

Energy Action

The AEMO Quarterly Market Update Summary

Q1 2023



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Our energy trading portfolio

+7000 clients

Across all industry groups

656 GWh

Annual Electricity Consumption

442 Tj

Annual Gas Consumption

NEM Overview

NEM Futures Market:

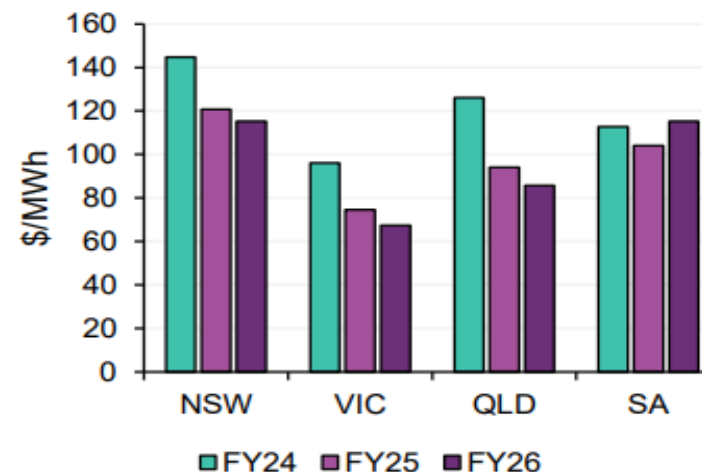
In the Futures Market for Financial Year 2024 (FY24), NSW saw the largest rise this quarter (+31%) to \$145/MWh, with similar increases faced in Queensland (+26%) to \$126/MWh and in Victoria (+25%) to \$96/MWh. In South Australia, prices remained steady, with little volume traded, closing at \$113/MWh (-5%).

Other than South Australia, the mainland regions saw later FY contracts close the quarter at lower prices than FY24, indicating backwardated forward curves & falling price expectations.

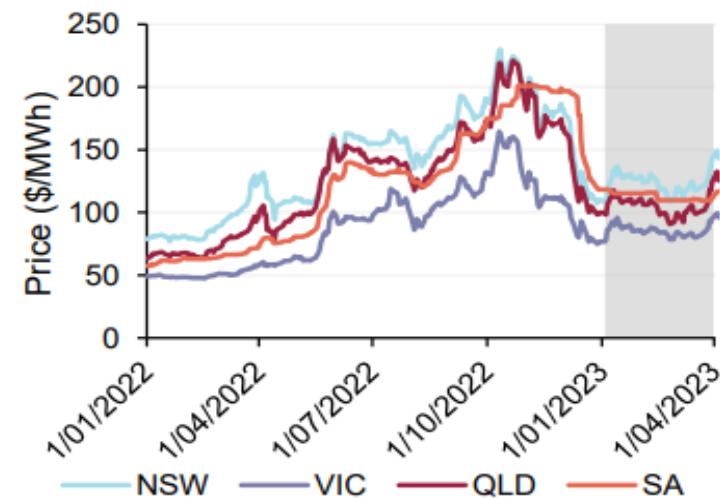
Opportunities for contracting:

For those looking to forward hedge their electricity contracting, backwardated forward curves provide an opportunity to lower costs via forward/future contracting and smooth pricing options.

Fin year contract prices by region as at 31 March 2023



ASX – Energy daily Fin 2023-24 base futures by region



Source: AEMO, Market Report Q1 2023

NEM

Spot wholesale electricity prices have fallen, coal no longer has pricing power during peak periods

AEMO

The trend continues. With lower middle-of-day prices, driven by increasing solar generation capacity and declining operational demand, but higher evening and overnight prices.

Ongoing north-south price differentials were caused by larger share of thermal generation in Queensland and New South Wales.

This has led to QLD seeing its highest Q3 prices on record – double the level of a year ago. Whereas prices fell in all other NEM states, other than NSW.

Energy Action opinion

QLD has a target of 50% renewable energy generation by 2030 and combined with rooftop solar, the state has 7,200 MW of renewable energy capacity. This is likely to have a significant downward impact on daytime pricing. However, nighttime pricing will remain dominated by coal-fired leading to ongoing higher prices than other NEM states.

