

SA blackout politics overshadow the real issues on power generation

Written by The Conversation

I think it was Mark Twain who said: “ Climate is what you want, and weather is what you get”.

This was certainly the case in South Australia in the last couple of days when extreme weather events caused a complete black out of the state. A combination of torrential rain, lightening strikes, and extreme, gale-force winds, wiped out some 22 transmission towers, and some other power infrastructure.

Power generators were progressively closed down as the storm rolled across the state, as they reached their capacity limits, thereby pushing the load to the next generator, and finally to the two interconnects, which too were closed down to avoid burnout. The only weakness in the system might have been in the timely operation of the control systems.

In these terms, it would not have mattered how the power was generated – from coal, gas or renewables - it couldn't be transmitted.

The prime minister has asked that politics be put aside, to focus on the reasons for the crisis, and to seek to implement a response that will guarantee “energy security” in the future. But responses by the likes of South Australian Senator Nick Xenophon and Liberal Steven Marshall have been populist and opportunistic – indeed, even the PM himself sought to score political points against the “Labor states” for their renewable energy targets.

The crisis had nothing to do with renewable energy targets per se, although implementation of the targets has been ill considered. The main problem with renewables in South Australia is their intermittency. The sun doesn't shine all day, and the wind doesn't blow all day, indeed mostly at night. The main consequence is often a significant morning and afternoon peak demand, that has, at times, seen peak electricity costs skyrocket.

Clearly renewables as implemented can't provide base-load power, or meet this peak demand. The key is cost effective storage, which stores the power, enabling it to be spread out and used either as a “peaker”, or to provide 24/7 base-load.

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There are now several heat and battery storage technologies being developed and tested, potentially operable at the household, commercial/community and whole grid level. I am personally involved with several of these projects.

To solve Turnbull's desire for energy security, as we transition from coal and gas based power generation to renewables, the governments should require two conditions be met, namely that:

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all new wind and solar farms only be approved with effective storage; and,

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all existing wind and solar farms must install effective storage within (say) two years.

This level of "mandation" should only serve to accelerate a change that is inevitable, while being "storage technology agnostic". Existing wind and solar farm owners should not resist as a) they have already enjoyed a considerable benefit from the Renewable Energy Target (RET), and b) it would dramatically increase the value of their business and assets.

The renewables industry has done itself a serious disservice by misrepresentation and exaggeration. For example, in terms of emissions reductions, while it is true that there are no direct emissions from solar and wind, they need back up, mostly from dirtier open cycle gas generation.

In South Australia's case they must draw from (say) the Heywood interconnector, that is, from Victoria's Hazelwood generator, the dirtiest brown coal fired power plant in the world. As a result, the gains in direct emissions are substantially offset, and electricity costs are increased.

Also, there is often confusion about installed and actual capacity. For example, a coal fired power station of 1,000MW capacity cannot be compared directly to a 1,000 MW renewable installation (wind or PV) that operates with an average effective capacity of 25%. So, a 1,000

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MW coal fired power station can produce 8,760,000 MWh per annum, while a 1,000MW renewable installation could only produce about 2,190,000 MWh.

There is also another significant element to the renewables debate, again raised by both Malcolm Turnbull and Energy Minister Josh Frydenberg yesterday, namely that gas could emerge as a “transition” fuel, in the move from coal to renewables. However, gas prices are already prohibitive. The SA government had to subsidise the Pelican Point gas fired power plant to reopen, in an attempt to reduce the significance of the intermittency problem.

The SA government can also expect to be confronted by the likes of the Point Pirie zinc smelter, and the Arrium steel works, that have to now spend considerable amounts of money to restart their plants, post the blackout.

While the recent crisis in South Australia is being understood, and responded to, there is possibly a much more significant crisis looming just around the corner.

It is rumoured that the Hazelwood power station could close as early as March/April next year. That would see some 1,700MW of Victoria’s base load power disappear, with consequent job losses that have been put as high as 1,000.

As it happens, Victoria supplies about the same total amount of power to South Australia, Tasmania and New South Wales. So, one immediate consequence could be that this power supply is simply cut off. This would protect Victoria’s position, but precipitate a power crisis in SA and Tasmania. Both states are in a particularly tenuous power situation, with many of their heavy industry power users threatening to close.

Another possible consequence is that the Portland aluminium smelter is shuttered. It accounts for about 10% of Victoria’s power demand, and its closure would reducing electricity demand, allowing some interconnect to continue with the other three States.

There is also a risk that APM, that employs some 6,000 in Victoria, and is finding gas prices prohibitive, may also close, also representing an additional reduction in electricity demand.

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The State and Australian governments desperately need to develop a longer-term strategy for the transition from coal fired power, to renewables. They must recognise the labour market and retraining consequences, the significant risks to their budgets, and addresses the considerable, likely, remediation costs and responsibilities as plants are closed.

This, in turn, will be a fundamental ingredient of an effective, national, energy strategy. One that rethinks and redesigns a new energy market that is to operate with the shift to renewables with storage.

As to renewable energy targets, the Turnbull government is being far too political about this. Turnbull was today taking credit for an achievable 23.5% national target by 2020, while criticising Labor states for their larger and inconsistent targets, and implicitly also Shorten's opposition 2030 target of 50%.

The truth is the national target for 2020 is simply the residue of Abbott's attempt to close the renewable energy sector altogether, but having had to settle for a reduced target in the face of opposition and Senate objections.

But, it is important that the Turnbull government sets a realistic national target for 2030, consistent with their Paris commitment to reduce overall emissions by 26-28%. This, according to the Climate Change Authority, is about half what it should be for us to pull our weight to achieve the global objective of net zero emissions by 2050.

Clearly, there should be a coordinated national renewables target, but one that puts real pressure on the laggards such as Queensland and NSW.

Disclosure

John Hewson is chair of the Asset Owners Disclosure Project, and was federal leader of the Liberal Party from 1990 to 1994.

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