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## **SUBMISSION TO PARLIAMENTARY JOINT COMMITTEE**

**Inquiry into Nuclear Power generation in Australia.**

### **Submitted by**

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***We educate, advocate and work for justice, for earth and people,  
especially for those pushed to the edge.***

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The Josephite Justice Network (JJN) welcomes the opportunity to contribute to the Inquiry into Nuclear Power generation in Australia.

The submission is presented on behalf of the Josephite Justice Office, a ministry of the Sisters of St Joseph. The Josephite Justice Network (JJN) includes both vowed Sisters of St Joseph and Josephites committed to living in the spirit of our founders, Mary MacKillop and Julian Tenison Woods. We are called to respond and confront unjust systems which perpetuate discrepancies of wealth, privilege and power, and which diminish the integrity of creation. Care of Earth was a particular concern for Tenison Woods, an eminent scientist in 19<sup>th</sup> century Australia.

In all our work, we acknowledge the original custodians of the land, with whom we have worked to safeguard land.

**In the spirit of our founders and in our own contemporary concern for Earth, and for present and future generations. our submission is fundamentally opposed to any proposed nuclear power for Australia, now or in the future.** We are grateful for the research of environmental groups such as “Friends of the Earth”, and the “Australian Conservation Foundation” whose expertise, and high calibre and reputable scientific research, have assisted us in our understanding of the risks and dangers inherent in the development of the nuclear power bases being proposed by the federal Coalition.

### **PURPOSE OF INQUIRY**

The Select Committee has clearly identified the purposes of this consultation in its invitation to examine the environmental, human, technical, financial and legal implications of developing nuclear energy sites across Australia. This submission will focus on 12 areas from the terms of reference.

### **A. DEPLOYMENT TIME FRAMES**

It is a matter of major puzzlement as to why the Opposition would be making this call for nuclear power in our country, when it is now common knowledge that a nuclear power reactor could not begin operating until at least the mid 2040s. Leading scientific authorities across Australia have argued that the urgent focus must be on renewable energy transition, seeing the call of the Opposition as primarily a strategy to delay the closing down of the coal industry. In contrast to the slowness of nuclear power development, renewable energy is more expeditious and already providing employment.

The former Australian Chief Scientist Alan Finkel has succinctly pointed out: “Any call to go directly from coal to nuclear is effectively a call to delay decarbonisation of our electricity system by 20 years.”

This argument is supported by 'Energy giant AGL', recently quoted in the Sydney Morning Herald (25 September): 'Australia has reached a critical juncture in the renewable energy transition and has no time to waste on the Coalition's controversial pitch to build nuclear generators.'

Our commitment to the Paris agreement and the progress of renewable energies, especially in countries like Australia where the take-up has been accelerating, demonstrates that this is our clear and patent option

## **B. FUEL SUPPLY, AND TRANSPORT OF FUEL**

The 2020 Report to the NSW Cabinet has pointed out that most costs associated with the manufacture of fuel have little to do with the cost of uranium, but rather, much to do with enriching the fuel, and the manufacture of fuel rods, the reprocessing of spent fuel and the storage of waste."

Australia has significant uranium reserves and operating uranium mines, but no capacity for uranium conversion (or de-conversion), no capacity for uranium enrichment, and no capacity for fuel fabrication.

Nuclear transport incidents and accidents are commonplace in countries possessing a significant nuclear industry. A British study identified 806 radioactive transport incidents in the UK from 1958–2004. Australia, with no nuclear power industry, has acknowledged that there are 1 – 2 accidents occurring each year, involving the transportation of radioactive materials to and from the Lucas Heights research reactor site.

## **D. WASTE MANAGEMENT, TRANSPORT AND STORAGE**

The [inevitable problem of nuclear waste disposal](#) is without doubt one of the most critical issues of this whole debate. It places extremely serious and unnecessary burdens on both our Australian environment and on present and future generations.

