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Rethinking Renewables and Nuclear Power in 2025

The energy transition away from reliance on fossil fuel is struggling, using a renewable only approach. Where this is being pursued, energy costs are going up, and there is invariably a reliance on gas or imported energy from other countries, that typically comes from fossil fuel or nuclear power. Why is this happening? And what does it mean for Australia?

Economics and Ideology are at odds in energy debates around the world. Australia is not immune, as our 100% renewables pathway hits numerous roadblocks. These include:

- Cost over-runs on energy production, transmission and storage projects,
- Delays to renewables roll-out and them having inadequate capacity,
- Inadequate storage and a need rely on coal power and peaking gas plants,
- A shortage of gas due to export focus and a ban on new gas projects,
- A continued ideological objection to Australia adding nuclear energy to our energy mix,
- A lack of public acceptance of onshore wind, offshore wind, and transmission projects.

We are clearly getting a lot of things wrong. It's time to stop, consider what's happening in Australia and in other countries, and develop a new energy strategy that is best for Australians and not necessarily political parties. Here is a list of things to consider:

Locally

1. Australia has been missing renewables and storage targets despite sidestepping environmental approvals and offering incentives [1],
2. Project delays and cost overruns are impacting renewables project costs, Snowy Hydro 2.0 [2] and HumeLink are two examples [3].
3. Queensland has switched priorities from expanding wind and pumped hydropower storage, to reinstating coal power generation [4].
4. These are all indicators of problems with the National Electrical Market NEM that need to be addressed.

Internationally

1. The fastest growing economies in the world, China, Vietnam, and India, have expanded coal power station construction and output [5].
2. USA is expanding oil and gas production under Trump's "burn-baby-burn "policy, while a ban has been put on offshore wind projects [6].
3. European countries have been reassessing their energy security following the Ukraine conflict and the sabotage to Nord Stream pipelines [7].

Plans in Other Countries

The following snapshot provides context for us in Australia, based on what is going on in other similarly developed countries around the world:

- **Belgium** - has 4 nuclear reactors that were to be phased out by 2035, but this plan is on hold due to energy security concerns as a result of the Ukraine conflict [8].
- **Canada** – The government is investing in both the expansion of CANDU reactors and Small Modular Reactor SMR designs to support their existing nuclear energy capabilities [9].
- **Denmark** - doesn't have nuclear power but has three research reactors and is home to Copenhagen Atomics, one of the world's leaders in Small Modular Reactor SMR design [10].
- **France** - currently gets 70% of its electricity from nuclear power and is planning six further European Pressurised Reactors EPRs from 2038 [11].
- **Germany** - phased out nuclear power and coal and invested heavily in wind and solar. Prices have risen significantly due to a reliance on imported gas and nuclear power from France [12].
- **Hungary** - 50% of the country's power is from nuclear, and in 2024 they signed a nuclear energy cooperation agreement with China [13].
- **Italy** - plans to allow the use of nuclear power again after it was banned following Chernobyl almost 40 years ago, they intend to have a strategy in place by 2027 [14].
- **Poland** - doesn't currently have nuclear power but is to build three Westinghouse AP1000 reactors from 2026 that are expected to be operational by 2033 [15].
- **Slovakia** - nuclear power satisfies over 50% of the country's energy requirements, and together with hydropower and other renewables combined provide 85% of the country's electricity [16].
- **Spain** - planned to phase out nuclear power by 2035 but are now reassessing in light of other developments across Europe [17].
- **United Kingdom** - are planning to increase their current nuclear energy capacity fourfold from 6 GW to 24 GW by 2050 [18].

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