

TERRY MCCRANN

## **Coal power has to make up for unreliable wind**

Terry McCrann, The Australian, 12:00AM July 21, 2018

The basic uselessness of wind and solar but especially wind as mainstream electricity generation sources should be obvious. At the risk of repeating myself: when the wind don't blow... and, well, you know the rest.

So why is solar marginally less useless? Because at least we know the sun don't shine at night — at least we can, to use a word very loosely, plan for that; the wind, though, can choose not to blow at any time, 24/7.

This statement, yet again, of what should be the bleeding obvious is not, though, the central point of this commentary. It is the way that intermittency — unpredictable as to both time and duration — requires massive overinvestment in generation capacity.

Again, that is or should be a statement of the bleeding obvious.

What though is most decidedly not obvious, what has received no serious discussion, what though doesn't seem to be even dimly — and that word is used advisedly — considered, far less understood, are two utterly destructive consequences of that overinvestment.

The first is to destroy the business functionality of generation. The second is the way the electricity market is fundamentally compromised, leading to both spectacular highs and not-quite-so-spectacular lows in price, but irresistibly to higher prices on average.

These consequences are already playing out in days like earlier this month in South Australia when the spot price bounced around the \$14,000 per MWh ceiling and averaged \$701.60 all day. And also, not exactly incidentally, at the opposite end: when the price went below \$10 a MWh and averaged just \$44.89 a MWh.

And this is happening when wind generation, although pervasive in SA, is still only a tiny portion of both the five (eastern) state grid and indeed total national generation. According to the federal Environment and Energy Department, wind across Australia supplied 5 per cent of total electricity in 2017, unchanged from 2016.

The data also showed coal's share dropping from 63 to 61 per cent — thanks to the closure of Hazelwood; gas up from 18 to 21 per cent and total renewables edging down from 16 to 15 per cent.

Let me talk in broad numbers to explain my two critical points.

According to AEMO (Australian Energy Market Operator) data, installed generation capacity in the NEM (National Energy Market, or Australia excluding WA and NT) was around 48,000MW.

Coal was around 23,000 of that, gas a little under 12,000, hydro 8000 and wind 4500. Solar was negligible — the solar we do have is not in the NEM but on rooftops.

Let us assume we get to the future detailed by AEMO and all the renewables committed and proposed are delivered; solar generation capacity will leap from virtually nothing to nearly 20,000MW and wind will leap to 24,000MW, easily eclipsing coal.

So will coal generation capacity collapse? Will all the other stations follow Hazelwood and Liddell into the dustbin of history?

Well, actually no, according to AEMO. True, it's only detailing what's been announced, and that's Liddell taking 1600MW out.

So is AEMO predicting a dramatic rise in electricity usage? That we need all that extra generation capacity — it incidentally includes an extra 5000MW of gas generation?

Well, no, and the answer goes significantly, if indirectly, to the plea from AEMO chief executive, Audrey Zibelman, that we need coal generation for at least the next two decades.

The absolutely critical core point is that if actually get to wind generation capacity of 24,000MW, we will need 24,000MW of other — I would call it "real" — electricity generation; critically over and above what those other forms of generation are required to generate on a regular basis.

That is to say we would need the equivalent of 10-12 Hazelwoods that would be sitting idle when the wind does blow, just so they could be cranked up when the wind doesn't.

In the fantasy world that so many inhabit, they would be gas Hazelwoods not coal ones, with a few batteries included, including Malcolm's Big Snowy Battery.

The energy insanity is one thing: building power stations to sit idle, just to accommodate wind. But focus on the utter business unviability.

How can anyone justify building a power station knowing that it will have to sit idle somewhere between one-third and half of the time?

How could the investor get an adequate return on the cost of capital? Unless of course, they priced power into the grid significantly above the true cost of that form of power generation?

In short, the consequence of introducing more and more wind into the system is to force even low-cost forms of power generation become more expensive. And as we saw in SA earlier in the month, that is already happening.

My comment last week was attacked on the basis that when the wind didn't blow in SA there was plenty of gas generation available, but it was bid into the market at ridiculously high prices.

The first response is, well, why wouldn't you: it's called supply and demand?

The more fundamental point is that — without validating the very high priced bids — any owner of a generation facility that only gets to work half the time has to price high. Zibelman indirectly if unknowingly indicated that with her coal call. But she was really only proposing to feed off a legacy free lunch on the investments in coal already made and largely depreciated.

That means the depreciated coal plants could, just, sustain a business case, provided they got some guarantee, ACCC-style, of demand; it would do nothing to deal with the market pricing issue.

The fundamental need to provide generation overcapacity is already under great stress when we only need around 5000MW of excess capacity — to cover for that 5000MW of wind that can and does completely disappear.

Imagine what will happen when we need more like 44,000MW of excess coal and gas generation capacity, having to sit idle when the wind does blow and the sun don't shine.