

Rooftop solar poised to become Australia's biggest power source amid coal's demise

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Almost one in three Australian households have a rooftop solar system installed. (*Pexels: Public domain*)

Rooftop solar is poised to overtake coal as Australia's biggest source of generation capacity, as the rapid pace of new installations accelerates the decline of fossil fuel-fired power.

A new report from industry group SunWiz shows there is now more than 20,000 megawatts of small-scale solar capacity installed on household and business roofs across the country.

The lobby forecasts rooftop solar to eclipse the generating capacity of coal-fired power in April, when energy giant AGL is scheduled to close the remaining units at its 2,000MW Liddell coal plant in New South Wales.

Key points:

- Industry body SunWiz says rooftop solar is poised to become Australia's biggest source by capacity
- The forecast tipping point will be reached when AGL's Liddell coal-fired plant closes in April
- Australia has the world's highest uptake of solar, with almost a third of

SunWiz said more than 3.4 million Australian customers had a rooftop solar system, with the rate of new installations running at roughly 300,000 a year.

customers owning a system

It claimed Australia was leading the world in the uptake of photovoltaic cells, which convert sunlight into electricity.

Solar uptake 'leads the world'

Warwick Johnston, the managing director of SunWiz, said that when small- and large-scale projects were added together, solar was already Australia's biggest electricity source by capacity.

But Mr Johnston said the fact that rooftop solar alone would soon hold that mantle was a testament to Australia's love affair with the technology and the shift away from fossil fuels.



The rise of the rooftop solar industry has spawned thousands of jobs. (*Reuters: Mike Blake*)

"Solar energy is already Australia's largest fuel source for electrical power in Australia," he said.

"When the Liddell coal-fired power station closes in April 2023, rooftop solar alone will generate more power than the remaining coal-fired power stations operating across the country, making rooftop solar the largest power generator.

"Australian rooftops now host over 20 gigawatts of solar power.

"This is an immense amount that has been made possible due to millions of Australian households and businesses and supported by Australia's thriving solar industry.

"Australian solar power systems are more affordable than in any other country, so it's understandable that we lead the world in per-capita uptake of solar."



The closure of Liddell power station is expected to herald a tipping point in Australian energy. (*ABC News: John Gunn*)

While solar power is Australia's biggest source of electricity generation by capacity, figures show coal continues to provide the greatest volumes of power despite big declines in recent years.

According to the Australian Energy Regulator (AER), black and brown coal accounted for almost 70 per cent of the power generated in the national electricity market (NEM) in the 12 months to June 30.

The national electricity market spans Australia's eastern states along with South Australia and Tasmania, covering most of the country's population.

By contrast, rooftop solar accounted for 8.4 per cent of the electricity generated during the period, followed by utility-scale solar at 4.9 per cent, according to OpenNEM, an open source information provider.

The share of wind power in the national electricity market was 12 per cent for 2021-22.

Coal declines as solar rises

In its most recent snapshot of the market, the AER said the rise of rooftop solar was hitting coal-fired power stations particularly hard and hastening the exit of many plants.

The regulator noted that coal-fired power stations could not compete with solar in the middle of the day when output was typically high.

As a consequence, the AER said coal plants were having to throttle their production — sometimes significantly — to accommodate the daily flood of cheap solar power.

Australia's utility-scale solar capacity is dwarfed by the amount of small-scale installations. *(Supplied: FMG)*

However, it noted coal plants were almost invariably not designed to run flexibly and they were incurring extra costs in increased wear and tear, not to mention reduced reliability.

This was a large part of the reason why so many coal plants were offline during last year's energy crisis, it noted.

"The rapid influx of grid and rooftop solar over the past three years has changed the shape of wholesale electricity prices and demand for base-load (coal) generation during the day," the AER noted in its state of the energy market report.

"These changing conditions, backed by the global investor and local push to decarbonise, are compromising the economic viability of the NEM's 16 remaining coal-fired power stations.

"As fossil fuel-dependent energy companies pivot toward renewable energy, many of these coal-fired power stations are slated to close earlier than previously announced."

On top of the impending retirement of Liddell, other coal plants slated for closure in the coming years include Australia's biggest power station — the giant 2,880MW Eraring south of Newcastle — in 2025 and Yallourn in Victoria in 2028.