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Preserving the Balance of Nature

To: Committee Secretariat
Parliament House
Canberra ACT 2600
nuclear.reps@aph.gov.au

15 November 2024

To whom it may concern

Re: INQUIRY INTO NUCLEAR POWER GENERATION IN AUSTRALIA

Thank you for this opportunity to comment on The House Select Committee on Nuclear Energy inquiry into nuclear power generation, including deployment of small modular reactors, in Australia.

INTRODUCTION

Lithgow Environment Group (**LEG**) is a not-for-profit environmental organisation established in 2005 with the principal aims of conservation, protection and enhancement of local natural environments. LEG has taken an evidence-based approach by conducting regular Water Quality, Swamp, Mine Subsidence, Threatened Species and other Monitoring to establish baseline data. LEG is also a member of the Gardens of Stone Alliance, which works for the full protection of the Gardens of Stone region.

Over the past 19 years LEG has reported numerous incidents of environmental harm which had gone unreported by industry either directly to the Environmental Protection Agency (**EPA**), the Sydney Catchment Authority; Commonwealth Department of Climate Change, Energy, Environment and Water (**DCCEEW**); NSW Department of Environment, Water, Heritage and Arts (**DEWHA**); or NSW Department of Planning & Environment, Planning Assessment Commissions (**PACs**) and/or Independent Planning Commission (**IPC**) on individual development proposals.

LEG is therefore fully aware of the inherent weaknesses of current regulatory and approval processes for industry and the deeply ingrained culture of non-compliance with environmental regulations which exists in the Lithgow area. We therefore have little faith in government assurances that a future nuclear power generation industry will be managed any more effectively and safely than the coal fired electricity generation industry was managed in the past.

LEG members therefore unanimously **oppose** a nuclear power industry both locally and in Australia.

1. SAFETY, REGULATORY AND ENFORCEMENT FRAMEWORKS

LEG members are fully aware of and have experienced the full-gambit of official government ignorance, cover-ups, denials, lies, regulatory failures etc associated with the operation of Mount Piper Power Station and former Wallerawang Power Station. The health of Lithgow residents, water quality, and environment were sacrificed for the 'greater good' of the wider NSW community.

Local residents were assured that any adverse human health and environment impacts from coal-fired power generation '*could be*' safely managed by '*rigorous regulatory/enforcement frameworks*'. However '*could be*' never translated into '*would be*' managed, '*rigorous regulation/enforcement*' became dodgy '*industry self-reporting*', and history proves that an ongoing legacy of human health and pollution issues will continue long after coal mining and coal-fired power generation has ceased.

The NSW Government cover-up included locating the only official Air Quality monitoring station in Bathurst (60km west), and relocating water scientists from Sydney Catchment Authority out of the Cocks River Catchment. Industry self-reporting then became the only official source of air and water quality data, and industry got the results they wanted and paid for. It took a huge community effort and two court cases (*Blue Mountains Conservation Society v Delta Electricity (No 3) [2011] NSWLEC 145*, and *4 Nature vs Springvale Coal Mine* edo.org.au/2017/10/06/springvale-coal-mine-case/) before the NSW Government acknowledged that there might be a problem, and took limited action.

Similarly ANSTO attempted to cover-up the well-publicised incidents at the Lucas Heights nuclear reactor in 1998, and it was only because of an ANSTO whistleblower that these issues came to light.

The very same opposition leader proposing nuclear power in Lithgow is also constantly calling for cutting of 'red and green tape', including for the very same power generation industry which failed to protect human health and the environment in the Lithgow region for generations.

Cutting 'red and green tape' for a nuclear industry is extremely risky. When things go wrong at a solar or wind farm the human health and environmental impacts are negligible. But when things go wrong at nuclear power plant located within the drinking water catchment and airshed of over 5 million people in the greater Sydney Basin, they can go very wrong. And the legacy of an accident can last for 20,000 years. No amount of government cover-ups, denials, or lies can change that.