Figure 17 Lower daytime prices, higher evening and overnight prices

Mainland NEM average Q4 energy prices by time of day

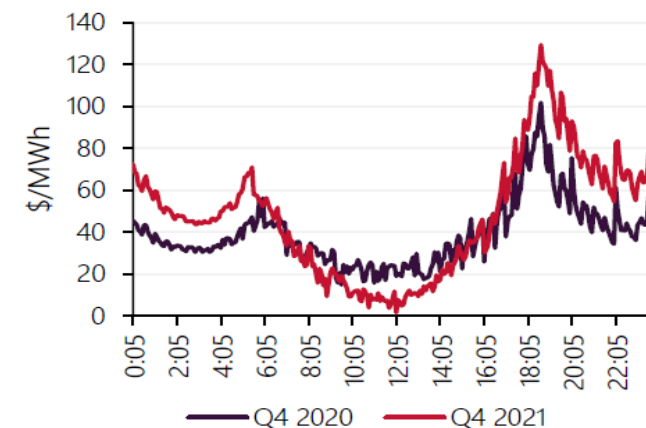


Figure 15 North-South price divide continues

Average spot electricity price by mainland NEM region



Source: AEMO, Market Report Q1 2023

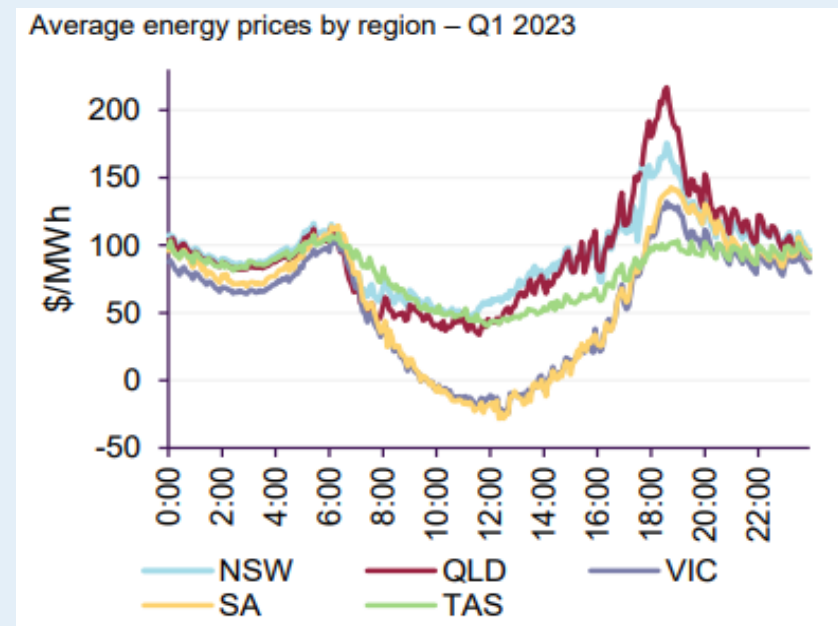
NEM Spot Market

In Quarter 1, we observed Spot Prices return to levels seen before the highs observed in Q2 & Q3 in 2022.

Across the NEM, Wholesale Spot Prices averaged \$83/MWh in Quarter 1. Regional average prices this quarter ranged from \$56/MWh in Victoria to \$104/MWh in Queensland. This range further demonstrating the North/South price separation, with higher prices observed in NSW & QLD and lower prices comparatively observed in VIC & SA.

Comparison to Q1 2022:

We observed an average price of \$104/MWh (-\$45/MWh) in QLD, \$101/MWh (+\$13/MWh) in NSW, and VIC & SA saw consistent pricing when compared, with an average price of \$56/MWh & \$72/MWh respectively. Tasmania saw an average price of \$80/MWh, an increase of +\$10/MWh.