JJN has long supported the efforts of some of our Josephite members in South Australia in supporting the Traditional Owners - the Adnymathanha of the Flinders Ranges and the Barngarla of the Kimba farming area - in their determined campaigns to protect country and present and future generations against the disposal and storage of low-level waste (toxic for 300 years) and intermediate-level radioactive waste (toxic for an extraordinary 10,000 years). As a result of successive campaigns which sought to politicise the selection of possible sites rather than work scientifically and with genuine community consultation, we note that Australia still has no national facility for intermediate or low level nuclear waste.

During these campaigns, both government and other promoters made much of the fact that Australia has no high-level grade nuclear waste.

**On these grounds alone, we strongly oppose this latest proposed attempt in our nation to impose nuclear energy on our country, with the inevitable reality of high-level nuclear waste, which will remain toxic and highly dangerous for an impossible to comprehend 100,000 years.**

Why do this, we ask, when, in the renewable energy sector, we note the contrast in degrees of management? A recent example of a safer clean environmental decision was the arrival in Queensland on 8 November of the NAS sodium sulphur battery. [CleanCo](#) has pointed out that ‘the stackable, modular design of the NAS sodium sulphur battery means it can expand to gigawatt scale projects. The molten salt battery uses liquid sodium and sulphur electrodes, has no risk of thermal runaway, does not use toxic chemicals and is also long lasting.’

The transportation of radioactive materials (including nuclear waste) also poses security risks with related expenses. The 60 kms [transport of reprocessed nuclear fuel rods](#) from Europe, conducted in the early hours of the morning from Port Kembla to ANSTO Lucas Heights, on the outskirts of Sydney in 2022, required 500 people including 200 police personnel and two helicopters to carry out the operation. The total cost of the project was estimated to be \$45 million, including the contract with France, equipment, staff costs, and incidentals.

## **E. WATER USE AND IMPACTS ON OTHER WATER USES**

Water consumption data is an absolutely crucial factor in the world’s driest continent, Australia. In the face of the climate crisis, accelerating environmental challenges and increasing demand for water resources, the need for informed, effective, and sustainable environmental leadership has never been more critical. As a country, Australia faces a decisive moment in safeguarding its water future. In the face of such challenges, to choose a nuclear future, with the water requirements it demands, would decimate the scarce water resources of this land.

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). In contrast, water consumption per megawatt-hour for solar PV and wind power is near-zero. This factor alone renders a nuclear future prohibitive. The proponents of nuclear power have failed to address the reality of the decreasing availability of water, and ignored the diverse needs and rights of all Australians, including First Nations Peoples, as well as water security strategies and the environmental, social, and economic implications of the challenges.

## **F. RELEVANT ENERGY INFRASTRUCTURE CAPABILITY, INCLUDING BROWNFIELD SITES AND TRANSMISSION LINES**

Coal-to-nuclear transitions could potentially reduce nuclear costs by using some existing infrastructure at existing 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 have nuclear plants in the US or the UK, so purported synergies and cost savings are speculative.

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

Additionally, the claim by promoters of nuclear power that the renewable energy transition would require 28,000 kms of new transmission lines by 2030 is simply not true. The Australian Energy Market

Operator's Integrated System Plan foresees around 5,000 kms by 2030, a third of which have already been built.

In South Australia currently, the transmission lines from Port Augusta (the proposed site for a small Nuclear Reactor,) are close to replete already with renewables. Noen Australia, on 29 October, completed the formal opening of the first stage of what will be the biggest battery in the country, the 560MWh Collie battery in Western Australia.

There is no doubt that the Australian environment is much more ideally suited to the development and expansion of renewable energy. Its potential to lead the world in both research and innovation is extensive.

## **G. FEDERAL, STATE, TERRITORY AND LOCAL GOVERNMENT LEGAL AND POLICY FRAMEWORKS**

Legal and policy frameworks are the underpinning scaffolds for the international operation of nuclear energy, and cover the specific areas of safety, security, safeguards and liability. In Australia, in 1998, nuclear power was declared to be illegal under the Australian Radiation Protection and Nuclear Safety Act 1998, and the Environment Protection and Biodiversity Conservation Act 1999 . The first Act prohibits the construction or operation of a nuclear fuel fabrication plant, nuclear power plant, enrichment plant and reprocessing facility. The second Act provides a framework for the protection of the Australian Environment. Both have proven valuable for ongoing law and policy.

