

As the drawbacks of renewables hit home worldwide, Australia faces its own light-bulb moment

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It was on a trip to the Earthship alternative-building community in Taos, New Mexico, in 1995 that Australian battery maker Ahmed El Safty learnt first-hand the shortcomings of renewable energy. An off-grid community that has pioneered development of self-sustaining buildings made from waste tyres and rubbish, Earthships and their founder, Mike Reynolds, have a cult following around the world.

"These guys were well ahead of their time," El Safty says.

"They had solar panels on homes and forklift batteries to store the power. But we nearly missed our flight out of Albuquerque because the alarm clock didn't go off because we ran out of batteries. That was the light-bulb moment for me that we need energy storage to enable all these renewables to happen."

Through his company Zero Emissions Developments, El Safty, a former petroleum engineer with Caltex and CSR, has pioneered development of a new type of battery that lasts more than twice as long as lithium ion batteries and is fully recyclable.

But the light-bulb moment that sparked El Safty to action is now being felt on a much bigger scale right around the world.

Britain is in the grip of an energy crisis that threatens to spark a public revolt and claim the scalp of Prime Minister Boris Johnson. Germany has the world's highest electricity prices largely due to green policies that have been unable to deliver stable power, resulting in a rush back to coal. US President Joe Biden is considering suspending federal petrol taxes until January next year, fearful of the impact of rising fuel prices on the midterm elections in November this year.

Energy authorities say Australia has had an early warning of disruption from intermittent renewable energy in South Australia. The same lesson was learned in the US states of Texas and California, and has since crippled energy markets across Europe because of a widespread shortage of wind in the northern summer.

Confirmation this month that major coal-fired power stations will shut early in NSW and Victoria highlights the high stakes that are being waged in the energy transition.

AGL says it will bring forward the closure of the Loy Yang B power plant in Victoria's Latrobe Valley and the Bayswater power plant in the NSW Hunter Valley. Combined, these two power stations are responsible for 8 per cent of power supplied to the national electricity grid. On Thursday, Origin

DEALING WITH AN UNEASY SHIFT OF POWER



Origin Energy has confirmed the closure of its Eraring coal-fired power plant in the NSW Hunter Valley will be brought forward by seven years to mid-2025
HOLLIE ADAMS

Energy confirmed it would bring forward the closure of the Eraring power plant, also in the Hunter Valley, by seven years to mid-2025.

The early closure of the power plants is not totally unexpected but it throws into chaos the planning of the electricity grid transition. Federal Energy Minister Angus Taylor warns the closures could lead to a supply crunch and more expensive power bills and a less stable grid.

This is the challenge for the green entrepreneurs to solve. Unless they are able to do so the public appetite for a green transition is likely to evaporate at large political cost. The challenge for policymakers is to not allow the corporate sector to use the green transition to lift profits at the public expense.

Along with the announced closure of Eraring, Origin says it will build a big battery system of up to 700 megawatts of capacity. NSW Energy Minister Matt Kean

says the NSW government will support the construction of an additional big battery on the Central Coast, the Waratah Super Battery, with 700MW/1400 megawatt hours of storage capacity that is expected to come online by 2025.

On Tuesday, the NSW government said it had received expressions of interest in \$100bn of renewable energy and storage projects in its Hunter Valley renewable energy zone. These included 24 solar projects, 13 onshore and seven offshore wind projects. This was joined by eight pumped hydro energy storage projects and proposals for 35 big batteries.

For stable power, the critical ingredients are dispatchable energy, including gas, and storage.

In a briefing note issued on Thursday, Energy Networks Australia – the national industry body representing Australia's electricity transmission and distribution and gas distribution networks – laid out the challenge, and how what is happening in other parts of the

world is relevant for Australia. "Increases in energy supply charges across the UK are cause for concern as almost 22 million households will see an average increase on their energy bill of 54 per cent from April 2022," ENA says.

Largely, the increase is driven by a rise in global gas prices across the past six months. ENA says wholesale gas prices have quadrupled in the past year because of a colder than average winter putting pressure on demand.

This has been driven in part by a fairly windless few months across Europe, which has meant a lack of dispatchable renewable wind power. The lack of wind has been given its own name: dunkelflaute – a German word that means dark doldrums or dark lull.

"Whether you've heard of it or not, dunkelflaute is a challenge our energy systems will need to manage," the Australian group says.

"It describes events where there is minimal or no sunshine

and wind for extended periods, usually occurring during winter." In Australia, this has been referred to as a renewable drought.

"A recent lull in wind generation in South Australia is a small-scale snapshot of what could become a much larger problem in future," ENA warns.

Data from the Australian Energy Market Operator shows across June 11-12 last year wind power generated fewer than 4800MWh of the 55,000MWh total demand, only 8.7 per cent of total generation. This is compared with June 9-10 when wind power generated 46,000MWh out of a total demand of 73,000MWh, contributing 63 per cent to generation.

Wild fluctuations such as these have played havoc with the economics of coal-fired plants, which were built to run continuously.

In a special report on the dunkelflaute phenomena, ENA says there are few obvious answers.

