

= Anti @-@ nuclear movement in Australia =

Nuclear weapons testing , uranium mining and export , and nuclear power have often been the subject of public debate in Australia , and the anti @-@ nuclear movement in Australia has a long history . Its origins date back to the 1972 ? 73 debate over French nuclear testing in the Pacific and the 1976 ? 77 debate about uranium mining in Australia .

Several groups specifically concerned with nuclear issues were established in the mid @-@ 1970s , including the Movement Against Uranium Mining and Campaign Against Nuclear Energy (CANE) , cooperating with other environmental groups such as Friends of the Earth and the Australian Conservation Foundation . The movement suffered a setback in 1983 when the newly elected Labor Government failed to implement its stated policy of stopping uranium mining . But by the late 1980s , the price of uranium had fallen , the costs of nuclear power had risen , and the anti @-@ nuclear movement seemed to have won its case ; CANE was disbanded in 1988 .

About 2003 , proponents of nuclear power advocated it as a solution to global warming and the Australian government began taking an interest . Anti @-@ nuclear campaigners and some scientists in Australia argued that nuclear power could not significantly substitute for other power sources , and that uranium mining itself could become a significant source of greenhouse gas emissions .

As of 2014 , Australia has no nuclear power stations but Ex @-@ Prime Minister Tony Abbott supports nuclear power for Australia . As of 2015 , Australia has five uranium mines , four of which are located in South Australia . Olympic Dam (Roxby Downs) is a large underground mine , Beverley , Four Mile and Honeymoon are in @-@ situ leach mines and Ranger in an open pit mine in the Northern Territory . Uranium mined in Australia is mainly for export . Australia has no nuclear weapons or nuclear @-@ powered vessels .

= = History = =

= = = 1950s and 1960s = = =

In 1952 the Australian Government established the Rum Jungle Uranium Mine 85 kilometres south of Darwin . Local aboriginal communities were not consulted and the mine site became an environmental disaster .

Also in 1952 , the Liberal Government passed legislation , the Defence (Special Undertakings) Act 1952 , which allowed the British Government access to remote parts of Australia to undertake atmospheric nuclear weapons tests . The general public were largely unaware of the risks from the testing program , stemming from official secrecy about the testing program and the remote locations of the test sites . But as the " Ban the Bomb " movement gathered momentum in Western societies throughout the 1950s , so too did opposition to the British tests in Australia . An opinion poll taken in 1957 showed 49 per cent of the Australian public were opposed to the tests and only 39 per cent in favour . In 1964 , Peace Marches which featured " Ban the bomb " placards , were held in several Australian capital cities .

In 1969 , a 500 MW nuclear power plant was proposed for the Jervis Bay Territory , 200 km south of Sydney . A local opposition campaign began , and the South Coast Trades and Labour Council (covering workers in the region) announced that it would refuse to build the reactor . Some environmental studies and site works were completed , and two rounds of tenders were called and evaluated , but in 1971 the Australian government decided not to proceed with the project , citing economic reasons .

= = = 1970s = = =

The 1972 ? 73 debate over French nuclear testing in the Pacific mobilised several groups , including some trade unions . In 1972 the International Court of Justice in a case launched by

Australia and New Zealand , and advocated by Dr Helen Caldicott , ordered that the French cease atmospheric nuclear testing at Mururoa atoll . In 1974 and 1975 this concern came to focus on uranium mining in Australia and several Friends of the Earth groups were formed . The Australian Conservation Foundation also began voicing concern about uranium mining and supporting the activities of the grass @-@ roots organisations . Concern about the environmental effects of uranium mining was a significant factor and poor management of waste at an early uranium mine , Rum Jungle , led it to become a significant pollution problem in the 1970s . The Australian anti @-@ nuclear movement also acquired initial impetus from notable individuals who publicly voiced nuclear concerns , such as nuclear scientists Richard Temple and Rob Robotham , and poets Dorothy Green and Judith Wright .

