

AEMO's Renewables Plan Just Can't Cut It

A statement by independent engineers and scientists

Expert engineers and scientists have attacked AEMO's plan for renewable energy as simply unworkable – certain to lead to energy shortages, high prices and perpetual subsidies.

They say the plan fails to provide analysis of whole-of-system, whole-of-life costs and emissions, nor a proper comparison of alternatives.

Attempting to reach Net-Zero with renewable wind and solar means much higher costs and impoverishment, especially for those on lower incomes. The renewables transformation of our electricity sector, driven by a doubtful need for Net Zero carbon emissions, is a monumental mistake.

Here are a dozen reasons why:

1. AEMO's future grid design just does not add up. Its dispatchable reserve margin guaranteeing power on demand exceeds peak demand, is deeply negative unlike the positive margins that have previously underpinned grid reliability. In fact, AEMO's recent ESOO report admits to "numerous reliability gaps".
2. Highly variable and intermittent, wind and solar are totally unsuitable for grid-scale application, which requires guaranteed power delivery to consumers when they need it. AEMO's plan fails to include enough energy storage systems, dispatchable baseload backup generators, grid stabilisation facilities and transmission lines to make the grid reliable when wind droughts occur over wide regions and solar is zero at night.
3. Renewables are not the cheapest form of electrical generation despite endless claims that this is so. The enormous costs associated with storage, backup, grid stabilization and interconnection are never counted.
4. AEMO plans to build 28,000 km of transmission lines in the faint hope that somewhere in the grid there will always be enough renewable power, if only it can be delivered to where it is needed. Consumer electricity bills already include 40% for existing transmission infrastructure – the \$35-60 billion dollars for new lines is three to five times the current investment.
5. Baseload generators run continuously at 70-80% of maximum output, surging to 100% on demand. Wind and solar average just 25-30% of their maximum output, because they are highly variable, intermittent and entirely dependent on weather. Wind and solar have the lowest productivity of any form of electricity generation.
6. To guarantee supply, renewables require either: a complete duplication of the grid with baseload plants running far below optimal economic rates; OR massive energy storage systems imposing extreme costs. Batteries are only suitable for very short term smoothing of variable outputs – a complete grid backup battery for several days capability would cost trillions of dollars and require replacement every 10 years. Expensive pumped hydro would require well over twenty times what Snowy 2.0 will provide.

7. Renewables are not zero-emission technologies, when total emissions from mining and processing of almost a thousand times more in raw materials than for baseload plants. On top of that are emissions from manufacturing, shipping, installation, maintenance and waste disposal.
8. Planned renewables pose a major environmental footprint, requiring over 2 Million hectares of land for wind farms, solar farms and transmission lines causing huge impacts to wildlife, native vegetation and agriculture. Baseload plants require a tiny fraction of that land.
9. The lack of practical and cost-effective recycling of renewables equipment, coupled with their relatively short lifetimes, threaten to cause a major toxic waste problem.
10. Renewables, supported by subsidies and preferencing, have already destabilized the economics of the grid. This has forced baseload plants to operate at progressively lower utilisation rates, thus destroying their income and return on investment and forcing them out of business – exactly as intended by government climate and energy policies.
11. As renewables come to dominate, the concentration of solar power (two thirds of planned renewables) during daytime will produce large surpluses, which cannot be sold or stored, causing financial losses to the entire renewables industry itself. The industry will collapse unless the government guarantees large subsidies in perpetuity.
12. AEMO and regulators are implementing an Orwellian Demand Side Participation scheme (both wholesale and consumer) – proof that the plan is a recipe for power shortages and blackouts. DSP shuts down businesses when shortages occur. It turns off home appliances – heaters, air conditioners and EV chargers. A residential or EV battery will be discharged into the grid.

For these reason expert engineers and scientists say AEMO's plan will cause energy prices to soar with heavy consequences for businesses, job losses, inflation and higher prices, a weak economy completely without international competitiveness and declining standards of living.

They say AEMO has apparently failed to learn from recent events in the USA, UK and Europe where wind and solar have failed to provide users with the cheap and reliable power that authorities promised.

The push by most government leaders to install mainly Chinese-manufactured wind turbines and solar panels as our primary power source is underpinned by beliefs devoid of rationality. Considerations for national security arising from future trade sanctions from China, which would make our energy system unsustainable, cannot be ignored.

Dr James Taylor, BEng Elec Hon, MSc, PhD
jamestaylor861@gmail.com