In 2018, the director general of the [Radiation and Nuclear Safety Authority](#) in Finland, Petteri Tiipana, stated that, in regard to operations in nuclear medicine, "Australia has demonstrated a strong commitment to continuous improvement in nuclear and radiation safety and in regulatory oversight of facilities and activities".

This commitment is being challenged by the leader of the Opposition who has declared that a coalition government would reverse current laws and policy. Such a reversal would have serious repercussions for federal, state and territory law and policy. It would overturn what has long been regarded as a safeguarding mechanism for this country, and threaten radiation protection regulation across all jurisdictions

## **H. RISK MANAGEMENT FOR NATURAL DISASTERS OR ANY OTHER SAFETY CONCERNS**

Our members note that Japan is still in the early stages of recovering from the 2011 Fukushima nuclear catastrophe well within our living memory. 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.

Philip White from Friends of the Earth Adelaide, in his presentation to a Parliamentary Inquiry on the 18 October, 2024, made the following relevant analysis:

‘My experience in Japan’ (including at the time of the disaster) also taught me that the nuclear industry is based on a great fiction, namely that nuclear energy is completely safe. This is referred to in Japan as **the safety myth** and was the leading cause of the Fukushima nuclear disaster. The public were told repeatedly that a serious accident couldn't happen. Even after repeated smaller accidents, near misses and scandals, the nuclear industry continued to promulgate this safety myth. It chose to prioritise its bottom line over taking precautionary action, choosing not to raise the height of the Fukushima nuclear power plant's seawall, despite clear warnings from scientists that the site could be hit by a much larger tsunami than it was designed to withstand. ‘

Likewise, Chernobyl was a trillion-dollar accident. Why, we ask, would we risk such catastrophes when the alternative wind and solar sources are virtually risk free?

Nor do we have to go overseas to quote ‘safety myth’ examples. Similar assurances were also given in the 1950s and the 1960s, with Prime Ministerial permission in Australia given for the British to detonate nuclear bombs at Emu Fields and Maralinga sites in South Australia:

On the 17 June 1953, Professor L. H. Martin, Scientific Advisor to the Defence Department wrote to the Rt Hon the Prime Minister in correspondence previously classified as Top Secret. Regarding the site of the Emu Fields within the Woomera Prohibited Area, he noted that ‘on the basis of the information made available by Sir William Penney we are able to assure you that the isolation of the site of the redacted word (Totem) trials precludes any possible damage to habitation or living beings by the “shock” wave, thermal radiation, gamma rays and neutrons.’

What he believed was a consoling last paragraph immediately follows: ‘To sum up, on the basis of the information before us, we are able to assure you, Sir, that no habitations or living beings will suffer injury to health from the effects of the atomic explosions proposed for the (redacted word clearly seen Totem) trials.’

History told a different story as was unequivocally revealed at the [Royal Commission into British Tests in Australia](#) 1984-1985 with disastrous effects on country, Aboriginal people and soldiers, which continue, even to today.

It is of serious concern to us that disinformation related to the safety myth will be widely disseminated in the promotion of nuclear power in Australia. We stress that such assurances of safety in this country simply don't make it so.

Whether the discussion is about nuclear tests, nuclear disasters or accidents in transport, the fact remains: **there is no level of exposure below which there is no risk of inducing cancers.**

It is surely telling in this context (and we note with grave concern but with no surprise) that insurance policies from some of Australia's major insurers, including AAMI, CGU, Allianz, QBE and NRMA contain [specific texts excluding coverage for nuclear disasters](#). None of these will insure homes, cars or possessions against a nuclear accident or release.

For the sake of our communities and our environment, Australia should avoid the dangers of the ‘safety myth’, and of the threats of nuclear insecurity, radioactive waste and threats to water sources. It is our conviction that a future based on renewable, safe and sustainable power is the undisputed option for this country.