In 1975 , Moss Cass , Minister for the Environment and Conservation , led parliamentarians and ALP branch members in expressing concerns about the effects of uranium mining . A key concern was the adverse effect that uranium mining would have on the northern Aboriginal people . Cass said : " nuclear energy creates the most dangerous , insidious and persistent waste products , ever experienced on the planet " .

The years 1976 and 1977 saw uranium mining become a major political issue , with the Ranger Inquiry (Fox) report opening up a public debate about uranium mining . Several groups specifically concerned with nuclear issues were established , including the Movement Against Uranium Mining (founded in 1976) and Campaign Against Nuclear Energy (formed in South Australia in 1976) , cooperating with other environmental groups such as Friends of the Earth (which came to Australia in 1975) and the Australian Conservation Foundation (formed in 1975) .

In November and December 1976 , 7 @,@ 000 people marched through the streets of Australian cities , protesting against uranium mining . The Uranium Moratorium group was formed and it called for a five @-@ year moratorium on uranium mining . In April 1977 the first national demonstration co @-@ ordinated by the Uranium Moratorium brought around 15 @,@ 000 demonstrators into the streets of Melbourne , 5 @,@ 000 in Sydney , and smaller numbers elsewhere . A National signature campaign attracted over 250 @,@ 000 signatures calling for a five @-@ year moratorium . In August , another demonstration brought 50 @,@ 000 people out nationally and the opposition to uranium mining looked like a potential political force .

In 1977 , the National Conference of the Australian Labor Party (ALP) passed a motion in favour of an indefinite moratorium on uranium mining , and the anti @-@ nuclear movement acted to support the Labor Party and help it regain office . However , a setback for the movement occurred in 1982 when another ALP conference overturned its anti @-@ uranium policy in favour of a " one mine policy " . After the ALP won power in 1983 , its 1984 National Conference voted in favour of a " Three mine policy " . This referred to the then three existing uranium mines in Australia , Nabarlek , Ranger and Roxby Downs / Olympic Dam , and articulated ALP support for pre @-@ existing mines and contracts , but opposition to any new mining .

In 1977 @-@ 78 , the West Australian Government , under the leadership of Charles Court , announced plans for a nuclear power reactor near Perth . 1977 was seen as the year of mass mobilization in WA , with 300 at the first anti @-@ nuclear demonstration to 9 @,@ 000 at the third protest in the inner city of Perth . Despite public protest , the WA Government selected a first site for a nuclear reactor in 1979 at Wilbinga , 70 kilometres north of Perth . Court predicted that at least another 20 nuclear power plants would be needed by the end of the century to meet rapidly growing power demand , but all of this never eventuated .

= = = 1980s and 1990s = = =

Between 1979 and 1984 , the majority of what is now Kakadu National Park was created , surrounding but not including the Ranger uranium mine . Tension between mining and conservation values led to long running controversy around mining in the Park region .

The two themes for the 1980 Hiroshima Day march and rally in Sydney , sponsored by the Movement Against Uranium Mining (MAUM) , were : " Keep uranium in the ground " and " No to nuclear war . " Later that year , the Sydney city council officially proclaimed Sydney nuclear @-@

free , in an action similar to that taken by many other local councils throughout Australia .

In the 1980s , academic critics (such as Jim Falk) discussed the " deadly connection " between uranium mining , nuclear reactors and nuclear weapons , linking Australia 's nuclear policy to nuclear proliferation and the " plutonium economy " .

In the 1980s , Australia experienced a significant growth of nuclear disarmament activism :

On Palm Sunday 1982 , an estimated 100 @,@ 000 Australians participated in anti @-@ nuclear rallies in the nation 's biggest cities . Growing year by year , the rallies drew 350 @,@ 000 participants in 1985 . The movement focused on halting Australia 's uranium mining and exports , abolishing nuclear weapons , removing foreign military bases from Australia 's soil , and creating a nuclear @-@ free Pacific . Public opinion surveys found that about half of Australians opposed uranium mining and export , as well as the visits of U.S. nuclear warships , that 72 percent thought the use of nuclear weapons could never be justified , and that 80 percent favoured building a nuclear @-@ free world .

