doing environmental research and teaching. Today, environmentalism is part of the mainstream. Children learn about the issues at school and stories about environmental problems are regular news items. Many corporations, rather than contesting environmental concerns, have learned how to portray themselves as green, sometimes deceptively (Beder 2002).

Ironically, this massive shift in consciousness has created an opening for nuclear power. Global warming is seen as such a serious problem that nuclear power can be presented as a solution by emphasising one narrow feature, its low level of carbon dioxide emissions, and ignoring its long catalogue of dangers and shortcomings. Even nuclear power's emission advantage is much less than it appears, because mining uranium and constructing power plants require a large amount of energy and consequent greenhouse gas emissions, an impact that will escalate as high-grade uranium ore is exhausted.

Strategy

Given this background, I now present some ideas concerning strategy against nuclear power in Australia.

Information

A crucial part of opposing nuclear power is publicising its disadvantages. These are trivialised or left unmentioned by promoters: reactor accidents, disposal of high-level waste, cancers from radon released by uranium tailings over tens of thousands of years, increased risk of terrorism, promotion of a regional nuclear arms race, economic subsidies for nuclear power, lack of insurance coverage for nuclear hazards and increased police powers impacting on civil liberties.

When, in earlier decades, the pros and cons of the nuclear option were fully canvassed in public debate, opinion shifted against nuclear power. The same is likely to occur today.

In most countries, much opposition has focused on proposed nuclear plants. Until now, local opposition has played a minimal role in the Australian debate. When in May 2006 the Australia Institute identified likely locations of nuclear power plants, this quickly generated concern: Howard was bated about a plant in his electorate.

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Imagery

Nuclear power has long been painted by its proponents as a technologically sophisticated, futuristic energy source, whereas opponents have linked it with weapons and danger. In the context of greenhouse warming, proponents have presented nuclear power as an environmental solution, with Howard saying it is clean and green. The image of an energy option is crucial, even though it may not have much relation to reality.

Another way to portray nuclear power is as risky, even radical - as a threat to lifestyles through its dangers. There is plenty of evidence to back up this picture.

Also important is the way energy efficiency and renewable energy are perceived. Critics imply they are untried and inadequate. Proponents can emphasise, correctly, that they are pragmatic, sensible, efficient and cost-effective - and perhaps that they are clever and sophisticated too.

Imagery can be used as a substitute for rational argument. Opponents of wind power - sometimes linked to nuclear interests - have attempted to portray themselves as environmentalists, concerned about noise, visual amenity and dangers to birds. This is a very selective opposition, because these groups do not campaign against fossil fuel hazards. Even so, these campaigns point to the power of images.

At one level, nuclear power is way behind in the image stakes. The radiation symbol and pictures of cooling towers are signs of dread. It is to be expected that attempts will be made to promote quite different images.

Arguments

The arguments for and against nuclear power and other energy options are the mainstay of debate. Experienced debaters become familiar with claims and counterclaims, and develop a stock of relevant examples and points. Some are complicated and not so easy to explain, such as effect of the discount rate on nuclear economics or the political barriers to energy efficiency. Others are more emotive, such as the claim that if Australia doesn't export uranium, someone else will, countered by the point that drug pushers use the same argument, or that export decisions in Australia will have a political impact worldwide.

The assumptions underlying debates are crucial. For example, critics of renewable energy say that it can never supply base-load electricity needs. The expression

'base-load electricity needs' contains the implicit assumption that such needs exist. This assumption gives a great advantage to nuclear power, because it is *only* suitable for providing base-load electricity. A contrary argument is that people need hot water, transport, pleasant temperatures in their houses, and so forth, and these can be provided by a range of measures such as housing design and solar hot water.

Experts and officials

Howard wanted to give nuclear power more credibility, so in 2006 he set up an inquiry, picked the terms of reference to exclude alternatives to nuclear power, and picked the members of the committee - led by Ziggy Switkowski - so the outcome would be predictable. This is an illustration of how expert advice and formal inquiries are likely to support government agendas. In this case the bias was a bit too obvious: opponents were fairly effective in painting the inquiry as rigged to support nuclear power.