## **I. POTENTIAL SHARE OF TOTAL ENERGY SYSTEM**

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. With members in every State we are encouraged by reports that not only is South Australia well on track to achieve 100% renewable generation by 2027, other states including Queensland are continuing to currently install the necessary infrastructure to also achieve this.

The share of renewables, and wind and solar in particular, have been propelled to spectacular new records in New South Wales, all the more significant because this state grid is the country’s biggest, and has the largest amount of coal fired power capacity.

These records, documented by data providers, the Global Power Energy group ([GPE NEM Log](#)), occurred on Friday 8 November, 2024, and saw the share of renewables hit an instantaneous peak of 95.7% at 12.45pm (AEST), significantly higher than the previous peak of 88.8% set in December last year.

In serious contrast to this, nuclear power reactors could not even begin operating until the mid-2040s – obviously far too late. 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.

As well, small Nuclear Reactors are planned to be installed in two areas – Port Augusta SA and Collie WA. Astonishingly, this plan completely ignores the fact that small nuclear reactors do not currently exist and certainly not in any OECD country.

## **J. NECESSARY LAND ACQUISITION**

Compulsory acquisition of land for this purpose would not be the path we want for Australian democracy. It is of major concern that the Coalition has stated 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 in South Australia for a national nuclear waste dump in 2003. That land seizure was annulled following a Federal Court challenge. The political, financial and social costs of such acquisitions would be exorbitant.

## **K. COSTS OF DEPLOYING, OPERATING AND MAINTAINING NUCLEAR POWER STATIONS**

The introduction of nuclear power to Australia would require the education and training of thousands of nuclear scientists, engineers etc., presumably at taxpayers’ expense. According to the CSIRO, “nuclear power is at least twice as expensive as renewable energy, while the Clean Energy Council estimates it to be six times as expensive.” And this expense would be both economic and social.

A number of critics, including the ACTU, have warned that Dutton's proposal would [disrupt Australia's path to cheaper and cleaner energy](#), including the thousands of beneficial new jobs which are part of the federal government's plan to transform Australia into a renewable energy superpower with the [Future Made in Australia policy](#). The decrease in clean energy jobs, resulting from a shift to nuclear power, as well as employment in jobs seen as holding greater risks for workers health and safety, would inevitably prove both expensive and potentially hazardous.

Timing is also important. Workers transitioning from jobs in fossil fuel industries need secure and safe employment now, not in 20 years' time.

"Australia has so much potential to become a clean energy superpower and create thousands of jobs with the federal government's Future Made in Australia plan. Instead, we have an Opposition Leader who is obsessed with playing politics with the lives of workers and taking Australia backwards."

As a sobering current example, the [Hinkley project in the UK](#) (now costing \$89.7 billion) has faced gigantic overruns in cost and extraordinary time delays.

#### **L. THE IMPACT OF THE DEPLOYMENT, OPERATION AND MAINTENANCE OF NUCLEAR POWER STATIONS ON ELECTRICITY AFFORDABILITY**

The Coalition has made much recently about the Ontario Canada nuclear scheme and cheaper power bills. It has been no surprise perhaps to find out in later revelations that Ontario's nuclear power sector was funded with government subsidies of literally billions of dollars. This of course is taxpayers' money.

In the United States., the Carbon Free Power Project was a nuclear small modular reactor project established in 2015 and planned for full operation by 2030. It was the first and only project to receive design certification from the Nuclear Regulatory Commission, an essential step before construction can commence. Notably, In November 2023, the project was cancelled following a 56% increase in reported costs.

Challenging such costs, the CSIRO's May 2024 GenCost report indisputably 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

Perhaps in Australia, nuclear power advocates hope for an injection of private enterprise funding. Such anticipation could prove to be hollow, however, as private companies are hesitant to run the risk of losing billions of dollars in failed projects

Clearly, 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, generally estimated at \$1,000 pa. Additionally, taxpayer subsidies worth tens, perhaps hundreds of billions of dollars, would be required.