Not only would a nuclear accident cripple Sydney's drinking water and downwind airshed, but a 30-kilometre exclusion zone similar to Chernobyl and Fukushima Daiichi would close major rail and road arteries to the west, including the Great Western Highway, Castlereagh Highway, main Western Rail Line to Perth WA, and Wallerawang to Gwabegar Rail Line – all of which are 8 kilometres or less from Mount Piper Power Station. And potentially will close those major traffic arteries for 20,000 years.

Mr Dutton cannot assure local residents or Australian's that there won't be human error, a tsunami, earthquake, terrorist attack, cyberattack, or other natural or manmade disaster. Lithgow has begun the transition towards renewable energy. We don't want nuclear energy to be part of that mix.

LEG reject claims that nuclear power plants 'will be' managed any more safely than coal-fired power plants were managed in the Lithgow region over the past 6 decades. We object to sacrificing the health and safety of current and future Lithgow residents to an unjustifiable nuclear fantasy.

2. Nuclear energy does not have a social licence

The House Select Committee may regard LEG as NIMBYs because our homes are within the 30km exclusion zone if an accident occurred at a proposed Mount Piper nuclear power plant. However we believe sufficient evidence demonstrates that nuclear energy has no social licence here or in Australia.

Nuclear power is prohibited in Australia by the *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act), and *Australian Radiation Protection and Nuclear Safety Act 1998* (ARPANS Act).

The NSW Government and all State premiers have unanimously rejected the federal Coalition's nuclear proposal, which would require lifting several state bans.

<https://www.abc.net.au/news/2024-06-19/premiers-reject-nuclear-proposal-nuclear-bans/103997020>

Lithgow City Council Mayor Maree Statham reiterated on 14 June 2024 *"More than four decades ago, this Council declared the city to be a nuclear free zone. This policy position remains in place."*

<https://www.bluemts.com.au/news/lithgow-council-says-no-to-nuclear-power-plant/?recent-news>

Blue Mountains City Council has been a nuclear free zone for decades, and reiterated its opposition to a nuclear power plant next door to the Blue Mountains World Heritage Area in June 2024.

<https://www.bmcc.nsw.gov.au/media-centre/statement-from-mayor-of-blue-mountains-0>

Energy Australia, the owners of Mount Piper Power Station, said in a public statement on 19 June 2024 *"We regularly talk energy with governments, politicians, and regulators about how to deliver the best possible energy outcomes for customers through the transition. To date, we have not discussed the use of any EnergyAustralia sites in the context of nuclear power generation."*

Community groups and residents where nuclear plants are proposed in Lithgow, Yallourn, Eraring, Bayswater, Gladstone, Biloela, and Collie have opposed nuclear power, despite the best efforts of nuclear proponents to stifle debate by holding 'invitation only' meetings that don't allow questions.

3. Water use and impacts on other water uses

Dutton's nuclear power plant proposal for the Mount Piper Power Station site assumes that because the coal-fired power station had sufficient cooling water in the past, that it will have in future.

However currently 42 ML/day of cooling water is supplied to Mount Piper PS via the Springvale Mine Water Transfer Scheme. Springvale will close sometime between 2026 and 2032, around the same time Mount Piper coal-fired power station is set to close, and that water should no longer be available.

Once extraction of the coal resource at Springvale Mine ceases, then so too should extraction of the water resource. That groundwater is vital for maintaining baseflow into local streams, to sustain threatened species such as the Giant Dragonfly and Blue Mountains Water Skink, and sustain ground water dependent ecosystems such as nationally endangered swamps in the Gardens of Stone SCA.

Underground mining below vast areas of the Lithgow catchment has fractured aquifers and reduced the volume of groundwater available to sustain streamflow. To put it simply, local streams and rivers are no longer able to convey water nor supply the volumes of water they once did pre-mining.

