

Submission to the House Select Committee on Nuclear Energy

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My submission supports the adoption of nuclear power generation, including the deployment of small modular reactors, in Australia.

I would like to comment that we were previously in the electorate of Dan Repacholi MP the Chair of the house select committee on nuclear energy. I have an issue with Dan indicating in the local press, in his "Members say" published on Thursday October 2024 included the following commentary "The committee's investigation into the economic impact, community sentiments and the safety concerns will be critical". Dan has already shown his total opposition to nuclear power in the Hunter Valley and Australia. On June 27th, 2024, we received a flier authorized by Dan "STOP NUCLEAR IN THE HUNTER". The flier was designed to be misleading it included a picture of a cooling tower not a Nuclear Power Station superimposed into a rural picture including vineyards. The picture is inaccurate it is not located on the Liddell power station site, and the cooling tower is not to scale, dominating the photomontage. The flier includes commentary indicating "setting up nuclear power in Australia will be risky, expensive and take decades". The flier only gave people the opportunity to "say NO to Dutton's nuclear power plan:" without an option to say YES. Dan has shown bias in distributing the flier not giving his constituents the opportunity to support nuclear generation, any information gleaned from this survey will be misleading in the extreme and should not be relied on by the select committee. Dan indicates the nuclear plan is too expensive, compared to what? The Prime Minister has been asked on many occasions to let the families of Australia know how much the full costs of renewable transition will be; to date he has not provided this information.

Labour, The Green politicians and certain media groups use CSIRO reporting to support their case that Nuclear is too expensive. They are quick to say renewable energy is the cheapest form of electricity generation. Whilst this may be true at the source of generation it doesn't tell the full story or include all the costs associated with renewable energy including but not limited to transmission costs, battery storage, pumped hydro storage and the losses incurred in storage, duplication of facilities.

Examples of the costs that need to be fully included are:

Long duration storage for NSW. It has been announced by the NSW Government it will secure an additional "long duration storage" target of 12GWh, on top of its previous target of 16GWh. It is estimated the total costs will be \$21Billion for the 28GWh of storage. This is for infrastructure which lasts approximately 15 years and produces no power of its own. This is a capital costs of \$6million per MW just for the storage facilities and does not take into account the costs of the capital spend for the electricity generation be it wind or solar nor transmission costs. Whilst 28GWh sounds impressive the storage will only provide 3.5GW (3,500MW) for 8 hours. 3,500MW is less than the combined capacity of the Bayswater and Eraring power stations (5,520MW). It should be remembered NSW

quiet often produces over 8,000MW from its Black Coal power stations. This capacity is critical during periods of wind droughts as experienced over the East Coast of Australia including SA for a prolonged period during early winter of 2024. \$21Billion is a lot of money but it is not the full story, the NSW Taxpayers and electricity consumers will also have to pay for ongoing subsidies over their life. This is because most batteries short duration and long duration derive roughly half their revenue from power price arbitrage (subsidy). As the latter half of the 8 hours of storage is used less often, subsidies will need to be greater than for shorter duration batteries.

Transmission Line costs. It was recently announced the Central-West Orana REZ transmission line capital costs have increased from an initial modelled costs of \$650Million to the latest estimate of \$5.45Billion. This is for 90km of 500KV line and 150km of 330KV line, a total of 240km of transmission line at a cost of \$22.7Million per kilometre. The Federal Labour Government has indicated a total of 28,000km of new transmission line will be required, at what costs? The cost isn't just the sunk capital cost but the social costs, a lot of families do not want the transmission lines impacting their business's, rural properties and quality of life.

But it doesn't stop. Snowy 2.0 pumped hydro scheme was initially forecast to have a capital cost of \$2.0Billion not including the transmission line and be completed by 2021. It now has an estimated capital cost of \$12Billion plus \$10Billion for the transmission lines and a completion date of December 2028. It will have a capacity of 2,200MW for a 170hour duration. This is a capital costs of \$10Million per MW just for the storage facilities and does not take into account the costs of the capital spend for the electricity generation be it wind or solar.

Not just snowy 2.0 The now cancelled Pioneer Burdekin pumped hydro scheme when scrutinised by the new LNP Government revealed a cost blowout from \$12Billion pre-election to c\$37Billion. At 5GW of storage that is \$7.4Million per MW in capital cost to store energy for up to 5 days.

The transmission and particularly the storage of electricity incurs system losses 1MW in does not deliver 1MW out, these losses have not been accounted for.

