

6 November 2024

House Select Committee on Nuclear Energy
Parliament House
Canberra ACT 2600
Email: nuclear.reps@aph.gov.au

To Committee Members and Secretariat,

Property Rights Australia submission – Inquiry into nuclear power generation in Australia

Property Rights Australia Inc PRA welcomes the opportunity to provide the attached submission to the inquiry. If you require clarification or further information, please contact PRA by email: pra1@bigpond.net.au or phoning PRA Board Member Jim Willmott

Yours sincerely

Dale Stiller

Acting Chair – PRA

ACTING CHAIR & VICE CHAIR – Dale Stiller | **SECRETARY** – Dixie Nott | **TREASURER** – Joanne Rea
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November 2024

PROPERTY RIGHTS AUSTRALIA SUBMISSION

to the Federal House Select Committee on Nuclear Energy's Inquiry into nuclear power generation in Australia

Recommendation:

Any future energy generation programs need to consider existing property rights and protection of productive agricultural land. Property Rights Australia PRA's policy position is to "rethink renewables" and not destabilise Australia's food production capability. PRA is very concerned about harm to landowners, biodiversity and rural communities caused by the current, rapid expansion of solar and wind renewable energy sites and transmission lines across agricultural land and natural landscapes. Rushed, poor planning and unconsidered consequences of wind and solar energy are harmful to biodiversity, landscapes, agricultural land and affected communities¹.

Government policy for the best mix of energy generation sources needs to be based on evaluated, evidence-based facts and realistic economic costings. Government policy on energy should not be swayed by sectors of the community promoting unsubstantiated information and to achieve other agendas. Energy sources such as nuclear and even gas (situated away from cropping land), use land more efficiently to generate energy compared to land area-intensive sources of wind and solar. It is timely for Australia to reconsider energy policies and include nuclear into the mix.

Responses to Inquiry Topics

Property Rights Australia Inc. PRA is a not-for profit organisation established in 2003 to protect private property owner rights in the development, introduction and administration of policies and legislation relating to management of land, water, vegetation and other natural resources.

PRA advocates for policy decisions to be based on science. Current issues pursued by PRA include vegetation management, unconventional gas, renewable energy encroachment, livestock sustainability, compulsory acquisition of land and Reef regulations.

PRA offers the following feedback to relevant inquiry topics outlined in the Resolution of Appointment.

a. deployment timeframes;

While it may take 10-12 years to construct Australia's first nuclear reactor, additional reactors could be added every few years, or even more frequently. This timeline allows for a carefully planned nuclear rollout that can help Australia achieve net zero emissions by 2050, ensuring a clean and reliable energy source for future generations.

PRA believes Australia should align the interests of the entities responsible for building, operating, and owning nuclear plants. This alignment encourages builders to complete projects as swiftly as

¹ You, K and Begg, M. 2023. Analysis of land use by variable renewable energy production by 2050. Institute of Public Affairs. <https://ipa.org.au/wp-content/uploads/2023/12/IPA-Research-Analysis-of-Renewables-Land-Use-by-2050-FINAL.pdf>

possible, while ensuring safe, efficient, and reliable operations over the long term. With strategic planning and effective regulation, Australia can avoid the cost overruns and delays that have affected other countries restarting nuclear construction in recent years.

b. fuel supply, and transport of fuel;

c. uranium enrichment capability;

d. waste management, transport and storage;

Australia already has 100 low level radioactive waste locations and one medium level radioactive waste facility at Lucas Heights in Sydney². Nuclear fuel can be reprocessed for energy generation. Conversely solar panel waste presents a significant environmental and health risk due to its cadmium and lead content, which are linked to cancer and neurological as well as cardiovascular issues. Currently, as much as 90% of end-of-life solar panels end up in landfills as toxic waste, largely due to difficulties in recycling their materials.

To keep cost of waste management and storage down Australia could look at adopting Finland's approach of constructing a long-term waste repository to minimize the amount of high-level waste stored on-site. With its vast size and geological stability, Australia has a relative advantage in identifying suitable locations for waste storage, which can help keep costs lower than in other countries with nuclear facilities.

e. water use and impacts on other water uses;

Building nuclear plants at or near existing coal plant sites would have a limited impact on the local water supply, depending on the reactor design selected. Coal plants in Australia with recirculating systems generally use about 2 litres of water per kWh, while nuclear plants worldwide typically use around 2.5 litres per kWh.

