



### **“Renewable” Energy Doesn’t Work**

A layperson wouldn’t wander into an operating theatre and offer their advice to a surgeon. Nor would the average person knock on a cockpit door and tell a 747 pilot how to fly the plane (“best keep it up in the air mate”). So why do so many unqualified people expound their views on “renewable” energy and demand more wind and solar farms?

I’ve been lucky enough to have a decade of experience in the power sector, here and overseas, working across new projects, fuel and power trading, networks, regulation, financing and more. I saw how wind and solar are far more expensive to build and operate than coal and gas projects – and I also worked with hedge fund directors who flew in by private jet to discuss building a small wind farm because “the subsidies give us a great yield.”

It is an incredibly complex industry. Electricity must be used the very instant it is generated as it travels through the network at a significant fraction of the speed of light. This creates real physical difficulties for “renewables”. Because they are intermittent (the sun and wind are not constant) they require constant backup from gas and diesel power stations. Think about it – wind and solar supported by gas and diesel. That’s why I refer to “renewables” with inverted commas: they’re not “green”, more like grey.

I’ll give you seven simplified reasons why solar and wind (don’t even talk to me about experimental wave power) are not fit for purpose:

1. **They create a juggling act** where other plants must be kept on standby to pick up their slack, or suddenly cut off when the wind picks up. But most plants aren’t built for this, and it makes it hard to keep baseload coal/gas plants on the network when they may be forced to shut down at intervals of only a few hours. This is physically ruinous for them – akin to turning your car engine on and off at 5-second intervals all day long.
2. Their variability **creates volatility in the frequency of the network** – think of the white noise when tuning an old analog radio – and as it rises due to renewables, other plants must counteract and push it down, and vice versa. The plant that can do this are diesel and some types of gas. In Perth, this has required the Kwinana SWIFT power station, among others, to be built to handle the problems caused by the likes of the Collgar Wind Farm.
3. They **only generate a small fraction of what they are designed for** – for wind this is about 33%, for solar it’s around 20%. A standard coal or gas plant will produce a good 80% across the year. The only reason they produce less than 100% is because this is often not needed, and they’re taken offline for scheduled maintenance at intervals. Wind and solar simply couldn’t produce at 100% efficiency.
4. **Storage doesn’t exist.** Some thermal solar plants (the type we don’t have in WA) use recent storage technology but these are unproven over a project life and add huge extra cost for limited storage. Why build a solar plant that costs more than a gas plant and then add on more expensive and limited storage because it can’t generate at night? Either way, wind and solar panels don’t have storage. Coal on the pile, gas in the pipe and water in a dam are the best energy storage. (Tesla’s batteries are a marketing success but fail the physical and financial test. The only people excited about them are those who don’t know the industry).

5. ***They require extra infrastructure*** on the transmission and distribution grids – from extra transmission lines costing over \$1m per kilometre to reinforcing the distribution grid around Perth to handle the explosion of solar panels. Western Power have concerns that solar panels leak DC electricity into the distribution grid, causing expensive erosion – just one of the unexpected consequences of this new technology.
6. ***They are more expensive to build and operate.*** This is why they rely on subsidies for every unit of power they generate, every hour and won't give them up. Even when adding the fuel costs, a new gas plant is cheaper to run and maintain than a wind farm, and that's not counting the cost of buying extra power when your wind farm stops, or trying to find an instantaneous buyer on the market for the excess power you create.
7. ***They live and die on subsidies*** because they are not an economic proposition. During my time working on UK projects, the regular changes in subsidy levels made it too hard to proceed with a project of a 20-year life. Labor and the Greens complain that uncertainty about subsidies has frozen "investment" (better described as "rent-seeking") in wind and solar projects in Australia. This is a good market signal that they simply aren't economic and shouldn't be built.

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