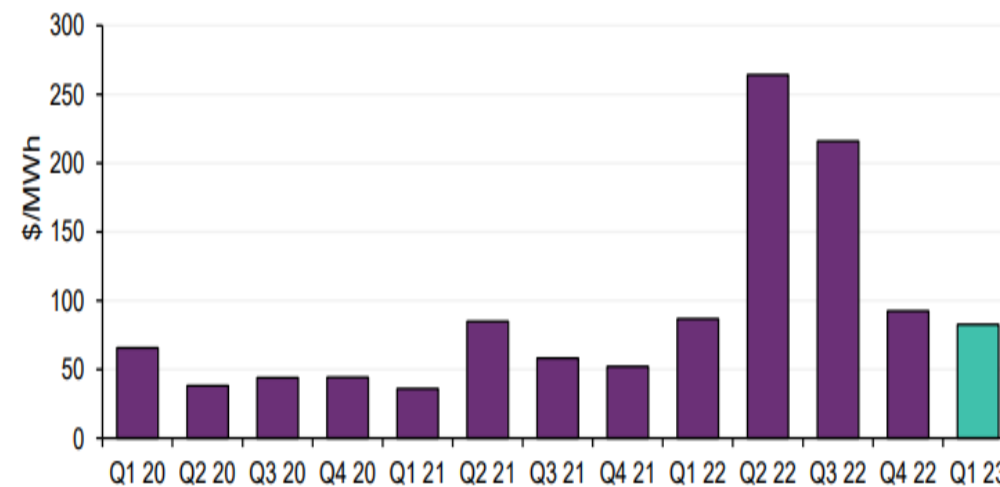
Source: AEMO, Market Report Q1 2023

NEM Spot Market

Q1 2023 Spot Price Drivers:

1. Decreased average operational demand (driven by substantial increase in distributed solar),
2. shift in spot market offers from coal-fired generators (correlated to coal price cap),
3. price separation (restrictions of flows northward to QLD & southward from VIC to TAS),
4. Continued price volatility during the short-term outlook.

NEM average wholesale electricity price – quarterly since Q1 2020



Source: AEMO, Market Report Q1 2023

Demand & Generation in the NEM

Demand:

Average quarterly NEM operational demand (21,181 MW) was 1.5% lower than in Q1 2022, and the lowest Q1 NEM average operational demand since Tasmania joined the NEM in May 2005. This fall was driven largely by a record year-on-year increase in average output for distributed solar (PV).

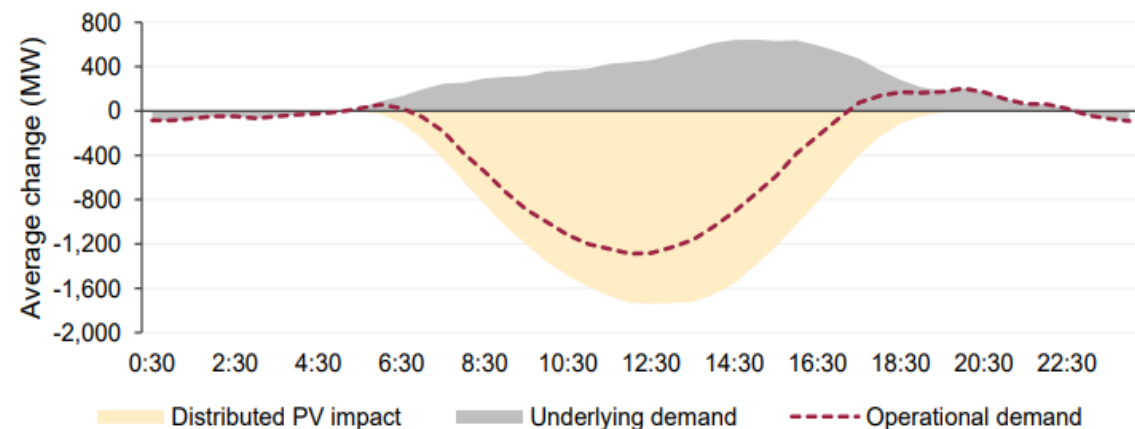
Underlying demand across the NEM increased by 1.0% (to 24,144 MW) to its highest Q1 level since 2019.

Generation:

We continued to observe the trend of increasing output from Variable Renewable Energy (VRE) and distributed PV sources, accompanied by declines in thermal generation.