The size of future nuclear energy generation sites will be curtailed to available water at each site. Sites such as Tarong Power Station could be expanded by increasing the water source from Boondoomba Dam by raising the dam wall. Any additional impacts on landowners must be fully compensated.

f. relevant energy infrastructure capability, including brownfield sites and transmission lines;

Australian industries and cities are dependent on energy. A reliable base load energy source must be available to back up variable renewable energy VRE, otherwise power rationing is required to manage energy demand. The Federal ALP Government has recognised base load supply and have quietly backed gas to fill the supply gap.

Ideally coal power stations should be refurbished and kept going for base load supply. If coal power is superseded due to community pressure and government targets, the only viable option is nuclear power for a reliable power source.

The impact and upkeep on road networks and utilities would be less near the few nuclear energy sites compared to support networks required to service the massive land area for wind and solar

² Nuclear for Australia. 2024. https://www.nuclearforaustralia.com/about_waste

energy generation. This will especially be the case if nuclear plants are constructed on decommissioned coal power stations.

g. Federal, state, territory and local government legal and policy frameworks;

Currently there is an unbalanced regulatory framework for wind and solar renewable energy developments compared to other land uses such as agriculture. Wind and solar development sites are code assessable (under Queensland's *Planning Act 2016*) and exempt from state government legislation such as the *Vegetation Management Act 1999*, *Nature Conservation Act 1992* and Reef Protection Regulations 2019.

There is no provision in Queensland's methodology for annual assessment of woody vegetation clearing rates to distinguish between clearing for renewable energy developments from clearing for grazing or other agricultural uses³. This is concerning. Each year, Queensland Government uses Statewide Landcover and Trees Study SLATS reports to report losses in woody vegetation cover due to "human-induced land clearing". Land clearing rates is an emotive issue used by governments and activists to advocate for strengthened and restrictive native vegetation management laws. There is risk that land clearing for renewables will be unfairly attributed to farming host properties, which could result in further laws to diminish farming property rights and effective woody landscape management.

Wind turbine development sites are clearing vast tracts and pads of woody native vegetation and ground cover, often across ridges and slopes. Soil is pushed over track edges with no obvious effort to mitigate erosion and sediment runoff. In contrast, land owners and farmers utilising the same land parcel are subject to strict regulations for land clearing (*Vegetation Management Act 1999*) and runoff affecting water quality (*Reef Protection Regulations 2019*). This is unfair government policy and regulations.

Under Queensland Government's State Code 23 for wind farm development, renewable developers are not obliged to compensate anyone not directly affected. There is no come-back for neighbours impacted by humming sounds, loss of views and not able to get adequate public liability insurance in the event fire spreads from a neighbouring property and damages the renewable development.

Regional communities are divided about renewable energy developments, with some people leaving affected communities. A recent national community impact survey⁴ facilitated by Property Rights Australia (PRA) and the National Rational Energy Network (NREN) has revealed a staggering level of scepticism and dissatisfaction among rural and regional Australians towards the current implementation of renewable energy projects. The survey, which generated 775 responses from diverse rural communities, paints a bleak picture of distrust and perceived neglect by both government and energy companies. The findings are resounding. An overwhelming 93% of respondents believe that the government has not acted in good faith in rolling out these renewable energy projects. This sentiment is echoed by nearly all who feel that government departments have failed to conduct open and transparent consultations, and an even larger portion assert that their concerns have been completely ignored.

³ Queensland Department of Environment, Science and Innovation. 2024. Statewide Landcover and Trees Study – Methodology Overview v1.2. Qld Govt, Brisbane.

https://www.qld.gov.au/data/assets/pdf_file/0033/229398/slats-methodology-overview.pdf

⁴ Property Rights Australia and National Rational Energy Network. 2024. Community Impact Survey: April-May 2024. <https://propertyrightsaustralia.org.au/community-impact-survey-april-may-2024/>

h. risk management for natural disasters or any other safety concerns;

To mitigate natural disaster risks, nuclear energy generation sites should be constructed in non-cyclone areas or built to a high cyclone rating. Sites should be selected away from potential earthquake fault lines and not near coastlines at risk of severe flooding or tsunamis.

Modern nuclear plants are built to be safe and secure and no fire risk. For example, the APR-1400 reactor design from South Korea, which is well-suited for construction in Australia, is engineered to endure ground acceleration far exceeding any recorded or anticipated Australian earthquake. In the highly unlikely case of a severe earthquake, the reactor would be safely shut down until it is confirmed safe to restart. In contrast, one in 300 wind turbines are at risk of fire and associated battery storage units for variable renewable electricity VRE are at risk of fire and toxic discharge.

i. potential share of total energy system mix;

The current renewable energy rush is very similar to how the coal seam gas CSG industry was let go like a bolting horse, more than 10 years ago. As the renewable energy percentage gets higher, the urgency for a higher increase in gas supply will become critical and extent of gas wells expanded. Again, poor planning and diminished property rights forced on landowners in the name of the greater public good.