Government's must make it absolutely clear to proponents of nuclear energy that groundwater extraction from coal mines cannot go on indefinitely, and must stop on mine closure. Nationally endangered swamps, streams, rivers, and waterfalls that have been desiccated by coal mining must be allowed to recover post-mining, and that groundwater must remain in-situ after mining ceases.

The House Select Committee on Nuclear must familiarise itself with the true situation regarding water supplies for the former Wallerawang Power Station, and Mount Piper Power Station.

- Wallerawang Power Station sourced the majority of its cooling water from Oberon Dam and Duckmaloi Weir in the Fish River catchment (and ultimately Murray-Darling Catchment), not from the Coxs River and Sydney drinking water catchment as Mr Dutton may suggest. In 2006 Oberon Dam dropped below 30%, by 2008 to 16%, and ultimately a low of 8%, posing an acute water security risk for residents and the timber industry in Oberon, and all other water users in the catchment. Oberon is not alone. Communities that ran out of water during the 2019 drought include Guyra, Tamworth, Menindee, Bourke, and Armidale.

Oberon Dam's historic low forces emergency meeting

Friday 16 May 2008

abc.net.au/news/oberon-dams-historic-low-forces-emergency-meeting/2438340

A special meeting will be held today to discuss the record low level of the Oberon Dam.

The dam is just over 16 per cent capacity, and is expected to fall to 15 per cent within weeks.

That will trigger a 20 per cent cut to Delta Electricity's water allocation, and tougher water restrictions in Oberon.

Warwick Battye-Smith, from State Water, says the Oberon Dam is at its lowest level since 1945.

"It's not a crisis. We have a good handle on the data on the rainfall and obviously as the dam does fall we will increasingly make restrictions tighter and tighter with a view that no town will run out of water," he said.

The Lithgow Mercury, Tuesday November 7, 2006—3

Delta says supply secure

Story: ERYN WESTRA

Jim Henness, Chief Executive of Delta Electricity, has spoken out against claims that the worsening drought will mean Delta is unable to maintain full production from its Wallerawang and Mt Piper power stations this Summer.

Delta draws the bulk of its water from the now badly depleted Oberon Dam and from its own storages at Lake Lyell, Lake Wallace and Thompsons Creek.

It is also now utilising mine water from Springvale and Angus Place Collieries.

Mr Henness said that although prolonged drought conditions have meant levels in water storage dams have fallen, Delta Electricity is managing water resources effectively and has adequate supplies to continue electricity production.

He said that consumption entitlements from Oberon Dam are determined by the Fish River Water Supply customer council

DELTA and Lithgow Council are currently in negotiations on a bid by Delta to purchase Council's unused allocation from Oberon Dam. There is a significant stumbling block, however, as Council pays for treated water while Delta has a much lower rate for raw water. Lithgow Council is required to pay for all of its allocation (the MAQ) each year whether it is used or not. Because Lithgow utilises mine water it has fallen well short of its MAQ for years. Up to the end of September Lithgow had used only 709 megalitres of its 2094 megalitre allocation for this year.

with reference to the drought management strategy, existing use patterns and long term weather predictions.

Due to Oberon Dam's current low levels, Delta's allocation from the Oberon Dam has been reduced by 20 per cent.

In the event that the dam level falls to 30 per cent and below, the customer council is

required to set new entitlements which may see Delta's allocation reduced by a further 20 per cent.

However, Delta's annual fresh water usage has been reduced significantly by using mine water obtained from Springvale and Angus Place mines, Mr Henness said.

Mr Henness said that Delta would continue to monitor and blend water from its available sources while exploring several options for alternative supplies.

His comments follow claims made recently by Oberon Council General Manager, Bruce Fitzpatrick.

"People don't realise just how much water is used in cooling towers," Mr Fitzpatrick said.

"Power stations try to recycle water as much as they can, but a lot turns to steam and is lost.

"... I don't know what will happen to Delta.

"I imagine it will struggle to provide electricity as it does at the moment."