The Nuclear Disarmament Party won a Senate seat in 1984 , but soon faded from the political scene . The years of the Hawke @-@ Keating ALP governments (1983 ? 1996) were characterised by an " uneasy standoff in the uranium debate " . The ALP acknowledged community feeling against uranium mining but was reluctant to move against the industry .

The 1986 Palm Sunday anti @-@ nuclear rallies drew 250 @,@ 000 people . In Melbourne , the seamen 's union boycotted the arrival of foreign nuclear warships .

Australia 's only nuclear energy education facility , the former School of Nuclear Engineering at the University of New South Wales , closed in 1986 .

By the late 1980s , the price of uranium had fallen , and the costs of nuclear power had risen , and the anti @-@ nuclear movement seemed to have won its case . The Campaign Against Nuclear Energy disbanded itself in 1988 , two years after the Chernobyl Disaster .

The government policy preventing new uranium mines continued into the 1990s , despite occasional reviews and debate . Following protest marches in Sydney , Melbourne and Brisbane during 1998 , a proposed mine at Jabiluka was blocked .

Also in 1998 , there was a proposal from an international consortium , Pangea Resources , to establish a nuclear waste dump in Western Australia . The plan , to store 20 per cent of the world 's spent nuclear fuel and weapons material , was " publicly condemned and abandoned " .

= = = 2000s = = =

In 2000 , the Ranger Uranium Mine in the Northern Territory and the Roxby Downs / Olympic Dam mine in South Australia continued to operate , but Nabarlek Uranium Mine had closed . A third uranium mine , Beverley Uranium Mine in SA , was also operating . Several advanced projects , such as Honeymoon in SA , Jabiluka in the Northern Territory and Yeelirrie in WA were on hold because of political and indigenous opposition .

In May 2000 there was an anti @-@ nuclear demonstration at the Beverley Uranium Mine , which involved about 100 protesters . Ten of the protesters were mistreated by police and were later awarded more than \$ 700 @,@ 000 in damages from the South Australian government .

Following the McClelland Royal Commission , a large clean @-@ up was completed in outback South Australia in 2000 , after nuclear testing at Maralinga during the 1950s contaminated the region . The cleanup lasted three years , and cost over A \$ 100 million , but there was controversy over the methods used and success of the operation .

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 . However , in June 2005 , the Senate passed a motion opposing nuclear power for Australia . Then , in November 2006 , the House of Representatives Standing Committee on Industry and Resources released a pro @-@ nuclear report into Australia 's uranium . In late 2006 and early 2007 , then Prime Minister John Howard made widely reported statements in favour of nuclear power , on environmental grounds .

Faced with these proposals to examine nuclear power as a possible response to climate change ,

anti @-@ nuclear campaigners and scientists in Australia emphasised claims that nuclear power could not significantly substitute for other power sources , and that uranium mining itself could become a significant source of greenhouse gas emissions . Anti @-@ nuclear campaigns were given added impetus by public concern about the sites for possible reactors : fears exploited by anti @-@ nuclear power political parties in the lead @-@ up to a national election in 2007 .

The Rudd Labor government elected in 2007 opposed nuclear power for Australia . The anti @-@ nuclear movement continues to be active in Australia , opposing expansion of existing uranium mines , lobbying against the development of nuclear power in Australia , and criticising proposals for nuclear waste disposal sites , the main candidate being Muckaty station in the Northern Territory .

By April 2009 , construction had begun on South Australia 's third uranium mine ? the Honeymoon Uranium Mine . In October 2009 , the Australian government was continuing to plan for a nuclear waste dump in the Northern Territory . However , there was opposition from indigenous people , the NT government , and wider NT community . In November 2009 , about 100 anti @-@ nuclear protesters assembled outside the Alice Springs parliamentary sittings , urging the Northern Territory Government not to approve a nearby uranium mine site .

== = 2010s == =

As of 2010 , Australia has no nuclear power stations and the Gillard Labor government was opposed to nuclear power for Australia . Australia has three operating uranium mines at Olympic Dam (Roxby) and Beverley ? both in South Australia 's north ? and at Ranger in the Northern Territory . Australia has no nuclear weapons . Australia operates a research reactor which produces medical radioisotopes at OPAL .