Solar and wind provide peaks and troughs of Variable Renewable Energy VRE generation, as they only work for 25 to 30 per cent of the time. Instead of a single renewable approach, a more resilient system would have a number of reliable energy generation sources. Nuclear being one. At least 32 other major international economies use nuclear for power generation, which leads one to believe that political based arguments against nuclear in Australia are ideological and not evidence-based.

j. necessary land acquisition;

Agricultural land across Australia is a finite resource. It is an essential resource for domestic food and fibre production and international trade. Nuclear power generation requires a small area of land compared to the potential footprint of solar and wind renewables which could affect 57million to 181million hectares of Australia's landscape, which includes 15 to 50 per cent of Australia's agricultural land⁵. Land areas required for new transmission lines would be additional to these land area estimates. In stark contrast, nuclear power uses 63 times less land than solar and 27 to 823 times less land than wind turbine sites⁶.

By locating nuclear energy generation on the sites of retiring coal power stations, two other major causes of harm to landowners are minimised. The need for new transmission corridors and water source and pipeline corridors are minimised.

Existing transmission lines can be used for nuclear power, instead of installing 10,000 to 26,000km of new transmission lines required to connect wind and solar generation sites to the grid.

PRA is very concerned about the threat of wind and solar renewable energy development sites and associated battery storage units to agricultural land use and natural landscapes of Australia. For example, across Queensland, there are 316 approved, renewable energy site developments, either existing, in construction or proposed (Figure 1). The impact on biodiversity, biosecurity, agricultural productivity and aesthetic values to these affected landscapes is immense. To date, there has been

⁵ You, K and Begg, M. 2023. Analysis of land use by variable renewable energy production by 2050. Institute of Public Affairs. <https://ipa.org.au/wp-content/uploads/2023/12/IPA-Research-Analysis-of-Renewables-Land-Use-by-2050-FINAL.pdf>

⁶ Nuclear for Australia. 2024. https://www.nuclearforaustralia.com/environment_climate

no outcry from governments and natural resource management groups managing nearby pristine World Heritage Areas such as the Great Barrier Reef and Wet Tropics. Queensland's Reef Protection laws regulate farmers in Reef catchments for ground cover thresholds and mitigate nutrient and sediment runoff. Clearing mountainous ridges of native woody vegetation for wind turbines and clearing tracks and infrastructure corridors (Figure 2) does not attract the same scrutiny and imposed regulations that farmers endure. These "double standards" could be averted if all land uses were subject to the same regulations or less land-intensive energy sources such as nuclear were used instead of solely relying on wind and solar energy generation.

Figure 1: Existing, under construction and proposed renewable energy generation sites across Queensland. 316 development sites generating 84,897MW of electricity. Map excludes current energy generating sites from fossil fuels (26) and bioenergy sources (24). Details of all development sites, including power types, capacity, geographical coordinates available from Queensland Government website - <https://electricity-generation-map.epw.qld.gov.au/>