- Lake Lyell was constructed in 1982 on the Coxs River to supply cooling water to Mount Piper and Wallerawang Power Stations. Lake Lyell did not spill for 12 years, from 1999 to 2011, and got as low as 17%. On 11 April 1999 inflatable rubber 'Fusegates' on top of the spillway at Lake Lyell burst. The water level in Lake Lyell suddenly dropped by around six metres, causing huge flash-flooding downstream. That large water loss coincided with the start of a decade-long drought.

A standard 1,000-megawatt nuclear reactor consumes 36.3 to 65.4 million litres per day (13.2 to 23.9 billion litres per year). A World Economic Forum paper states that water consumption for nuclear power is 2,870 to 3,270 litres per megawatt-hour (l/MWh), far thirstier than coal (1,220 to 2,270 l/MWh) and gas (700 to 1,200 l/MWh).

According to a report prepared by Dr Ian Rose for the Queensland Government, evaporatively-cooled large coal-fired power plants use around 1,850 to 2,000 l/MWh whereas evaporatively-cooled nuclear power plants use around 25% more water, or around 2,300 l/MWh.

Water consumption per megawatt-hour for solar PV and wind power is near-zero.

Dry (gas) cooling is used in only a handful of operating reactors worldwide. Four of these – the last remaining gas-cooled reactors in the UK – are due to shut down by the end of the decade. The UK has closed all 28 of its Magnox gas-cooled reactors. France has closed all of its 10 UNGG gas-cooled reactors. Dry cooling is rarely used because it decreases operating efficiency and increases costs.

On the basis of worldwide experience, lessons for Australia include the following:

- Huge cooling water requirements for nuclear reactors severely limit non-coastal siting options.
- For coastal sites, the impact on marine life can be severe even during routine operations.
- Nuclear accidents can have devastating impacts (e.g. the devastation of the fishing industry in the Fukushima region of Japan following the 2011 nuclear disaster).
- It is highly unlikely that dry cooling would be an option for nuclear reactors.
- The growth of renewable energy in Australia has been, and will continue to be, dominated by energy sources with negligible water requirements: solar PV, wind power, and pumped hydro.

Cooling water for a nuclear power plant at Mount Piper is not secure without significantly affecting other water uses, including the timber industry in Oberon which provides 800 full-time equivalent jobs <https://www.oberonaustralia.com.au/living-working-in-oberon/industry-and-employment>.

Mount Piper power station currently provides about 250 jobs, a nuclear plant probably the same.

Climate change will result in more frequent and severe droughts, exacerbating water security issues.

4. Salinity pollution from cooling tower blowdown

The coalition is misleading the community by claiming that nuclear power plants are clean, green, non-polluting, and the only emissions are steam from the cooling towers.

All thermoelectric power plants, coal-fired or nuclear, require 'cooling tower blowdown' that creates large volumes of highly saline brine up to four times saltier than seawater which must be disposed of. In freshwater catchments like the Coxs River this salt waste has already created a lasting legacy.

We are not just referring to common table-salt (sodium chloride), but salts of Arsenic, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium, and Zinc - with associated heavy metal pollution issues for the Coxs River.

Blue Mountains Conservation Society Inc v Delta Electricity 2011 was based on the discharge from Wallerawang Power Station No. 8 Cooling Tower Blowdown Drain ('Tortuous Watercourse') into the Coxs River. Delta finally admitted to polluting waters in breach of the POEO Act, and specified maximum limits for aluminium, arsenic, boron, copper, zinc, fluoride, nickel, and salt in its EPL.

The Sydney Catchment Audit's 2010 and 2019 included Case Studies of the Upper Coxs River, and identified increasing salinity as a major issue. Salinity more than doubled in Lake Wallace from around 600 $\mu\text{S}/\text{cm}$ in 2006 to 1330 $\mu\text{S}/\text{cm}$ in 2018. Salinity at Western Coal Services LDP1 adjacent Mount Piper Ash Repository increased 6-fold from 1200 $\mu\text{S}/\text{cm}$ in 2006 to 7,780 $\mu\text{S}/\text{cm}$ in 2018.