Opponents of nuclear power are likely to have greatest success taking their case to the public and the least success in writing to politicians, lobbying, making submissions to inquiries or going to court. Formal processes are likely to be helpful only when accompanied by lots of public education and alliance-building, as in opposition to a nuclear dump in South Australia.

Looking internationally, nuclear power has been promoted by governments of all dominant persuasions, in socialist as well as capitalist countries. So it is unwise to align too closely with any political party.

Intimidation

Should plans for nuclear power ever be rolled out, they will be accompanied by measures to squash opposition: severe penalties for public servants who speak out, severe penalties for trade union bans and consumer boycotts, and severe penalties for protesters. It is possible that violent incidents - perhaps provoked - will be used to justify a crackdown.

In the face of intimidation, solidarity and courage will be needed. If enough people resist, strong measures against all of them will not be possible.

Nuclear Power as a Diversion?

If serious plans for a nuclear power plant in Australia are ever developed, and construction begun, it is safe to say that this would trigger a massive expansion of the anti-nuclear movement, which been relatively dormant for decades, drawing on strong

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latent public opposition to uranium mining and nuclear power. Australian activists would mount direct action campaigns. The boost to activism would be enormous.

Activists have courageously protested in remote locations, for example against the Roxby Downs mine and the US spy base at Pine Gap, both in Central Australia, though the logistics are complicated and the personal commitment required is large.

However, nuclear power plants have to be close to substantial population centres, otherwise too much power is lost in transmission. Many more people will be able to protest in person, and journalists will have front-row seats.

Perhaps, though, proposals for nuclear power are more about today's political agenda. By talking about nuclear power, the government appears to be responding to concerns about global warming without actually taking any of the necessary steps to reduce Australia's enormous per-capita greenhouse emissions. It indirectly helps promote a second option, carbon capture and sequestration, that allows delaying action on greenhouse. Finally, and not least, raising the nuclear issue may cause conflict within the Labor Party. To the extent that nuclear power is a distraction from the Australian government's resistance to international efforts to deal with climate change at a global level, this is another reason to keep plugging away on energy alternatives.

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Author

Brian Martin is a professor at the University of Wollongong and the author of many books and articles about nonviolence, scientific controversies, dissent, democracy and other topics.

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Nuclear power and nuclear weapons grow out of the same source: the potential of the nucleus of uranium and a few other elements to fission - in other words, to split — releasing large amounts of energy, plus neutrons to cause more fission. If this process occurs without control, the result is a nuclear explosion. If it is controlled, the resulting heat can be used to drive a turbine to produce electricity. This is nuclear power.

Weapons were developed first, in the 1940s. Beginning in the 1950s, nuclear power plants were constructed. Nuclear power was promoted as a cheap, less polluting source of virtually limitless energy. Programmes started up in countries around the world. Governments and nuclear scientists and engineers supported nuclear power.

Citizen opposition began in the 1960s and burgeoned in the 1970s. Opponents raised a number of objections to nuclear power (Elliott 1977; Hayes et al. 1977; Nader & Abbotts 1977).

- Nuclear accidents: the core of a nuclear power plant could overheat and melt down, releasing massive amounts of radioactivity.
- Waste disposal: nuclear power results in large amounts of radioactive waste, some of which remains dangerous for hundreds of thousands of years.
- Nuclear proliferation: the facilities and expertise to produce nuclear power can be readily adapted to produce nuclear weapons.
- Cost: nuclear power is very expensive.
- Nuclear terrorism: nuclear facilities could be targeted by terrorists or criminals.
- Civil liberties: the risk of nuclear accidents, proliferation and terrorism may be used to justify restraints on citizen rights.
- Uranium mining: much uranium is found on indigenous land.
- Alternatives: energy efficiency and renewable energy sources provide a viable alternative to nuclear power.