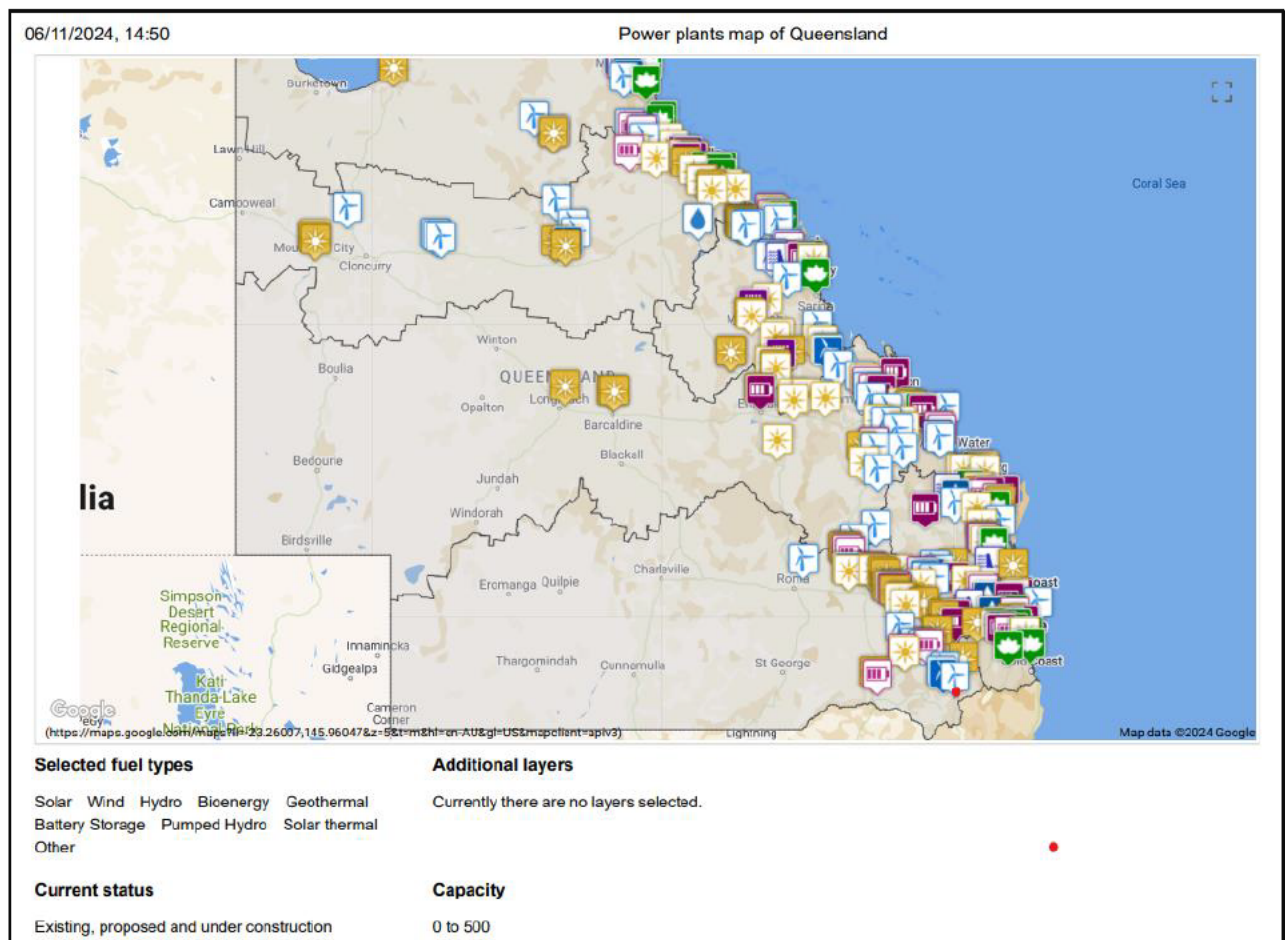


Figure 2: Wind turbine development sites are exempt from Vegetation Management and Reef Protection regulations. Vast tracts of cleared land for renewable energy projects, often across ridges and slopes, are at risk of erosion and sediment runoff. In contrast, land owners and farmers are subject to strict regulations for land clearing and runoff affecting water quality.

Nuclear power would not require vast areas of land clearing. Nuclear uses 63 times less land than solar and 27 to 823 times less land than wind turbine sites. Photo Source: Steven Nowakowski.

Clarke Creek/Connor Range. <https://www.youtube.com/watch?v=KpPJUPbHEo>



k. costs of deploying, operating and maintaining nuclear power stations;

PRA believes the cost of nuclear energy would be less than the forecasted cost of transitioning to wind and solar renewables, which is estimated at \$1.5 trillion by 2030 and up to \$9 trillion of capital investment by 2060 (or \$243billion per year)⁷. These estimates do not include approximately \$358million for the cost of recycling expired renewable materials. Australia should choose a reactor design that has proven successful in other countries. Building the first of any design tends to be very costly, so opting for a well-established model that has been constructed multiple times can help minimize expensive delays.

PRA would support, Australia focusing on the construction of larger nuclear power plants at a limited number of sites to achieve economies of scale and reduce costs. Building four or more reactors at or near existing coal power sites would allow for the reuse of water and transmission infrastructure, while distributing fixed overhead costs across a larger output, making nuclear-generated electricity more affordable.

⁷ You, K and Begg, M. 2023. Analysis of land use by variable renewable energy production by 2050. Institute of Public Affairs. <https://ipa.org.au/wp-content/uploads/2023/12/IPA-Research-Analysis-of-Renewables-Land-Use-by-2050-FINAL.pdf>

- l. the impact of the deployment, operation and maintenance of nuclear power stations on electricity affordability; and**
- m. any other relevant matter.**

Conclusion

Property Rights Australia welcomes the opportunity to provide this submission to the House Select Committee on Nuclear Energy. For any questions or further discussion on this submission, please contact PRA by email: pra1@bigpond.net.au