It says batteries tend to be best suited to managing hourly fluctuations across the day, charging from the midday sun and then discharging to help with the evening peak: "Today's batteries are not well placed to manage longer durations, with most having less than four hours of storage."

This is the case with the batteries announced to replace Eraring. There are three current options to completely decarbonise the electricity grid.

The first is to build a diverse renewable generation fleet all across the country in hopes that the wind is blowing or sun is shining somewhere, while ensuring sufficient interconnection to transport large quantities of electricity all across the country.

ENA says this will result in a large amount of electricity being

wasted, along with lowering the efficiency of interconnections between states, while still leaving room for dunkelflaute in severe cases.

The second option is building deep storage, such as pumped hydro, but ENA warns this type of deep storage solution is likely to sit idle most of the time and can be challenging to finance.

"Developing this much deep

zones planned by state governments, but it will require proving the economics of producing hydrogen from excess renewable capacity at scale.

Another alternative for zero-emissions dispatchable power, not being considered in Australia, is nuclear.

Nuclear would face the same problems as coal in that to maximise the return on investment they should run continuously rather than plug the gaps of wind and solar. The other side is that with sufficient emissions-free nuclear there would be less need for wind or solar power.

The smart money is on advances in fusion reactor technologies, which have experienced some big breakthroughs in recent months but are still many years away from commercialisation.

Given the problems of intermittency in Europe, France and Britain have committed to the construction of a new fleet of nuclear power stations while nuclear and gas have been given the go-ahead for green investment by the EU.

Acceleration of the withdrawal of coal-fired power plants in Australia will make the debate more real. As a first measure, governments will likely be forced to follow the example of Britain with capacity payments, where dispatchable sources of electricity are paid to be on standby.

Longer term, much will depend on further advances in storage technologies and the appetite of business and households to have electricity supplies restricted in times of peak demand or low supply.

For a snapshot of what happens if things go wrong, look no further

than a clutch of international headlines from recent days: "The Great Climate Backslide: How governments are backtracking worldwide" (Bloomberg); "Europe's Net-Zero Carbon crack-up begins ahead of schedule" (The Wall Street Journal); "China to increase coal-fired power capacity by 10 per cent in the next 5 years" (Reuters); and "Welcome to Net Zero: Poorer families face threat of peak hours electricity rationing under the drive to go green" (The Daily Mail).

Governments that have become addicted to the politics of climate change are under increasing pressure.

But as The Wall Street Journal columnist Joseph C. Sternberg writes, it may be too late to retreat.

"Recent years have seen a concerted effort by climate activists and various enthusiastic enablers in the financial world to co-opt private capital in pursuit of green aims. Hence the rise of so-called ESG investing – the E standing for environmental," Sternberg says.

"Politicians in their more foolish moments have been happy to help, as with efforts to embed such principles in financial regulation.

"The politicians' challenge is to wrest well-functioning energy and financial markets back from a financial, activist and media class that seems unshaken by the anti-consumption, income-redistribution miseries their agenda is inflicting."

It is easy to see parallels with what is happening in Australia, where the renewable energy roll-out is set to kicked into another gear. The green transition is blessed with great minds and good intentions but it will require governments to stand firmly on the side of consumers.



OUT FRIDAY THE LIST 100 Green Power Players

storage is likely to be incredibly costly and unlikely to be in customer's best interests," ENA says.

The group says the third and most promising option is building zero-emissions dispatchable energy, consisting of renewable gas usage in gas-powered generation plants.

This is the route being followed by many of the projects bidding to build in the renewable energy

Panic merchants, be gone... Covid is just another virus

Right from the start, the Chicken Littles have held sway – but now it's time for us to get real

RAMESH THAKUR

From the very start of the pandemic, a small but critical minority of us has argued that irrespective of the paths taken to get there, the end state will be living with Covid-19 as an endemic virus. The key question was never: how do we eradicate this virus? Rather, what is the level of risk that we are prepared to accept and live with?

Unfortunately, like cascading dominoes, governments all over the world engaged in herd behaviour to lock down their countries based on apocalyptic modelling projections.

Models are neither science nor data but a set of assumptions that generate their own tautological conclusions. The Spectator UK has a brutal set of charts showing the wildly inaccurate projections of most models by various British teams that vastly over-estimated the harms with regard to cases, hospitalisations, ICU occupancy and deaths.

The actual data was massively

better than the best-case scenarios of the original Doherty Institute modelling of March 2020.

The serial parties in No.10 suggest the people at the very top of the British government knew the risks were low but terrified the populace into blind compliance with draconian curtailments of liberties just because they could.

At best, non-pharmaceutical interventions so beloved by governments keen to indulge their inner bossiness have had only a modest effect on the life cycle of each outbreak. Successive waves powered by new variants seem to rise and fall according to similar patterns – independent of the timing and duration of restrictions.

Last month, a major meta-analysis of 24 international studies from Johns Hopkins University by US and Scandinavian researchers found that "ill-founded" lockdowns reduced Covid-19 mortality only by between 0.2 and 2.9 per cent, but at considerable economic

cost and health and social harms. Therefore "lockdowns should be rejected out of hand as a pandemic policy instrument".