Both Wallerawang and Mount Piper Power Station Coal-ash repositories (where highly saline brine is dumped) are built on top of a network of underground coal mine tunnels. Toxic leachate from Kerosene Vale Ash Repository (KVAR) has long been known to have filled old Newcom Colliery workings. Energy Australia finally conceded in 2017 that Mount Piper Ash Repository was leaching into underground mine workings of the old Wallerawang Colliery and Neubeck's Creek. All attempts to address this problem have so far been unsuccessful (eg. salt interception borehole trials).

The Committee must consider the cumulative impacts of salt disposal for a further 50+ years in the upper Coxs River catchment from a nuclear power plant, in addition to huge tonnages of salt already dumped by Wallerawang Power Station since 1957, and Mount Piper Power Station since 1992.

Dumping another 50+ years of salt waste into an already saturated freshwater catchment is a seriously major issue that must be addressed. Whilst technology may exist so this issue 'can be' addressed, past history tells us that it 'won't be'. Industry will claim those solutions are too hard and too expensive, and government will cave-in and resort to the usual cover-up, deny, and lie routine. Human health, aquatic life, macroinvertebrates, and the environment will be irreversibly damaged for generations.

5. Waste Management, Transport, and Storage

There are currently no operating deep underground repositories for high-level nuclear waste anywhere in the world. There is one operating deep underground repository for long-lived intermediate-level nuclear waste – the Waste Isolation Pilot Plant (WIPP) in the US state of New Mexico. However, the WIPP repository was shut for three years following a chemical explosion in an underground radioactive waste barrel in 2014, a result of inept management and inadequate regulation.

Efforts to establish national radioactive waste repositories and stores) in Australia for low and intermediate-level waste have repeatedly failed since the 1990s. Decades of failure do not inspire

confidence that far more complex high-level nuclear waste challenges from a nuclear power program (and/or a nuclear submarine program) would be responsibly managed in Australia.

Some nuclear power proponents argue that waste from a proposed nuclear power program in Australia is a non-issue since comparable facilities will be required for the AUKUS nuclear submarine program. That argument is circular and it ignores basic facts: Australia has no national facilities for nuclear waste disposal, and no country in the world has an operating repository for the disposal of high-level nuclear waste.

The Opposition leader claims that: "If you look at a 450-megawatt reactor, it produces waste equivalent to the size of a can of Coke each year." In fact, over 450 million empty Coke cans per year would be required to accommodate waste generated across the nuclear fuel cycle for the operation of one 450-megawatt reactor; excluding front-end waste (at uranium mines and enrichment plants), 367,000 empty Coke cans per year would be required; and just the spent nuclear fuel alone would require about 11,700 empty Coke cans per year.

Nuclear waste transport accidents and incidents are discussed in detail in a 2023 submission by environment groups to the Senate Environment and Communications Legislation Committee. In countries with a significant nuclear industry, nuclear waste transport accidents and incidents are commonplace. A UK government database – the Radioactive Material Transport Event Database – contains information on 1018 incidents from 1958 to 2011 (an average of 19 incidents each year) involving all forms of radioactive and nuclear materials. Of the 38 incidents in the UK in 2011 alone, 11 involved irradiated nuclear fuel flasks.

A report on 806 recorded radioactive transport incidents in the UK from 1958–2004 found that 111 involved residues including discharged irradiated nuclear fuel flasks, 101 involved irradiated fuel, and 63 involved (other) radioactive wastes.

Transport incidents are also common in France. In 2008, a French nuclear safety agency IRSN report reported radioactive transport accidents and incidents from 1999–2007. The IRSN database lists 901 transport incidents & accidents from 1999–2007 – on average 100 annually or about two per week.

