

AEMO Quarterly Energy Dynamics Report – Fossil fuel hyperinflation moderating, emissions down, but renewables + grid buildout must be expedited

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AEMO reports June quarter wholesale electricity prices are down 59% year-on-year. That is a major relief after 18 months of unprecedented fossil fuel hyperinflation.

Application approvals of new zero-emissions replacement capacity in financial year 2023 trebled to 7 gigawatts (GW) vs the previous two years, but we are still not seeing grid transmission and planning access bottlenecks removed.

There is a record 30GW of new renewable energy capacity now in the connection pipeline, but just 3GW was completed in financial year 2023. We need to see the rate of completions double to replace end-of-life coal power station capacity inevitably and predictably coming offline.

The solution is not to extend the life of polluting, unreliable coal clunkers. The answer to high power prices is hastening the transition to low-cost renewables. Governments need to invest in and expedite the buildout of utility and rooftop solar, wind, storage and grid transmission. This will put permanent downward pressure on prices, relieving cost of living pressures smashing Australians.

ELECTRICITY

Wholesale electricity prices in the National Energy Market (NEM) comprising QLD, NSW, ACT, Victoria, Tasmania and SA, are down 59% year on year in the second quarter of 2023 to A\$108 per megawatt hour (MWh), clearly showing the hyperinflation of fossil fuel commodity prices is waning. This should feed through into potentially lower retail prices come 1 July 2024.

Electricity demand in the quarter was the second lowest seasonal average since 2005 due to behind the meter rooftop solar supply. This is very telling. [CEF's recent NSW Electricity Report](#) calculated demand has been flat for 20 years. Yet when AEMO warns of supply shortages by 2030, this is based on its assumption of electricity demand accelerating to 2.7% per year.

The quarter showed the second highest growth in distributed solar installations (1.9GW), up 30% versus the second quarter of 2022.

Utility wind and solar rose by 398 megawatts (MW) and 347 MW year on year. Renewables also helped send wholesale prices to zero or negative around 9% of the time – a new second quarter record.

The ongoing unreliability of coal power plants saw financial year 2024 wholesale forward pricing rise 17% quarter on quarter to A\$124/MWh – due to the yet again delayed restart of Queensland’s Callide C coal plant.

But we note this is 15% below the A\$145/MWh average of financial year 2023, suggesting lower retail prices in financial year 2025. Wholesale forward pricing shows another 10-20% decline in 2025, and prices flat to down in FY2026 – even with the closure of Australia’s biggest coal power plant, Eraring in NSW, scheduled for August 2025.

There was 30GW of new capacity in the connection process in the second quarter, up from 25GW a year ago.” (Refer chart below.)

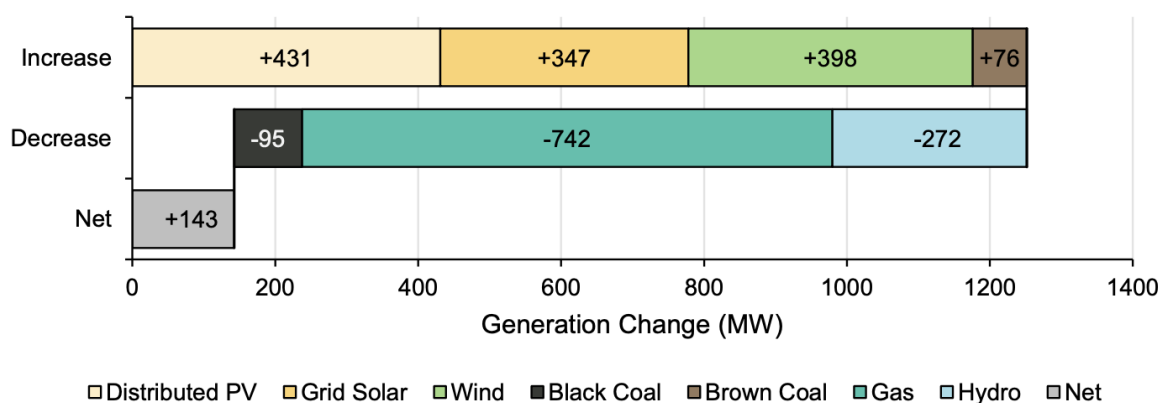
GAS

East coast domestic gas prices halved year on year versus the second quarter of 2022, following the international LNG price down after 18 months of unprecedentedly high prices thanks to Putin.

Mainly due to lower gas electricity generation (-34% year on year in the quarter), overall east coast domestic gas use was -5% year on year.