Another study on February 1 by a nine-strong team of American, British and Canadian researchers concluded that vaccine mandates, passports and segregated lockdowns can cause more harm than good. "While Covid-19 vaccines have had a profound impact on decreasing global morbidity and mortality burdens", "population-wide mandatory vaccine policies" impinge "on human rights, promote stigma and social polarisation, and adversely affect health and wellbeing", and could have detrimental impacts on future public health measures including immunisation programs.

Australia's annual death toll from all causes is about 160,000.

From March 1, 2020, to January 31, 2022, the average total deaths would be around 307,000. The total number of Covid-related deaths in that period, whether "with" or "of" Covid, is 3835 or 1.2 per cent of all deaths. As always, Australia's big killers remain cancers, heart diseases, Alzheimer's and dementia, and strokes. Improved diet and more exercise



DAVID GERAGHTY/NCA NEWSVIEW

People queue up for a Covid test in Melbourne

would have given us better health returns as a country. Instead, locking people in their homes for prolonged periods, restricting exercise, curtailing social interactions, increasing weight gain, stress, loneliness and alcohol dependency, forcing families apart, stopping the bonding and healing rituals of birthdays, weddings and funerals, denying quality time with children, grandchildren, parents and grandparents, creating a backlog of health demands, and depriving children of friends and education, all as the pathway to better public health, indicates just how unhelped some "experts" are.

Less acutely in Australia than elsewhere, the public health system was saved but, sadly, tens of thousands of patients died and many more suffered neglect and delays. No country can improve long-term public health and human wellbeing by making itself poorer. In the 23 months to February 1, Australia's recorded number of suicides was 73 per cent more than Covid deaths.

The "hygiene hypothesis" suggests that long-term normalisation of extreme hygiene practices like "masking, deep cleaning, distancing and isolation can be harmful to health, especially for children, precisely because it reduces exposure to microbes", says Dr

Eran Bendavid from the Stanford School of Medicine. By impeding the development of natural immunity, vaccines may make the vaccinated more vulnerable to virus variants.

Despite 76 per cent and rising full vaccination since November 1, more Australians have died with Covid in the past three months than in the 20 months before. In the US, this is more politically charged as Covid deaths under Joe Biden exceed those under Donald Trump. Trump's presidency was without vaccines but his Operation Warp Speed gave America three vaccines available for the entirety of Biden's presidency. Yet case rates are currently highest in the most vaccinated states. Closer to home, consider Kiribati. As of January 18, its total number of Covid cases since the pandemic started was just two. By February 15, the numbers had exploded to 2665 (and eight deaths). The virus came in on a flight from Fiji on January 15. All 54 passengers were fully vaccinated, had tested negative three times prior to departure, been quarantined for a fortnight before departure and again after arrival and were masked during the flight. Despite the stringent precautions, 36 tested positive on arrival and the virus then spread quickly through the tiny Pacific island despite lockdown since January 22.

Vaccines continue to show strong protective benefits for the elderly and vulnerable groups. But governments overhyped claims about vaccines ending the contagion by checking infection, exaggerated universal vaccination as the key to freedom from restrictions thereby blaming the failures of the product on those who didn't take them and causing the stigmatisation of the unvaccinated.

More than a war on the virus, lockdowns proved to be a war on the poor to protect the laptop class. The loudest calls for lockdowns have come from those with secure incomes in lockdown-proof jobs. Yet sceptical voices from the beginning pointed to the existing data, experiences and plans developed over a century that emphasised the futility and collateral harms of prolonged society-wide lockdowns, on the one hand. On the other, noting the pronounced age-segregated severe effects of Covid-19, they recommended targeted policy interventions to protect the most vulnerable while keeping the rest of society functioning. And third, they dismissed the search for the holy grail of Zero Covid and insisted that the destination, as with all such disease outbreaks, would be endemic Covid.

Like Churchill's bon mot about the Americans, having tried everything else, will governments now do the right thing? Denmark and Sweden have already ended all restrictions, England has abandoned mandatory vaccination for health and social care workers and about another 10 European countries look set to follow.

Florida surgeon-general Dr Joseph Ladapo's prescription for managing Covid is: "Keep shutdowns short, keep the economy going, keep schools in session, keep jobs intact, and focus single-mindedly on building the capacity we need to survive this into our healthcare system." The experts who have held sway for two years are mostly research scientists in thrall to abstract models or public health experts with a bias towards controlling all of society. The minority of lockdown sceptics among medics, on the other hand, are concentrated among those engaged in clinical practice on the Covid frontline.

We neither require mandatory testing nor encourage universal vaccination for the annual flu, vaccines for which are even less efficacious than for Covid. Dr Arnold Monto from Michigan University's School of Public Health recommends managing endemic Covid like flu: make vaccines (bi)annually based on best-guess estimates of dominant variants, target the elderly and vulnerable populations for free recommended vaccination, make it available at cost to anyone wanting it, and learn to live with Covid as we've learnt to live with flu.

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