As of early April 2010 , more than 200 environmentalists and indigenous people gathered in Tennant Creek to oppose a radioactive waste dump being built on Muckaty Station in the Northern Territory .

Western Australia has a significant share of the Australia 's uranium reserves , but between 2002 and 2008 , a statewide ban on uranium mining was in force . The ban was lifted when the Liberal Party was voted into power in the state and , as of 2010 , many companies are exploring for uranium in Western Australia . One of the industry 's major players , the mining company BHP Billiton , planned to develop the Yeelirrie uranium project in a 17 billion dollar project . Two other projects in Western Australia are further advanced than BHP 's Yeelirrie , these being the Lake Way uranium project , which is pursued by Toro Energy , and the Lake Maitland uranium project , pursued by Mega Uranium . But it is unlikely that any new projects will enter active development until the market improves . As of 2013 uranium prices are very low .

As of late 2010 , there are calls for Australians to debate whether the nation should adopt nuclear power as part of its energy mix . Nuclear power is seen to be " a divisive issue that can arouse deep passions among those for and against " .

Following the March 2011 Fukushima nuclear emergency in Japan , where three nuclear reactors were damaged by explosions , Ian Lowe sees the nuclear power option as being risky and unworkable for Australia . Lowe says nuclear power is too expensive , with insurmountable problems associated with waste disposal and weapons proliferation . It is also not a fast enough response to address climate change . Lowe advocates renewable energy which is " quicker , less expensive and less dangerous than nuclear " .

Nuclear reactors are banned in Queensland and Tasmania . Uranium mining was previously prohibited in New South Wales under the Uranium Prohibition Act of 1986 , however in 2012 Premier Barry O 'Farrell amended the legislation to allow prospecting and mining of uranium in that State .

In December 2011 , the sale of uranium to India was a contentious issue . MPs clashed over the issue and protesters were marched from Sydney 's convention centre before Prime Minister Julia Gillard 's motion to remove a party ban on uranium sales to India was narrowly supported 206 votes to 185 . Long @-@ time anti @-@ nuclear campaigner Peter Garrett MP spoke against the motion .

In March 2012 , hundreds of anti @-@ nuclear demonstrators converged on the Australian headquarters of global mining giants BHP Billiton and Rio Tinto . The 500 @-@ strong march through southern Melbourne called for an end to uranium mining in Australia , and included speeches and performances by representatives of the expatriate Japanese community as well as Australia 's Indigenous communities , who are concerned about the effects of uranium mining near tribal lands . There were also events in Sydney .

A site within Muckaty Station is being considered for Australia 's low @-@ level and intermediate @-@ level radioactive waste storage and disposal facility . However , the plan is subject to a Federal Court challenge due to be heard early in 2013 .

More than 400 people joined a " Lizard 's Revenge march " to the Olympic Dam site in July 2012 . The anti @-@ nuclear activists , including Elder Kevin Buzzacott , protested against the mine expansion and the uranium industry . They say the company and the government have put short @-@ term economic gain ahead of environmental and health concerns . Organiser Nectaria Calan said police harassed protesters , demanding identification and controlling access to and from their campsite . In August 2012 , BHP Billiton announced that the expansion was being postponed indefinitely pending investigation of a " new and cheaper design " .

Historically , many prospective Australian uranium mines have been constrained by active antinuclear opposition , but state governments have now approved mine development in Western Australia and Queensland . But it is unlikely that any new projects will enter active development until the market improves . As of 2013 uranium prices are very low . Cameco placed the Kintyre project on hold until market prices improve and Paladin has stated that its project proposals (Bigriyi , Angela / Pamela , Manyingee , Oobagooma , and Valhalla / Skal) need higher uranium market prices before they can proceed . Toro wants to take the Wiluna proposal to the development phase , but has not been successful in attracting equity investors . When market prices go up again , so that mine development is justified , most projects would need at least five years to proceed to production .