Figure 1: Large declines in gas generation driven by increases in lower cost renewables

Change in NEM supply by fuel source – Q2 2023 versus Q2 2022



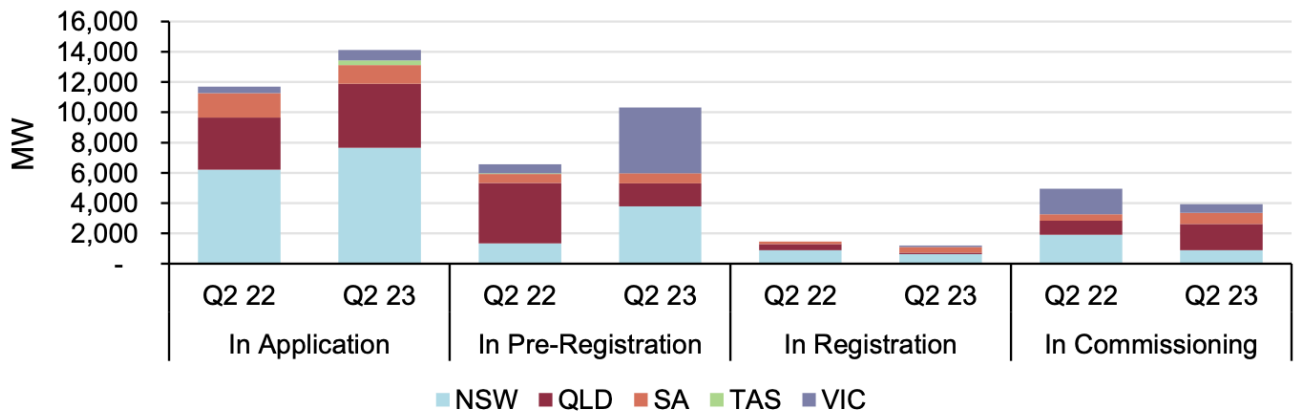
Source: [AEMO OED July 2023](#)

RENEWABLES UP

3.9GW of new zero-emissions capacity was added to the queue in the quarter (with, as noted above, 30GW of new capacity in the connection process, up from 25GW a year ago). (Figure 2.)

Figure 2: Increase in number of applications received and projects under construction

Connections snapshot as at end Q2 for 2022 and 2023

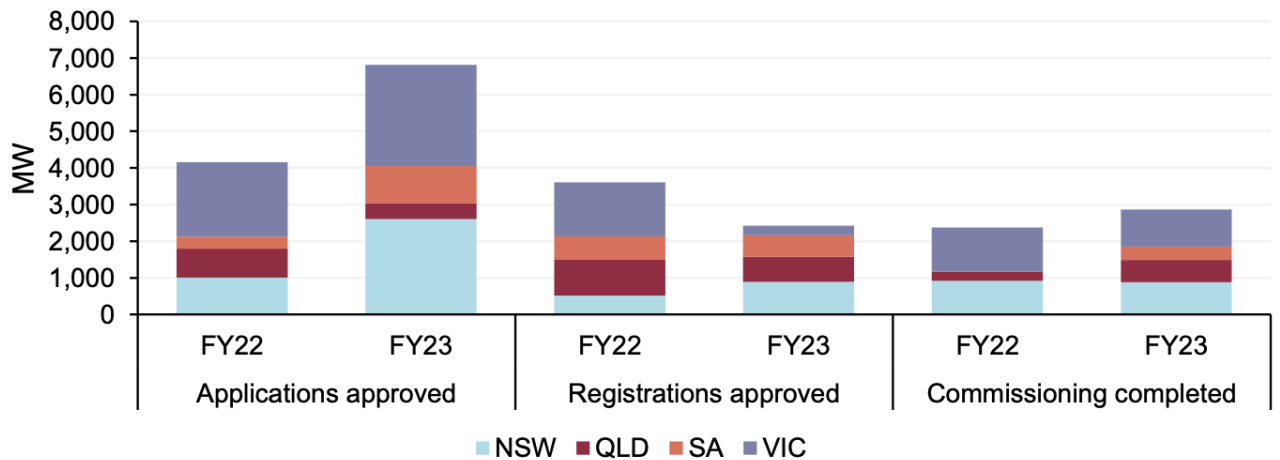


Source: AEMO QED July 2023

7GW of applications were approved in financial year 2023. This is more than double the currently insufficient level of commissionings of 2-3GW per annum. (Figure 3).

