

Green energy generates big costs for little gain

Alternate energy Reports of the death of coal are greatly exaggerated. For green power is still very costly and uncompetitive, and likely to remain so despite all the subsidies.



Green power is not about to displace coal. **David Mariuz**
by **Alan Moran**

In this newspaper last week Richard Denniss opined that there was a stampede of investment money out of coal ("[Abbott blind to coal decline](#)", *AFR*, June 15). He excoriated Tony Abbott both for failing to recognise the death of coal and for suggesting that wind farms, their preferred replacement, are a blight on the landscape.

With exquisite timing, Market Forces, an affiliate of Friends of the Earth, then issued a report that, contrary to the Richard Denniss view, lambasted Australian banks for actually lending \$6 in fossil fuel projects for every \$1 in renewables.

In fact, the real tragedy is that the banks are lending too much to exotic renewable energy developments. Even the cheapest of these, windfarms, need three times the price at which Australian coal generators can supply electricity.

Australia's coal resources are so abundant that across the eastern states that they can profitably supply electricity at a cost of \$40 a MWh. Windfarms require \$120 a MWh.

In addition, because wind generated supply is intrinsically unreliable it needs back-up in the form of fast start generators. Hydro-electricity performs that function in

many markets but Australia has relatively little of this. Wind/solar generation in Australia currently has a 7 per cent share of supply. That level requires 6 per cent in additional back-up, according to the estimates by the Australian Energy Market Operator. That means fast start capacity that would not otherwise be needed.

Wind turbine development has been improved over the past 20 years but is now approaching its theoretical maximum efficiency. It will never be remotely price competitive with conventional generators notwithstanding wishful thinking.

Australia's renewable energy target for 2020 is colloquially though inaccurately referred to as the "20 per cent" target. Parliament has reduced that part to comprise wind (and large scale solar) 41,000GWh to 33,000GWh (in both cases plus an estimated 10,000GWh from rooftop solar panels). Some other changes in this week's legislation ensure that the "energy intensive" industries, smelting steel and cement, are now fully exempt from the requirement. Those industries account for about a fifth of electricity demand. But their exemption means additional costs for other commercial users and for households.

CRIPPLING COST ON CONSUMERS

Even so, the program entails a crippling cost on consumers. In annual terms this amounts to the price at which the RET certificates trade plus additional costs wind generation imposes on the system. The RETs have an effective ceiling price of \$92 a MWh; if they traded at \$75 in 2020, this together with an additional back-up and network cost would entail a cost of around \$90 a MWh.

In aggregate terms, the annual impost on electricity consumers is therefore from the 33,000GWh and means a cost to the customer of \$3 billion a year, on top of which is the cost of the rooftop solar panels of \$400 million (assuming their subsidy remains at around \$40 a MWh).

Overall, present legislation entails wind and solar panels having over 15 per cent of the market. If, as anticipated, the renewables displace coal they do so at a two fold cost premium. Overall, this results in an increase in the average wholesale cost of electricity of around 25 per cent from the level it would be if there were no regulatory requirement in place. Because energy intensive industries are sheltered from the effect, this is a much higher impost for other consumers.

These matters aside, unlike elsewhere in the world, Australia's black and brown coal resources are low-sulphur and hence pollution-free. In contrast to windfarms they do not require vast tracts of land and disfigure the natural environment. Nor do they impose the detrimental health effects from low frequency noise and infrasound that, according to the Senate Committee on Wind Turbines, appear to affect 10 to 15 per cent of the population.

All of this has become increasingly topical with the issuance of Pope Francis' encyclical. For although the Pope has called for drastic reductions in emissions of carbon dioxide, this comes at colossal costs.

Even imposing a requirement like the Australian "20 per cent renewable" standard substantially raises the cost of electricity. And this is the easy part. In order to replace fossil fuels by the sort of numbers the Intergovernmental Panel on Climate Change sees as being necessary to dampen global warming requires unproven and perhaps infeasible technologies. Energy only comprises 25 to 30 per cent of emissions and Australia's renewable target might therefore reduce emissions by 4 to 5 per cent. This is a tiny step given that the eventual target for Australia is a reduction of 80 per cent from today's levels.

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