There is no comparable database of radioactive transport accidents in Australia. One example of problems with the movement of radioactive waste was revealed in 1998. It was revealed that "airtight" spent fuel storage canisters at ANSTO's Lucas Heights site had been infiltrated by water – 90 litres in one case – and corrosion had resulted. When canisters were retrieved for closer inspection, three accidents took place (2/3/98, 13/8/98, 1/2/99), all of them involving the dropping of canisters containing spent fuel while trying to transport them from the 'dry storage' site to

another part of the Lucas Heights site. The public may never have learnt about those accidents if not for the fact that an ANSTO whistleblower told the local press. One of those accidents (1/2/99) subjected four ANSTO staff members to small radiation doses (up to 0.5 mSv).

Transportation of radioactive materials (including nuclear waste) also poses security risks.

6. Nuclear Enrichment Capability

The World Nuclear Association notes that *“in recent years there has been a significant surplus of world enrichment capacity”*. There is no reason to believe that companies involved in uranium enrichment, such as Orano or Urenco, would see any value in establishing an enrichment plant in Australia.

A 2020 report prepared for the NSW Cabinet by NSW Chief Scientist Hugh Durrant-Whyte noted:

"Enrichment is very unlikely to ever be undertaken in Australia due to cost, skills and non-proliferation agreements. Consequently, we will still need to send our mined uranium overseas to be enriched – and probably converted into fuel rods, which we will then need to import."

The World Nuclear Association notes that in response to Russia's 2022 invasion of Ukraine, and efforts to reduce reliance on Russia's uranium enrichment operations, Urenco is upgrading capacity at existing enrichment plants and Orano is studying possibilities to expand its enrichment capacity.

Australia has been involved in laser enrichment R&D. However it is doubtful whether laser enrichment processes will progress to commercial operations and still less likely that commercial operations would be based in Australia. In addition to the major commercial barriers, uranium enrichment is currently illegal in Australia (Australian Radiation Protection and Nuclear Safety Act 1998; Environment Protection and Biodiversity Conservation Act 1999).

Global Laser Enrichment (GLE), the exclusive worldwide licensee of SILEX technology, states that GLE was formed to develop and commercialise laser uranium enrichment technology capability in the US. GLE hopes to complete a pilot demonstration project in the US by the mid-2020s, after which a feasibility assessment will be conducted for the proposed Paducah Laser Enrichment Facility, also in the US.

7. Relevant energy infrastructure capability, including brownfield sites and Transmission lines

Australia has no capacity for uranium conversion (or deconversion), no capacity for uranium enrichment, and no capacity for fuel fabrication.

The introduction of nuclear power to Australia would require education and training of thousands of nuclear scientists, engineers etc., presumably at taxpayers' expense.

Claims that converting coal power plants to nuclear plants will be straightforward and advantageous rest on shaky foundations. Coal-to-nuclear transitions could potentially reduce nuclear costs by using some existing infrastructure at coal plants, but nuclear power would still be far more expensive than firmed renewables (renewable systems with storage capacity). No coal power plants have been repurposed as nuclear plants in the US or UK, so purported synergies and cost savings are speculative.

The claim that the renewable energy transition would require 28,000 kms of new transmission lines by 2030 is not true. The Australian Energy Market Operator's Integrated System Plan foresees around 5,000 kms by 2030, a third of which has already been built.

Most or all of the owners of the sites targeted by the federal Coalition for nuclear reactors have no interest in supporting the development of nuclear power or in selling their sites. On the contrary, they are pursuing renewable energy projects and energy storage projects.

8. Federal, State, Territory and Local Government legal and policy Frameworks

Nuclear power was made illegal in Australia under two pieces of legislation introduced under the Howard Coalition government: the *Australian Radiation Protection and Nuclear Safety Act 1998* and the *Environment Protection and Biodiversity Conservation Act 1999*.

Any government seeking to pursue nuclear power would need Senate support not only to repeal existing bans but also to pass other legislation to facilitate the development of nuclear power. NSW, Queensland, and Victoria have legislation banning nuclear power. The federal government might have legal powers to override state/territory laws banning nuclear power, although costly and protracted legal challenges could be anticipated.

