On all sides of an argument, advocates push ridiculous extremes.

Take the conservative push against windmills, which hopefully reached some kind of zenith last year when Alan Jones, appearing on on ABC's Q&A, pulled a "swifty" on the cost of wind. After he was picked up by Melbourne PhD student Dylan McConnell in this factcheck on the Conversation, Alan acknowledged he exaggerated wind costs by a mere 1000%.

Dylan's diligence spurred ABC's Q&A to adopt a commitment to fact-checking via “the Con” .

Alan is far from the worst offender. My predecessor as Chair of Geology at the University of Melbourne, Ian Plimer, has a long history of mixing it with the best. At about the same time as Alan admitted his gross exaggeration, Ian posted on the libertarian website Cataxally Files .

Ian was spruiking yet another book *"Heaven and Hell: The Pope condemns the poor to eternal poverty"* , aimed at debunking what he regards a pitiful waste on a misguided attempt to solve a non-issue. The title of Ian's Cataxally Files piece proclaims renewables contribute 0.0% to the New South Wales electricity generation. His specific target was wind.

For the record, AEMO data shows that in 2015 wind dispatched 1691 GWhours onto the grid, or 2.7% of the total electricity generated in NSW, including small-scale distributed solar PV generation.

A small number yes, but 0% definitely not.

For the record, in 2015 rooftop solar contributed around 1.9% of the total NSW generation, hydro another 2.9% and large scale solar about 0.3%. So renewables in fact contributed about 7.8% of the electricity generated in NSW in 2015.

So, in this weird world of exaggerated advocacy Ian would appear the master, trumping Alan by an infinite margin.

It's not just the conservative side of politics that pushes the limits of credibility on energy matters. The renewables crowd is often way off-beam when it comes to costs.

PV costs are coming down for sure, and while wind would easily beat coal on cost, if the latter were required to capture and store CO2, you can't run an electricity system with just wind and PV alone. At least, not like the one we are accustomed to.

Renewable grids are expensive to build in part because of what we have come to expect, and demand, from our energy system in terms of reliability. And to deliver that security is going to cost.

In water stressed environments, such as Australia, where hydro resources are limited, backup options remain very expensive, as evidenced by the SolarReserve's recently commissioned Crescent Dunes plant. Crescent Dunes is a concentrating solar thermal power plant with 1.1 GWhours of molten salt storage allowing 10 hours of dispatch at full power (110 MW). The design output is expected to average a modest 55 MW (or 482 GWhours per year).

The catch is Crescent Dunes was financed with a massive US$737 million loan guarantee for an output equivalent to about one-quarter of one percent of demand on the Australian National Energy Market - the NEM.

At two to three times the cost of generating the same amount of energy from wind, that's a high overhead to pay for reliability.

Such costs are just one barrier to making the transition to low emissions energy systems needed to curb the global threat of climate change.

In energy-only markets such as the NEM, there are structural impediments. Low emissions options such as renewables and nuclear have the paradoxical role of suppressing market clearing prices, as for example illustrated by Dylan’s work .

Such markets are deliberately sensitised to the short-run cost of producing electricity which for fossil plant includes the fuel bill. With no fuel bill, renewables have low short-run costs. Rather, much like nuclear, the cost in renewables is mostly up front in the “cap-ex”.

Investors know all this. They need to recoup more than the long-run cost of generation. And they can’t invest in a market where spot prices are significantly depressed by the very technology they are delivering, unless otherwise incentivised.

So to build low emissions technologies, we need incentives, such as the RET. And those incentives have to be paid for, one way or another, or nothing is going to happen.

Both the Government and the Opposition know all this, and no doubt it’s again going to be a key point of departure in the debate leading up to the next election .

Already primed by the previous Prime Minster, the conservatives will target the Oppositon’s ambition for a 50% Renewable target by 2030 claiming it will cost the budget around $80 billion .

It’s of some interest that those estimates are in the same ballpark as the commitment to build our next fleet of defence submarines. Even the recently announced next warship build in Adelaide hits the budget bottom line by around $40 billion .

So just what are we trying to do with our windmills and our warships?

I doubt any serious minded person would pretend any warships and submarines we will build are capable, on their own, of protecting Australia.

The chance is the same any windmills we build could effect a change in climate - just about “Buckley’s”.

So why bother with either?

With warships we bother because they manifest our contribution to a global security effort. It is the combined power of a set of allies that we trust will avert perceived defence threats.

Similarly, only a global effort can effect peace with our climate.

So why should it be either windmills or warships?

I’d rather there were no security threats, just as I’d rather there wasn’t the prospect of anthropogenic global warming. But my knowledge of human history and my reading of the geological record tell me, in both cases, there is. So both would seem to be part of a rational global solution.

So are windmills (or nuclear, solar thermal or Carbon capture and storage) really any less in the national interest than warships, given the threats?

Not to me.

Notes

[1] The U.S. Energy Information Administration estimates total system levelised cost for CSP, PV and wind as US$240 per MWhour, US$120 per MWhour and US$74 per MWhour, respectively (in 2013 prices).

Disclosure

Mike Sandiford receives funding for low emissions energy research, including integration of renewables and CCS.

Read more http://theconversation.com/on-windmills-and-warships-46071