

Chart of the Week

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“In Q2 2017, wind’s share of non-coal merchant revenues in NSW was 17% whilst gas was 42%. Last quarter (Q2 2020), wind’s share of this revenue was 46% with gas at 18%. Not only did wind capture almost half of the entire spot market revenues (excluding coal) in NSW last quarter, it also accounted for more than gas and hydro’s share combined (40%)”

Got your money; wind shaking up the merchant revenue order?

Ideal weather conditions for wind and solar across the NEM in recent weeks saw renewables hit new highs in the National Electricity Market (NEM). A recent update from the Australian Energy Market Operator (AEMO) indicated that around noon on the 20th of August, wind and solar contributed 11.7GW - 46.5% - of total energy for that settlement period. This new record surpassed the previous record of 11.3GW from November 2019 by 400MW.

With wind and solar increasingly displacing dispatchable generation assets, what impact is this having on merchant revenues for different generation types in the NEM? In this chart of the week, we investigate the impact the energy transition is having on merchant revenues by generation type in New South Wales (NSW).

As shown in Figure 1, just three years ago, in Q2 2017, gas and hydro’s total share of merchant revenues (excluding coal) in the state was ~76%. In this same period, wind and solar had a total share of 24% with their combined installed capacity sitting just under a GW at ~900MW. Fast forward to Q2 2020, gas and hydro have seen their combined share of these non-coal merchant revenues drop to a total of 40% whilst wind and solar have increased their share to 60%.

To fully appreciate the rate at which the transition is occurring in the merchant market, we analyse the change by fuel type. In Q2 2017, wind’s share of non-coal merchant revenues in NSW was 17% whilst gas was 42%. Last quarter (Q2 2020), wind’s share of this revenue was 46% with gas at 18%. Not only did wind capture almost half of the entire spot market revenues (excluding coal) in NSW last quarter, it also accounted for more than gas and hydro’s share combined (40%). In this time between Q2 2017 and Q2 2020, wind’s capacity in NSW has more than doubled from ~670MW to ~1.5GW.

Whilst Solar’s share of this revenue pot has also increased

Fig.1: Merchant revenue by generation type in NSW (2017-20)



from 7% in Q2 2017 to 14% in Q2 2020, it’s installed capacity has also increased four-fold from ~250MW in 2017 to ~1.1GW in Q2 2020. Our analysis show that wind is achieving more than four times the increase in revenue of solar for each MW increase in capacity. These results further confirm our earlier findings in **Issue 45** which showed how the time-of-day price shape is causing a divergence in the fortunes of solar and wind in the NEM.

This growth in renewable capacity (especially wind) in the state now means gas and hydro must compete for valuable periods within the day to dispatch. With wind now consistently capturing over 35% of merchant revenues since Q3 2018 (except for Q1 this year), gas and hydro are increasingly feeling the squeeze in the merchant market.

Given the higher run costs of gas units, they have always been expected to run during peak periods (early evenings just after sunset). However, with many planned wind projects and (potentially) REZs in the state, it is left to be seen how far wind (and storage) can push gas out of the merchant market. To find out more about what these trends mean for your project, feel free to contact us about our Benchmark Power Curve price forecasts at enquiries@cornwall-insight.com.au