A federal government attempting to introduce nuclear power would also require the political cooperation of relevant state/territory governments because of the primary role of state/territory governments in managing energy systems. Yet nuclear power is opposed by state governments in all five states targeted for nuclear reactors by the Coalition (including the incoming Queensland LNP government). With the possible exception of SA, where the Liberal opposition supports consideration of nuclear power, there is bipartisan opposition to nuclear power in the five states.

A local government level both Lithgow City Council and neighbouring Blue Mountains City Council have nuclear bans in place for many decades, and have publicly opposed Dutton's nuclear fantasy.

The Dutton Coalition has made it clear that a Coalition government would be prepared to override and ignore local community opposition.

9. Risk Management for natural disasters or any other safety concerns

Dr. Ziggy Switkowski notes that the introduction of nuclear power to Australia would involve a “non-negligible” risk of a “catastrophic failing within a nuclear system”.

Japan is still in the early stages of recovering from the 2011 Fukushima nuclear catastrophe. The human impacts have been profound, particularly for the more than 190,000 evacuees displaced by the nuclear disaster. Direct economics costs amount to many hundreds of billion dollars; if indirect economic impacts are included, this figure rises to over one trillion dollars. Likewise, Chernobyl was a trillion-dollar accident.

It is noteworthy that insurance policies from some of Australia’s major insurers, including AAMI, CGU, Allianz, QBE and NRMA contain specific text excluding coverage for nuclear disasters. None of these companies will insure homes, cars or possessions against a nuclear accident or release.

The conflict in Ukraine reminds us of the security issues that Australians would need to consider if nuclear power were to be introduced here. The Russian military’s seizure of the operating Zaporizhzhia nuclear power plant — at a time when some of the plant’s six reactors were operating — was the most dangerous incident so far. Off-site power to the Zaporizhzhia plant has been cut eight times since Russia seized control of the plant in 2022, increasing the risk of a major accident.

International Atomic Energy Agency Director-General Rafael Mariano Grossi warned in April 2024 that attacks on the Zaporizhzhia nuclear plant raise “the very real threat of a serious nuclear accident, which could have significant health and environmental consequences”.

No other energy system is as easily weaponised as nuclear power and reactors have been described as pre-deployed terrorist targets.

10. Intergenerational Equity

The above raises serious concerns about intergenerational equity. The introduction of nuclear energy into Australia by a Dutton coalition government will affect future generations for 20,000 years.

11. Potential share of total energy system mix

The Australian Energy Market Operator’s integrated system plan, a roadmap for the optimal future grid, envisages 83% renewable generation by 2030, 96% by 2040 and 98% by 2050.

Nuclear power reactors could not begin operating until the mid-2040s. Nuclear power as an option to meet the tiny fraction of electricity demand not met by renewables would be an extraordinarily expensive and unnecessarily risky option.

12. Necessary Land Acquisition

The Coalition states that it has legal advice that it can use compulsory acquisition powers to seize land for its proposed nuclear reactors.

The Howard Coalition government illegally seized control of farming land near Kimba in South Australia for a national nuclear waste dump in 2003. That land seizure was annulled following a Federal Court challenge Barngarla traditional owners in 2023. <https://www.abc.net.au/news/2023-07-18/federal-court-kimba-nuclear-waste-barngarla-decision/102613126>

13. Costs of Nuclear Power Stations on electricity affordability

Nuclear power would be uneconomic in Australia, and far more expensive than continuing to build an energy system based on renewables. Nuclear power would result in increased taxes and increased power bills. Taxpayer subsidies worth tens, perhaps hundreds of billions of dollars, would be required.

CSIRO's May 2024 GenCost report clearly demonstrates the cost advantage of firmed renewables:

- Large-scale nuclear: \$155-252 / MWh
- Small modular reactors: \$387-641 / MWh
- 90% wind and solar PV supply to the National Electricity Market including storage and transmission costs: \$100-143 / MWh

A recent report by the Institute for Energy Economics and Financial Analysis found that nuclear power would increase power bills for a four-person household by \$972 per year, and that the cost of electricity generated from nuclear reactors would be 1.5 to 3.8 times higher than the current cost of electricity generation in eastern Australia.