## **M. ANY OTHER RELEVANT MATTER**

### **1. WEAPONS PROLIFERATION**

As Friends of Earth argue, in this present age of world-wide conflict and violence, with resultant suffering of tens of thousands of innocent children, women and men, the dangers being posed by nuclear weapons are a reality for all of us. The threat of nuclear weapons being employed in the current conflicts across Ukraine, Gaza, Israel, and Lebanon are stark reminders of the fragility and brittleness of our world community.

Scientific researchers acknowledge that there remains a lack of robust knowledge about the relationship between the development of civilian nuclear power programs and nuclear weapons acquisition. Ongoing appeals from the UN in the past two years have emphasised that, with geopolitical tensions escalating, the risk of nuclear warfare is at the highest point it has reached in the past 50 years. World leaders reiterate that reducing and abolishing nuclear weapons is the only viable path to save humanity.

With the advantages of renewable energy clearly apparent, and the cost, delay and unknowns clearly evident, it seems the height of imprudence to pursue nuclear power at this time.

### **2. ABORIGINAL AND TORRES STRAIT ISLANDER COMMUNITIES**

On 8 August 2024, the Sisters of St Joseph commemorated the 25<sup>th</sup> Anniversary of their Letter of Apology to Aboriginal and Torres Strait Islander People. We thus renewed our commitment to value their 'deep respect for relationships with family, community, country, Earth as Mother and all living beings. We acknowledged that these are foundational values for all humanity to survive.'

As outlined above, since 1998, various Aboriginal groups have led the way in successfully protecting country for themselves and for all Australians in opposing politically based, rushed and unscientific methods/attempts to deal with the intermediate and low-level radioactive waste that Australia already has. We renew our commitment to this leadership.

We definitively endorse the UN Declaration which 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".

### **3. THE THREAT TO PACIFIC ISLAND COMMUNITIES**

Currently, the impact of the climate crisis on Pacific Islands communities is being highlighted at COP29. As has been clearly demonstrated, the Pacific Islands region has been one of the first areas across the world experiencing the impacts of the climate crisis. And notably, the small island states of the Pacific are responsible for only [0.03% of global greenhouse gas emissions](#), but are disproportionately confronted

many of the threats of the climate emergency head on. Not only are their resources and lives being threatened; the islands themselves are disappearing under severe climactic realities.

Australia is favoured to co-host COP31 in partnership with Pacific Island countries. Hosting COP31 would be an Important event in Australian history, and certainly one of the most significant. Tens of thousands of delegates could be expected for the two-week event, with a number of events held across Australia and in the Pacific Islands, and a commitment to clean energy technology.

It is hoped that, as investment shifts from fossil fuels to clean energy technologies, Australia's commitment will be to clean energy and global climate cooperation. Nuclear power cuts across such a commitment.

## CONCLUSION

We find ourselves today at a critical turning point in the history of our country. Growing polarisation across communities and among political parties, increasing mistrust in many forms of leadership, the challenges facing mainstream media, and the misinformation and disinformation being perpetrated as the bread and butter of social media, are unravelling genuine attempts to engage in serious conversation and debate. This is as true of the discussion around nuclear power as it is of the significant other challenges we face.

It is undoubtedly clear, however, that extensive scientific research of recent years has highlighted the dangers of nuclear power currently being proposed by the Coalition. It has been shown to be hazardous, slow, potentially unsafe, and bewilderingly expensive, as well as posing risks to radioactive waste and water sources.

A renewable future, on the other hand, is ideally suited to the Australian environment, and has been proven to be faster, much cheaper, more secure, and already providing employment for many workers. A commitment to clean energy, to the end of fossil fuels, to ongoing research and adaptation, and to the future we desire, must underpin our decisions for the future.

**For all these reasons, the Josephite Justice Network asserts that the future for our nation must remain renewable, not radioactive.** We urge the Government and Opposition to put aside short-term political advantage and work together to realise a better future for our country, for future generations, and indeed for the life of the planet itself..

We oppose the use of nuclear power in Australia for now and at any time in the future