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COMMENTARY

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Broken Hill's power outage can't just be swept aside



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Broken Hill's two-week experiment in fossil-fuel-free living ended at 8.41pm local time last Thursday when its connection to the east coast grid <u>finally was restored</u>. Transgrid issued a press release thanking the community for its patience and announced that the emergency diesel generators it had trucked in would remain in place.

Three years ago, Transgrid boasted that the outback town could run on a renewable energy microgrid if the line to the outside world went down. It was so confident that it sought permission from the Australian Energy Regulator to decommission the two diesel generators installed in the early 1980s. The AER said no, a decision criticised as "really silly and perverse" by Chris Bowen, who held it up as an example of the antiquated energy market thinking he intended to fix.

"A little while ago Transgrid wanted and suggested that to help Broken Hill, they would put in a microgrid of renewable energy," the Climate Change and Energy Minister told David Speers on the ABC's Insiders in August 2022. "It was much more reliable, with much lower emissions, and they were told at that point, 'No, you've got to keep your old diesel generators running."

"It wasn't the regulator's fault ... they haven't been legally able to take into account emissions reduction, and it's been ridiculous, and we've fixed it." Bowen has yet to comment on the fortnight of rolling blackouts across the NSW far west that began when seven transmission towers collapsed on the 260km highvoltage line to Buronga.

He was not there to witness the indignity of AGL's new mega battery being recharged by diesel generators or watch the Silverton wind turbines sit idle because they weren't connected to the grid. He didn't see Broken Hill residents hunting for the off switch on their rooftop solar arrays because their fluctuating output tripped the diesel generators.

To describe the Silver City's experience as a setback for Bowen's dream of turning Australia into a nuclear-free clean energy superpower would be an understatement. <u>Broken Hill was the renewable energy industry's Potemkin village</u>, the recipient of \$650m of green investment and the proposed location for the world's biggest advanced compressed-air energy storage plant.

In 2018, Broken Hill City Council announced its goal to become Australia's first carbon-free city by 2030. Three years ago the mayor at the time, Darriea Turley, welcomed the announcement that AGL was proceeding with plans to build a grid-scale battery, which the company claimed would be a reliable backup power source for 10,000 homes.

"This is a great opportunity for Broken Hill and renewable energies," Turley told the ABC. "What they will see is when there is an outage, the battery would click into operation."

AGL had badly misled Turley and her fellow councillors. When the storm hit at about midnight local time on Wednesday, October 16, the battery clicked offline, not on. The town sat in darkness for several hours until the single operating backup diesel generator could be turned on.

AGL was not prepared to keep a \$41m battery fully charged, primed for that just-incase moment. The battery was dispatching power into the national electricity market from early evening on the day of the storm. The battery was offline for more than eight days while it was reprogrammed to feed into the local grid and recharged with rooftop solar and diesel. Silverton and the Broken Hill solar plant did not resume operation until the region was reconnected to the grid last Thursday. Turley's successor as mayor, Tom Kennedy, was pictured wielding a shovel at the soil-turning photo-op for the battery in November 2022. He told the ABC the battery closely aligned with the council's desire to see the Silver City at the forefront of renewable energy and energy storage.

Last week he told Chris Kenny on Sky News, "There's no way that renewables at this time are capable of supplying Broken Hill ... <u>The reality is it's not consistent power</u>. You don't have that baseload power, so for Broken Hill it's almost useless."

The principle lesson from Broken Hill is that a stable, consistent baseload supply produced by rotating turbines is essential for stabilising the grid's frequency and underwriting fluctuating demand. Converting DC power from wind and solar to synchronised AC current becomes harder the more renewable energy is put into the system.

Yet at the time of writing, AGL was still boasting on its website that its Broken Hill Battery Energy Storage System facility with advanced grid-forming inverters "will support the reliable supply of electricity to Broken Hill in the event of line failure and provide efficient grid support for the region".

Elsewhere it was claiming that its part-owned subsidiary was harnessing enough energy at the Silverton Wind Farm to power about 98,000 average Australian homes, while the Broken Hill Solar Farm would meet the needs of 19,000 more.

Not everyone has been as quick as Kennedy to wise up to the monstrous deception the renewable energy industry practised. Last Monday, Australia Institute research director Rod Campbell appeared before a parliamentary committee on nuclear power to argue for the rapid phasing out of fossil fuels, "which is what climate science demands". Nuclear power was a distraction, he claimed.

Campbell said he had "spent a lot of time looking at economic modelling" and concluded "the capital costs of nuclear are very high and very uncertain".

Opposition climate change and energy spokesman Ted O'Brien asked Campbell what his extensive knowledge of economic modelling had told him about the total system cost of the government's renewables-only plan.

Campbell: "I don't know. I haven't researched that."

O'Brien: "But aren't you arguing that including nuclear as part of the mix would be more expensive than that?"

Campbell: "It would be more expensive."

O'Brien: "You started off explaining that you've spent a lot of time doing modelling. So, do you know what the total system cost is for Labor's plan to get to net zero by 2050?

Campbell: "No, I've never modelled that. I've done a lot of economic modelling through my career. I haven't done much of it on the NEM itself and the ISP."

O'Brien: "How have you drawn that conclusion then?"

Campbell: "Because, as I said at the top, you don't need to do a lot of modelling to see that capital costs of nuclear energy are really high and really uncertain."

Tellingly, the Australia Institute posted a video of Campbell's testimony on YouTube, suggesting they weren't aware that he'd made a clown of himself. The anti-nuclear left is immune to contrary facts, paying homage to "the science" while disregarding the laws of physics, urging us to abandon fossil fuels by this time tomorrow while never once considering the constraints of engineering.

Nick Cater is senior fellow at the Menzies Research Centre.

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