Figure 3: Large increase in connection applications approved

Comparison of applications approved, registrations and commissioning for FY22 and FY23



Source: AEMO QED July 2023

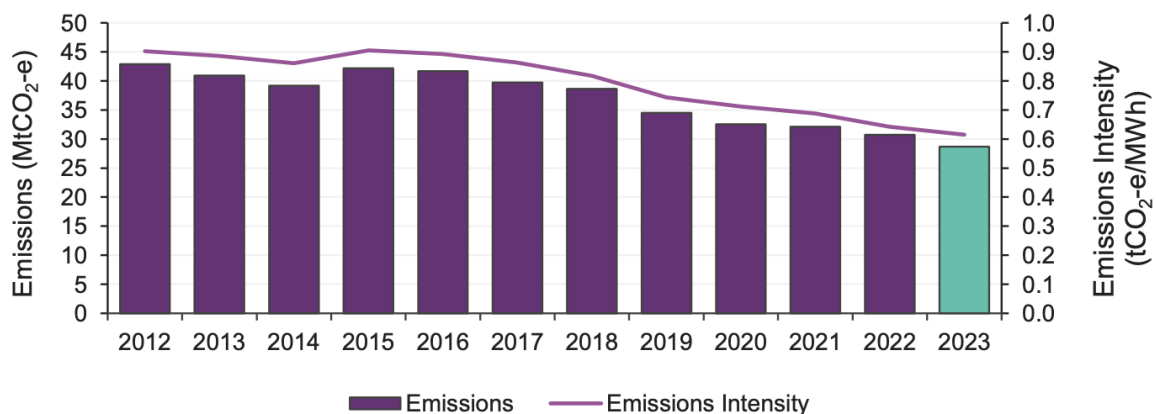
EMISSIONS DOWN DUE TO INCREASED RENEWABLES

The increased supply of renewable energy (36.7% in FY2023, up from 33.3% in FY2022) means that FY2023 carbon emissions from the NEM were the lowest on record for Australia (Figure 4).

This trend is set to continue as we progress to 82% renewables and beyond, permanently locking in lower electricity prices for the long term as well.

Figure 4: The lowest 2Q emissions and emissions intensity on record

Quarterly NEM emissions and Intensity (Q2s)



Source: AEMO QED July 2023

COAL PRICES DOWN

After 18 months of unprecedented fossil fuel commodity price hyperinflation (Figure 5), there is relief slowly coming for Australian energy consumers. The thermal coal export price has dropped 70% since the start of 2023, which should feed through into lower retail electricity prices at the next annual reset, commencing 1 July 2024 (Figure 6).

Figure 5 Thermal coal export price

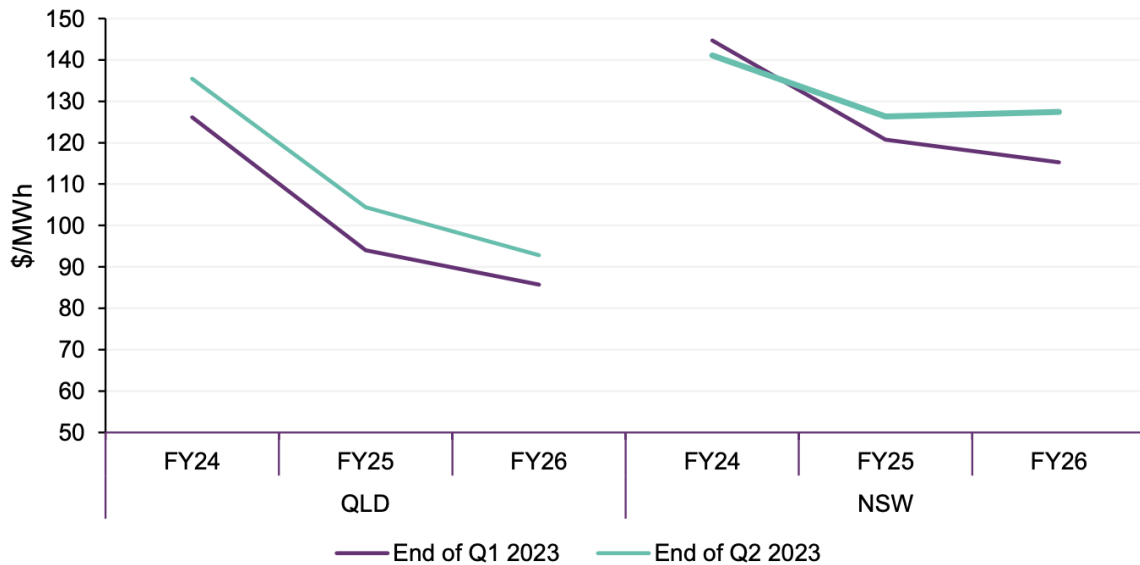


Source: [Trading Economics](#)

It is great to see the NSW government finally considering a [progressive coal royalty scheme](#) similar to Queensland, which is now reaping the benefits in a [huge budget surplus](#). While it is unfortunate this was not put in place 12 months ago in NSW, better late than never.

Figure 6: Future financial year contracts are higher in Queensland and NSW than three months ago, but are continuing a downward trend vs the A\$145/MWh FY2023 average

Financial year contract prices in Queensland and New South Wales – end Q1 2023 vs end Q2 2023



Source: AEMO QED July 2023

For further information:

We present modelling of NSW electricity demand and supply in our new Climate Energy Finance report released this month, [The Lights Will Stay On: NSW Electricity Plan 2023-2030](#)

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