



How wind drives down electricity prices

Australia's ageing coal-fired power stations must be replaced. Wind power is the cheapest way to do so. It also emits zero emissions. If you take a so-called "technology neutral" approach to energy policy and don't prioritise wind, then you are choosing higher power bills for Australians and more pollution.

Any sensible response to the Finkel Electricity Review must:

- Increase and speed up wind farm development; and
- Provide a clear market mechanism to support storage technologies such as batteries and pumped hydro.

Countries all around the world are enjoying the benefits of wind farms, which provide as much as 42% of their power cheaply, cleanly and reliably. Wind farms are a far cheaper option than replacing coal with new gas power stations - even when taking into account costs associated with storage.

Why are we paying so much for power?

- The way the wholesale market works means the price of gas, as the most expensive form of electricity, determines the price we pay for power.
- Gas prices have tripled since Australia began exporting LPG in 2015, flowing through to higher power prices. As more coal stations are retired, we are burning more gas to generate electricity, further exacerbating price rises.
- In 2016, average wholesale electricity prices increased by 47% in New South Wales, 52% in Victoria, 14% in Queensland and 57% in South Australia¹.
- Electricity prices are expected to increase by \$40-\$50 a megawatt hour (MWh). The Australian Industry Group has warned this will cost east coast businesses up to \$6.8 billion a year. The same increase will cost households up to \$2.6 billion a year.

Wind brings down power prices

- Wind farms are the cheapest way to add new generation into Australia's electricity system. The newest wind farms will provide power for \$55 - \$65/MWh for the next 25 years. In comparison, combined cycle gas stations cost \$74 - 90/MWh to build, solar \$78 - 140/MWh and ultra-supercritical coal \$134-293/MWh². Gas plants also carry

¹ Australian Industry Group, ENERGY SHOCK: NO GAS, NO POWER, NO FUTURE?, Feb 2017 http://cdn.aigroup.com.au/Reports/2017/Energy_shock_report_Feb2017.pdf

²

<http://reneweconomy.com.au/clean-coal-most-expensive-new-power-supply-says-bnef-and-not-all-that-clean-74531/>

significant risk of fuel price rises.

- The cost of wind power remains steady because, unlike gas and coal, the fuel for wind farms is always free.
- Competition from low-cost wind farms reduces wholesale prices and keeps a lid on power bills for households and businesses.
- Over the past decade, South Australia, the state with the highest penetration of wind energy, experienced much lower power price rises than fossil-fuel dominated states³.
- Even when the cost of storage from batteries or pumped hydro is factored in, wind is still cheaper than new gas-fired power⁴.

Wind facts

- There are 2106 wind turbines currently in operation in Australia across 79 wind farms
- Wind farms produce 5% of Australia's total electricity generation (4,327 MW).
- Australia ranks 17th in the world for wind power.
- Australia has world-class wind resources close to population centres and large amounts of land.
- Wind is the leading source of generation in South Australia, delivering 40% of the state's electricity.
- Eight wind farms are being built in 2017 totalling 687 megawatts. This will collectively deliver 800 jobs and investment worth \$1.9 billion. All but one of these new farms are expected to be operating by the end of the year.
- Wind generators can keep electricity grids running at a constant frequency, even through disruptions, as evidenced by Canada⁵. An Australian trial is underway in South Australia at Hornsdale Wind Farm.

Where to after the Finkel Review?

- The Federal Government can quickly and easily provide power bill relief to households and businesses by supporting more wind energy and storage.
- A “technology neutral” approach to energy markets leaves Australians vulnerable to higher power bills and more pollution.
- A clear market mechanism aimed at wind energy, like the ACT Government’s reverse auctions, will supply the lowest cost energy to Australians, where and when they need it.

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<http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/reports/2017/clean-energy-australia-report-2016.pdf>, p29

4

<http://www.reputex.com/research-insights/a-cost-curve-for-emissions-reductions-energy-storage-in-the-australian-power-sector/>

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https://www.aemo.com.au/-/media/Files/Electricity/NEM/Security_and_Reliability/Reports/FPSS---International-Review-of-Frequency-Control.pdf