Coal-fired generation remained the largest contributor in Q1 2023, at 58% of total NEM generation. Renewable generation output increased by 4 percentage points from Q1 2022, contributing to 37% of total NEM generation.

Changes in average NEM demand components by time of day – Q1 2023 vs Q1 2022



Quarter	Black coal	Brown coal	Gas	Hydro	Wind	Grid solar	Distributed PV	Other
Q1 22	44.1%	16.4%	5.8%	6.3%	11.1%	6.2%	10.0%	0.1%
Q1 23	43.0%	15.0%	4.6%	6.1%	11.6%	7.5%	12.1%	0.1%
Change	-1.1%	-1.4%	-1.2%	-0.3%	0.4%	1.3%	2.2%	-

Source: AEMO, Market Report Q1 2023

WEM Pricing Overview

Balancing Market:

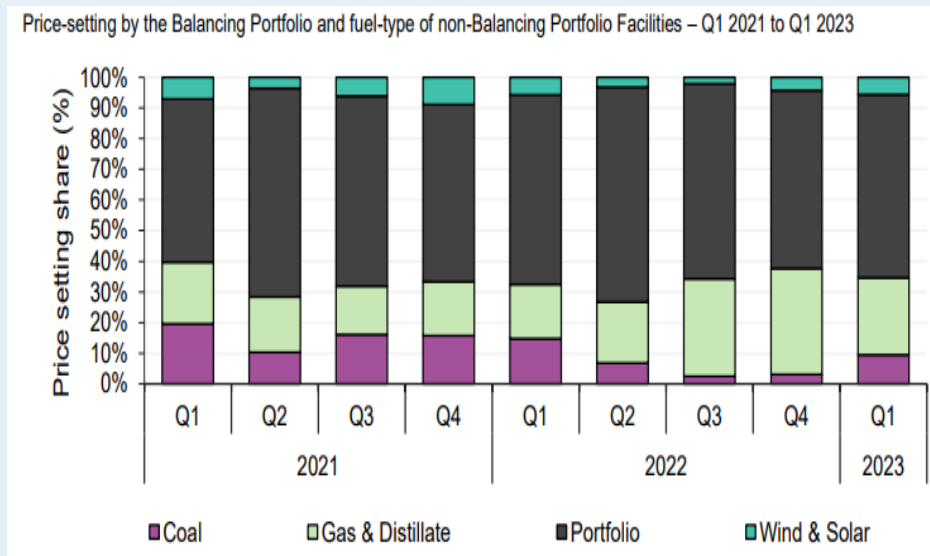
In Q1 2023, the weighted average Balancing Price in the WEM was \$82/MWh, a Q1 record high and the second highest value for any quarter. This was a +\$20/MWh (+33%) increase from Q1 2022.

Drivers of the price increase include:

- A reduction in the quantity of energy made available in the Balancing Market. This was caused by a reduction in facility availability during the quarter and consequent changes to the facilities setting the balancing price.
- Changes to the fuel mix, in particular an increase in gas-fired generation.

Price Setting Dynamics:

- The Balancing Portfolio set the Balancing Price 60% of the time, down 2% from Q1, 2022.
- Independent coal-fired generators set the price less frequently, down 6% from Q1 2022, with gas-fired generators setting the price 25% (+7% from Q1 2022).
- Wind & grid solar remain stable compared to Q1 2022, setting the price 6% of the time.



