

Infrastructure breakdown plunges Australian state into darkness

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In an unprecedented breakdown of essential infrastructure, an entire Australian state was blacked out on Wednesday night after a severe storm damaged electricity transmission towers.

Power went out across South Australia, with a population of 1.7 million, at about 3.45pm in the midst of drenching rains, lightning and thunder, throwing the state into chaos. The cause was not a lack of base load power, but a cascading shut down of the state's transmission system.

According to Electranet, the private company that operates the South Australian grid, storm cells damaged more than 20 towers at five different points in the network. It seems that the whole system rapidly shut down because of power surges, and that triggered the cutting off of supply cables from the neighbouring state of Victoria.

Without warning, residents suddenly lost all power. About 900,000 homes were in darkness and use of mobile phones began to be threatened by the lack of electricity. State Emergency Services officials said almost 1,000 calls for assistance were received over the following 24 hours. There were no reports of lives lost, but widespread traffic accidents were caused.

In the capital, Adelaide, a city of 1.3 million people, the public transport system was paralysed. Trains and trams were shut down. Roads were gridlocked as traffic lights failed, street lights stopped operating and railway level crossing boom gates were stuck in the down position for hours.

Thousands of people were stranded in the city, with Adelaide Town Hall opened to people unable to return home. People were trapped in lifts and fire alarms blared throughout the city as the power ceased. At Adelaide airport, outgoing flights were grounded and only one of two back-up generators was working.

Standby generators failed at a major Adelaide hospital,

forcing 17 patients to be transferred to another hospital. Some needed help breathing with manual respirators as they were taken from Flinders Medical Centre to Flinders Private Hospital, health officials revealed. Generators reportedly functioned at other public hospitals, but some medical operations were interrupted and so-called elective surgeries were postponed.

Major damage was threatened at the Whyalla steelworks, where production stopped and the blast furnace cooled rapidly. Other large industrial and mining projects were affected, forcing BHP Billiton to temporarily shut down the Olympic Dam copper and gold mine, and Oz Minerals to do the same at its Prominent Hill mine.

Today, tens of thousands of homes are still without power, mostly in the north and west of the state, and some may remain blacked out for many days. With bad weather continuing, there are fears of more blackouts until the electricity towers and transmission lines are rebuilt.

No such statewide "black system event" has occurred previously in Australia, although general breakdowns hit northern Queensland in 2009 and New South Wales in 1964.

This week's storm was an extreme weather event. Winds exceeded 90 kilometres an hour, and two tornadoes tore down power lines. There was hail the size of golf balls and more than 80,000 lightning strikes across the state. The Bureau of Meteorology said the storm front and intense low-pressure system were the most severe reported in the state in 50 years.

Such events are now likely to occur more frequently, however. The non-government Climate Council attributed the wild weather to erratic patterns generated by climate change. Professor Will Steffen said the storm was "a disturbing preview of what's likely to come if Australia fails to act on climate change." He said the atmosphere was packing much more energy, contributing to the

increasing intensity of storms.

Clearly, the authorities were not prepared for such a storm, nor was the electricity infrastructure. The Australian Energy Market Operator (AEMO), the agency responsible for the National Electricity Market, which was established in 1998, said the outage's "root cause" was likely to be the multiple loss of 275-kilovolt power lines during storm activity.

"These transmission lines form part of the backbone of South Australia's power station and support supply and generation north of Adelaide," AEMO said. But it added: "The reason why a cascading failure of the remainder of the South Australian network occurred is still to be identified and is subject to further investigation."

According to industry experts, once the transmission lines went down, the whole high-voltage power system was cut, in order to protect generators and equipment in South Australia. In addition, to stop the voltage and frequency fluctuations affecting Victoria and the rest of the national market, the two lines ("interconnectors") connecting South Australia to Victoria were also shut down.

AEMO said ample electricity was being generated in South Australia at the time of the power failure, augmented by supplies from the interconnectors.

Without waiting for any investigation, however, Prime Minister Malcolm Turnbull and other senior ministers immediately sought to exploit the disaster to blame South Australia's almost 40 percent reliance on renewable energy, mainly wind and solar power, for the breakdown.

Experts insisted that the transmission grid would have failed in the storm, regardless of the source of the electricity. But Turnbull demanded that state Labor governments lower their renewable energy targets in line with his Liberal-National Coalition government's target, which he said was 23.5 percent.

Turnbull declared the blackout was a "wake-up call" for state leaders who were trying to hit "completely unrealistic" renewable targets. "We've got to recognise that energy security is the key priority." Turnbull's intervention echoed that of the mining industry, which has opposed the closure of coal-fired power stations.

In all the media coverage, no mention has been made of the privatised state of the electricity system in South Australia, where the grid was sold off 15 years ago. Electranet, which controls the state's network and is responsible for upgrading and maintaining it, is a consortium of China's state-owned State Grid, Malaysian firm YTL Power Investments and Westpac bank's

Hastings Investment Management.

Whatever the precise causes of the infrastructure failure, it occurred after two decades of privatisation of basic utilities by state governments nationally, placing society's most critical services in the hands of corporate entities driven by short-term profit requirements. This drive intensified under the last federal Labor government. Its "Energy White Paper 2012: Australia's Energy Transformation" demanded that state governments privatise the remaining state-owned electricity assets, then estimated to be worth more than \$100 billion, delivering a windfall to the financial markets and associated business interests.

Prime Minister Julia Gillard claimed that this would stop the "gold plating" of energy infrastructure—that is, supposed over-investment in transmission and distribution networks—that the Labor government blamed for escalating power charges for business and households.

Addressing the Energy Policy Institute in August 2012, Gillard branded as excessive expenditure on upgrading transmission and distribution networks to avoid blackouts during periods of peak demand. She compared such spending to "building a ten lane freeway but with two lanes that are only used or needed for one long weekend."

In fact, outdated and poorly maintained networks have led to electricity shortages during extreme weather conditions that have caused deaths, as well as severe dislocation. In the summer of 2009, record temperatures in Victoria and South Australia saw the national power wholesaler impose rolling blackouts, without notice, on hundreds of thousands of households. More than 60 people died from heat stress.

Today, climate change is causing what were "once in 50 years" weather events to occur at an increasing rate in Australia, as elsewhere around the world. Yet the dictates of the capitalist market, enforced by successive governments, are lessening society's capacity to cope with the resulting disasters. Access to reliable and affordable energy is a basic social right, but it is being subordinated to the interests of big business and finance capital, with potentially catastrophic consequences.



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