Submission to the House of Representatives Standing Committee on Environment and Energy

on

The current circumstances, and the future need and potential for dispatchable energy generation and storage capability in Australia

Given the necessary transition to carbon-free energy, the need for dispatchable energy is a paramount issue. Solar energy and wind energy have their limitations, but these can be largely overcome by energy storage systems such as pumped hydro and large batteries. Also, priority must be given to upgrading the grid to handle distributed energy generation and to allow energy to flow to where it is needed.

If further firming capacity is considered necessary, natural gas may be used. It must be remembered that a goal of net zero carbon emissions allows for a role for natural gas generation of electricity provided the emissions are balanced by other means such as soil carbon sequestration. The burning of natural gas must be kept to a minimum and policies must be implemented to balance the carbon emissions. Carbon capture and storage (CCS) in deep geological structures is a technology that has failed to be commercialised. While it may have a role to play in the future, it cannot be deemed a major part of the solution.

Nor can nuclear energy – it is highly expensive when fully costed and environmentally damaging. The decommissioning costs for power plants is enormous, as is the remedial cost of major accidents. Long-term storage of highly radioactive waste has not been adequately solved. A long lead time is needed for the design and construction of nuclear power plants – time that the world does not have if it is to decarbonise quickly.

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