Source: AEMO, Market Report Q1 2023

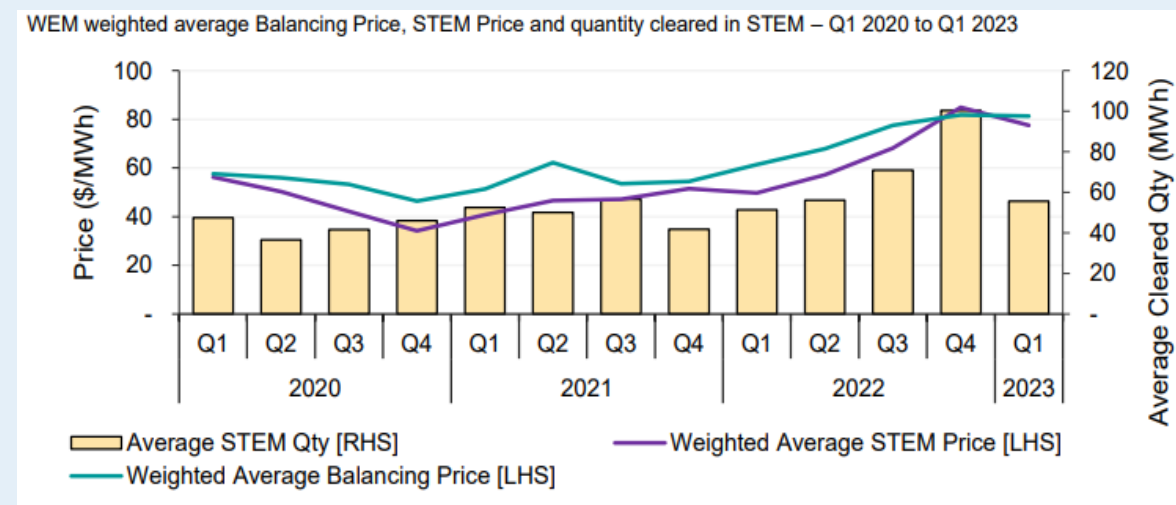
WEM Pricing Overview

Short Term Electricity Market (STEM):

The weighted average STEM price for Q1 2023 was \$77/MWh, an increase of \$28/MWh (+56%) compared to Q1 2022, and a Q1 record high. This is correlated to the record high balancing prices & consequent changes in participant bidding behavior.

In Q1, we saw the quarterly average quantity of energy cleared in the STEM return to historically normal levels, a significant reduction from last quarters record high.

Behavior of Market Participants in the STEM indicates that the STEM is being used as a hedging mechanism against Balancing Price volatility. The decrease in quarterly average STEM quantity can therefore be attributed to the decrease in Balancing Price volatility since Q4 2022.



Source: AEMO, Market Report Q1 2023

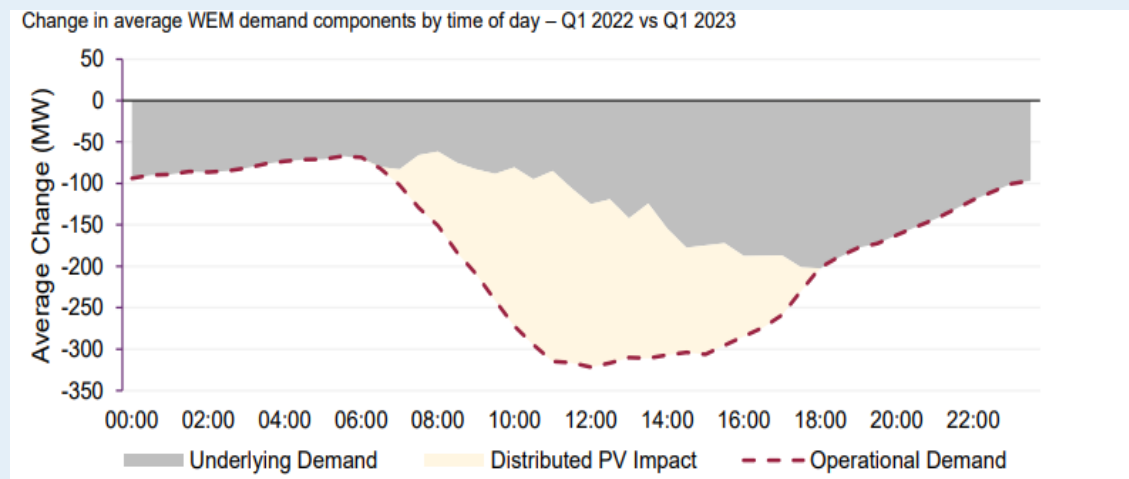
Demand & Generation in the WEM

Demand:

The WEM's average operational demand was down this quarter by 179 MW (-8%) at 2,060 MW, when compared to that of Q1 2022. Lower operational demand was observed in every interval, with a more significant reduction observed in the middle of the day, caused by an increase of 15.8% in average distributed PV generation.