As of 2013 , Prime Minister Abbott is a supporter of nuclear power , saying : " nuclear power is the only proven way of generating the base load power Australia needed without producing carbon pollution " . Abbott 's Coalition ? s Resources and Energy policy says " the Coalition will formalise the agreement to sell uranium to India " .

In 2015 , South Australian Premier Jay Weatherill announced that a Royal Commission would be held to investigate the state 's role in the nuclear fuel cycle . South Australia is currently home to four of Australia 's five uranium mines , and the possibility of the state developing nuclear power generation , enrichment and waste storage facilities have previously proven to be contentious issues . The Royal Commission comes at a time of economic contraction for South Australia , which is suffering from job losses in mining and manufacturing sectors . Immediately following the announcement of the Royal Commission , emeritus Prof. Ian Lowe suggested that the current inquiry risks retreading old ground already covered by several previous public inquiries and proposals for nuclear industrialisation . Lowe referred to the 2006 UMPNER review 's finding that substantial government subsidies would be required to support nuclear industrial development in Australia , and the 1976 @-@ 78 Ranger Uranium Environmental Inquiry (Fox Report) , which drew attention to the problems of nuclear weapons proliferation and nuclear waste . On 17 April 2015 , Lowe was selected as one of five members of the Nuclear Fuel Cycle Royal Commission Expert Advisory Committee .

= = Issues = =

The case against nuclear power and uranium mining in Australia has been concerned with the environmental , political , economic , social and cultural impacts of nuclear energy ; with the shortcomings of nuclear power as an energy source ; and with presenting a sustainable energy strategy . The most prominent adverse impact of nuclear power is seen to be its potential contribution towards proliferation of nuclear weapons . For example , the 1976 Ranger Inquiry report stated that " The nuclear power industry is unintentionally contributing to an increased risk of nuclear

war . This is the most serious hazard associated with the industry " .

The health risks associated with nuclear materials have also featured prominently in Australian anti @-@ nuclear campaigns . This has been the case worldwide because of accidents like the Chernobyl disaster , but Australian concerns have also involved specific local factors such as controversy over the health effects of nuclear testing in Australia and the South Pacific , and the emergence of prominent anti @-@ nuclear campaigners Helen Caldicott and Tilman Ruff , who are medical practitioners .

The economics of nuclear power has been a factor in anti @-@ nuclear campaigns , with critics arguing that such power is uneconomical in Australia , particularly given the country 's abundance of coal resources .

According to the anti @-@ nuclear movement , most of the problems with nuclear power today are much the same as in the 1970s . Nuclear reactor accidents still occur and there is no convincing solution to the problem of long @-@ lived radioactive waste . Nuclear weapons proliferation continues to occur , notably in Pakistan and North Korea , building on facilities and expertise from civilian nuclear operations . The alternatives to nuclear power , efficient energy use and renewable energy (especially wind power) , have been further developed and commercialised .

= = Public opinion = =

A 2009 poll conducted by the Uranium Information Centre found that Australians in the 40 to 55 years age group are the " most trenchantly opposed to nuclear power " . This generation was raised during the Cold War , experienced the anti @-@ nuclear movement of the 1970s , witnessed the 1979 partial meltdown of the Three Mile Island reactor in the USA , and the 1986 Chernobyl disaster . It was the generation which was also subject to cultural influences including feature films such as the " nuclear industry conspiracies " The China Syndrome and Silkwood and the apocalyptic Dr Strangelove . Younger people are " less resistant " to the idea of nuclear power in Australia . Analysis of opinion polls from 2012 shows a " significant decrease in favourable views of nuclear power " following the Fukushima Daiichi nuclear disaster .

Indigenous land owners have consistently opposed uranium mining and have spoken out about the adverse impact it has on their communities . The British nuclear tests at Maralinga were found to have left significant radiation hazards in land given back to the Maralinga Tjarutja people , and the issue continues to cause indigenous opposition .

= = Active groups = =

= = Individuals = =

There are several prominent Australians who have publicly expressed anti @-@ nuclear views :