Minister for Energy, Renewables and Hydrogen
Minister for Public Works and Procurement

Queensland Government

Our Ref: MN05962-2023
Your Ref: A1110507

1 William Street
Brisbane Queensland
GPO Box 2457 Brisbane
Queensland 4001 Australia
Telephone +617 3719 7270
E: epw@ministerial.qld.gov.au

22 JUN 2023

Mr Neil Laurie
The Clerk of the Parliament
Queensland Parliamentary Service
Parliament House
George Street
BRISBANE QLD 4000

LAID UPON THE TABLE OF THE HOUSE
No: 5723T900
22 JUN 2023
MP: Hon. De Brenni
Clerk's Signature: S. Galbraith

Dear Mr Laurie Neil

Thank you for your letter of 25 May 2023 regarding Petition No. 3854-23 titled 'Halt pursuit of renewable energy targets through wind and solar farms'.

The Queensland Government is committed to achieving net zero emissions by 2050. To achieve this, we need to rapidly decarbonise our electricity system. The Queensland Energy and Jobs Plan (the Plan) and the Queensland SuperGrid Blueprint (the Blueprint) provide the pathway for this decarbonisation by establishing the renewable energy targets of 50% renewable by 2030, 70% renewable by 2032 and 80% renewable by 2035.

The build out of Queensland's transmission and distribution grids and renewable energy capability is essential to ensuring Queensland's significant renewable energy resources can be utilised to produce clean, green and affordable power. The 100,000 jobs expected to be produced by this transformation represents a generational opportunity for Queenslanders, particularly those located in regional communities.

Measures of capacity factors (i.e. energy generated over a period of time) are different to measures of energy efficiency (i.e. energy converted to electricity). For this reason, the calculations presented in the petition are incorrect. Capacity factors influence the energy in megawatt hours (MWh) expected to be produced over a given period (usually measured by calendar year). For example, the proposed installed capacity of renewables referenced in the petition at 5,774 megawatts (MW) can produce 5,774 MW of energy at a point in time, and not 1,905 MW as referenced in the petition.

The solution to the intermittency of wind and solar has always been to store surplus energy generation and shift its use to times when it is most needed (such as the evening after sunset), and maintain an appropriate level of dispatchable 'peaking' generation. That is why the Queensland Government is investing in large-scale, long duration pumped hydro battery energy storage and investigating additional hydrogen-ready gas generation plants through the Plan.

Nuclear energy is banned in Australia through the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* This Act states that the Commonwealth Environment Minister must not approve the construction of a nuclear power plant. It is also banned in Queensland, through the *Nuclear Facilities Prohibition Act 2007*. The Queensland Government has monitored recent inquiries and reports about the feasibility of nuclear energy

as a generation fuel source but has yet to see evidence that would prompt a revision of this prohibition policy.

Several inquiries into nuclear issues in Australia over the years have considered the potential of nuclear energy and identified key impediments to be:

- the cost of nuclear energy is significantly more than alternative forms of power generation (renewable, storage and fossil fuel). The energy generated from nuclear power stations would therefore need to be sold at a premium resulting in higher prices for energy consumers
- the potential impact of radioactive waste disposal on the environment and the health of workers and communities
- the actual and perceived risks of nuclear energy and who bears those risks
- it is significantly more difficult to deploy than renewables and has extremely long lead times
- lack of community acceptance of these risks and impacts.

Further, in 2019, the Australian Energy Market Operator assessed current large-scale nuclear power plant technology as not having sufficient flexibility to complement the increased uptake of renewable energy.

A real-world example of the significant cost and lead times of nuclear power can be seen in the United Kingdom's own Hinkley Point C project. This power station is expected to take over 16 years to develop, and since 2012, its total cost has doubled (from £16 billion to £32 billion). For context, this is equivalent to the entire $62 billion cost of delivery modelled under the Plan, and it would deliver a fraction of the required energy.

The Blueprint released in September 2022 represents the most efficient pathway for the decarbonisation of Queensland's electricity grid. Given the Queensland Government's position on nuclear energy, the Blueprint does not contemplate the development of nuclear power stations in Queensland.

I hope this information answers your enquiry and I thank the petitioners for their interest in this matter. If I can help with other matters within my portfolio, please contact my office on (07) 3719 7270.

Yours sincerely

Mick de Brenni MP
Minister for Energy, Renewables and Hydrogen
Minister for Public Works and Procurement