The basic economic metric for any electricity generating plant is the levelized cost of electricity (LCOE). This is the total cost to build and operate a power plant over its lifetime divided by the total electricity output dispatched from the plant over that period, hence typically cost per megawatt hour delivered to the consumer. It takes into account the financing costs of the capital component. On a levelized basis, nuclear power is an economic source of electricity generation, combining the advantages of security, reliability and very low greenhouse gas emissions. Existing plants function well with a high degree of availability. New modern day nuclear power generation plants would have an operational life of over 60 years. This would allow for the capital costs to be capitalised over the 60 years, compared to between 20 and 25 years for wind and solar and only 15 years for batteries.

Over 30 countries have nuclear facilities at the present time, and 60 Nuclear reactors are under construction, it is clearly affordable. It is not affordable to go down the 100% renewable energy path.

There has been a lot of publicity regarding the safety of nuclear power generation in Australia by the Labour Government, the Australian press and various lobby groups as a reason not to support nuclear power. Our home is approximately 18km from the proposed Liddell power station site and my wife and I would not worry about our safety if a nuclear power plant was built on this site.

It should be noted Australia already has one functioning nuclear reactor located at Lucas Heights just 40km from the Sydney CBD. The Lucas heights nuclear reactor is located very close to family homes, has a Discovery Centre that is open to the public, a Café operates on site and there is Motel which

includes 20 accommodation units. The Lucas heights nuclear reactor opened in 1958; it has been operating for 66 years without any safety issues for the general population.

The proposed nuclear power generation sites have been located at current coal fired power station sites. This proposal eliminates the need to clear land for power generation and allows the existing infrastructure including transmission lines, distribution yards and cooling facilities to be used. The sites are strategically placed to support power distribution to Australian families and Industry. There is a readily available workforce who would be able to transition from high paying coal fired power station roles into high paying nuclear power generation roles. They would require familiarisation with the new facilities but would understand the overall requirements of the new roles.

Wind and solar power are not reliable, it's the opposite it's totally unreliable because it doesn't provide any power at all when the wind is not blowing, and the sun is not shining

Nuclear power generation is economically viable, does not produce Carbon Dioxide. Nuclear power would help meet climate change targets whilst providing continuous power supply not reliant on wind and sun.

It was reported on October 23rd, 2024, that the national energy regulator says it cannot guarantee the Albanese government's renewable energy plan will lower prices.

Whilst fronting a senate inquiry on Wednesday October 23rd, 2024, Australian Energy Market Operator (AEMO) chief executive Daniel Westerman When Asked by Nationals senator Matt Canavan if he could provide any assurance that the plan would lower power prices for Australians, Mr Westerman replied, "I can't guarantee that, no."

The AEMO's latest system plan puts a \$122bn price tag on core infrastructure needed to reach net-zero by 2050. AEMO needs to do a reality check 28GW of long-term storage in NSW at \$21Billion, Snowy 2.0 at \$22Billion, 240km of transmission line in NSW at \$5.45Billion. \$48.45Billion spent on three projects in NSW and not one bit of electricity generation included in these projects.

The House Select Committee on Nuclear Energy needs to have a serious conversation around affordable reliable electricity security for families and business. 100% renewables will not deliver the security required, for example, at 8.30am, July 1, 2024, wind power was only producing 1400MW of power 12% of the wind turbines installed capacity less than 5% of the nation's needs, and solar had hardly kicked in. Power generation in Australia needs to be balanced to meet all of the needs of sustainable clean energy production, it needs to include clean nuclear generation.

There is no room for misinformation nor for one-sided political arguments, we need a serious discussion not political ideology.

Muswellbrook Pumped Hydro Energy Storage Project Community Engagement Stalls

AGL is seeking community input on a proposed pumped hydro energy storage project at the former Muswellbrook Coal Mine site.

Local residents are invited to visit their community engagement stalls to learn about the project, ask questions, and share feedback.

Muswellbrook Fair
Thursday 14 November – 10am to 2pm
19-29 Rutherford Rd
Stall location: In front of Coles

Muswellbrook Marketplace
Thursday 21 November – 10am to 2pm
Muswellbrook Marketplace: 72-78 Brook St
Stall location: Across from Big W

Upper Hunter Markets
Sunday 24 November – 10am to 2pm
Muswellbrook Indoor Sports Centre, Rutherford Rd
Stall location: Outdoors