The quarter's average underlying demand was down 118MW (-4.5%) to 2,512 MW when compared to Q1 2022. The decrease in demand is correlated to the milder temperatures seen throughout the quarter, with both the average temperature and average maximum temperature down 1.3°C and 1.4°C respectively.

Maximum operational demand this quarter was 3,676 MW (7.6% lower than Q1 2022), recorded in the 1600 hrs interval on the 2nd of March (hottest day of the quarter). This demand was caused by a combination of high temperatures and high cloud coverage.



Source: AEMO, Market Report Q1 2023

The 2nd of March example puts the increased sensitivity to weather conditions of a modernising energy grid into sharp focus, emphasising one of the central challenges of the energy transition. In this case, two uncontrollable external variables, in conjunction, caused a sudden and unforeseen spike in operational demand.

Demand & Generation in the WEM:

Generation:

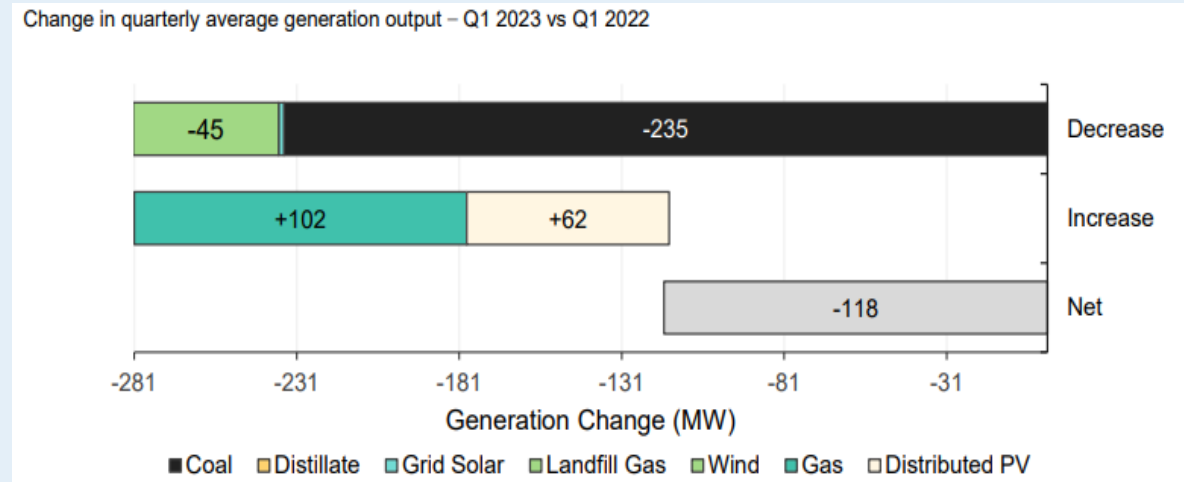
When compared to Q1 2022, there was a large decrease in coal-fired generations during this quarter, which was largely balanced by an increase in gas-fired generation.

Average coal-fired generation reached a Q1 record low of 799 MW, a 29% decrease on the same quarter last year. This decrease can be attributed to the operation of the coal preservation program during January 2023. Conversely, coal-fired generation was up 83% in Q4 2022 due to the end of the coal preservation period.

Wind generation decreased by an average of 45 MW (-9%) and fell in every interval. This can be attributed to a combination of lower average wind availability & constraints to the Synergy Balancing Portfolio in periods of low load.

Grid-scale solar generation was fairly stable, with a slight decrease of 3% on average. While estimated distributed PV continued its growth trend increasing by 16% on average.

Gas-fired generation increased on average by 16%, largely caused by the decrease in availability of coal-fired generation.



Quarter	Coal	Gas	Distillate	Grid Solar	Landfill Gas	Wind	Distributed PV
2022 Q1	39.3%	24.4%	0.0%	2.1%	0.4%	18.9%	14.9%
2023 Q1	31.8%	29.6%	0.0%	2.2%	0.4%	18.0%	18.0%
Change	-7.5%	+5.2%	-	+0.1%	-	-0.9%	+3.1

Source: AEMO, Market Report Q1 2023

Want to know more about how we can support your energy buying and management?

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