14. Any other relevant matter

Climate Pollution Impacts: There would be a 2.3 billion tonne increase in carbon emissions in Australia's National Electricity Market in a transition to nuclear reactors. An analysis by Solutions for Climate Australia estimates the carbon emissions produced from continuing to burn coal and, in particular, gas for Australia's electricity supply until 2052, with some nuclear reactors coming online by 2040-41.

The suppression of gridscale renewable energy, through both investment uncertainty and the federal Coalition's commitments to stop projects, would leave Australia reliant on aging, highly polluting, and increasingly unreliable coal power stations, and expensive, highly polluting gas power.

The heavy reliance on gas in this estimation highlights future emissions from the Coalition's nuclear plan. If coal closures are delayed by more than anticipated by AEMO, as regularly suggested by the federal Coalition, total emissions would be even higher than the additional 2.3 billion tonnes of carbon emissions.

Any suggestion that nuclear reactors are a solution for climate change is totally misguided as the suppression of large scale renewables and the scale up of coal and gas power would see Australia completely blow out our emissions and break our international agreements on climate change.

*The 2040-41 delivery timeline was used for the purpose of estimating emissions and not to suggest this is a feasible scenario.

Weapons proliferation: The contribution of civil nuclear power programs to nuclear weapons proliferation used to be denied by the industry. However these dual-use connections are now openly acknowledged and have become a selling point to lobby for increased taxpayer subsidies for struggling nuclear power industries in the US, the UK, France and elsewhere.

First Nations communities: Over the past 25 years successive governments have unsuccessfully tried to establish a national radioactive waste repository and store against the wishes of Traditional Owners at multiple sites, particularly in South Australia and the Northern Territory.

In 2023, Dr. Marcos Orellana, the UN Special Rapporteur on Toxics and Human Rights, visited Australia. His end of mission report noted that these struggles over proposed radioactive waste facilities have left *"a legacy of division and acrimony in the communities"* and that *"alignment of regulations with the UN Declaration on the Rights of Indigenous Peoples is a critical step in the path towards healing open wounds of past environmental injustices"*. The UN Declaration states that *"no storage or disposal of hazardous materials shall take place in the lands or territories of indigenous peoples without their free, prior and informed consent"*.

The future is renewable not radioactive: While nuclear power has been stagnant for more than 20 years, renewable energy is growing strongly around the world. In 2023, nuclear power suffered a net loss of 1.7 gigawatts (GW) capacity, while renewable additions amounted to a record 507 GW — record growth for the 22nd consecutive year. Nuclear power accounts for a declining share of global electricity generation (currently 9.2%) whereas the renewables share has grown to 30.2%. The International Energy Agency expects stunning growth in the coming years with renewables reaching 46% by 2030. Renewable energy sources currently generate over three times more electricity than nuclear reactors, and will generate five times more by the end of the decade.

CONCLUSION

The membership of Lithgow Environment Group Inc. strongly urge the House Select Committee to reject all nuclear power options for Australia, in particular for the Lithgow region which is actively seeking to transition away from coal-fired electricity generation towards a cleaner safer future for an area surrounded by National Parks.

The local community is in despair, and can't decide whether to stay or leave. This nuclear proposal comes soon after a Waste to Energy Incinerator was also proposed for the former Wallerawang Power Station site, and is still hanging in the wings for the Mount Piper Power Station site.

Lithgow has done more than its fair share contributing to the NSW and National economy. The impacts on our health and environment need time to heal. We consider that it is only fair for local residents to ask the Federal and State Government to give this area a break, let us heal, and let us transition to a cleaner and safer future.

Yours sincerely

Chris Jonkers

Vice President on behalf of

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