# Critical minerals boom a 'remarkable time in history'

### **Brad Thompson** and **Elouise Fowler**

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Pilbara Minerals chief executive Dale Henderson says the past 12 months have been exhilarating and, not surprisingly, a little tiring.

The boss of the world's largest independently owned hard rock lithium company ended the financial year by taking a rare day off. He was angling for a long weekend away from his Perth office with his wife in Western Australia's wine region.

Indeed, it has been a cork-popping year for stocks linked to critical minerals considered essential in the electrification of the economy, and increasingly, national security. Australian miners are now the world's biggest producers of raw lithium, and one of the biggest producers of rare earths outside China.

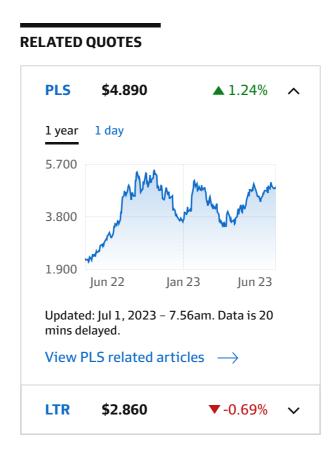


President Joe Biden arrives to speak during a visit to the General Motors Factory ZERO electric vehicle assembly plant. **AP** 

Pilbara Minerals ended 2022-23 with a market capitalisation of \$14.48 billion, up from \$6.88 billion on June 30, 2022. It reported an interim profit of \$1.24 billion, up almost 1000 per cent from the same time last year, and declared an interim

dividend of 11¢ less than three years after its shares were trading at not much more than that.

Mr Henderson said it had been an amazing period not just for Pilbara Minerals but the lithium industry in general. Carmakers are looking to shore up long-term supply of the key battery ingredient and the Biden administration is rolling out multibillion-dollar incentives in critical minerals through its Inflation Reduction Act.



"Lithium was this sort of quirky, odd mineral, which was on this outer orbit," he said. "People knew of it, but it didn't really receive the limelight. Over the past 18 months, it truly has come front and centre.

"And the critical minerals discussion has become front and centre and lithium features proudly in that group, so it's just a remarkable time in history."

Mr Henderson was in Las Vegas last week for the Fastmarkets lithium and battery raw material conference, which he considers the "go-to event" for the industry. The conference doubled in size since last year amid the buzz around lithium and despite some analysts predicting softer pricing.

**Top 20 critical minerals stocks** 

ASX	Commodity	Producer/ explorer	Market cap FY18 (\$bn)	Market cap FY22 (\$bn)	Market cap FY23 (\$bn)
Pilbara Minerals	Lithium	Producer	1.50	6.88	14.48
Mineral Resources	Lithium, iron ore	Producer	3.24	9.39	13.85
IGO	Lithium, nickel	Producer	3.02	7.52	11.37
Allkem	Lithium	Producer	1.32	6.50	10.20
Lynas Rare Earths	Rare earths	Producer	1.67	8.20	6.37
Liontown Resources	Lithium	Explorer	0.03	2.18	6.25
lluka Resources	Mineral sands, rare earths	Producer	4.87	3.97	4.73
Nickel Industries	Nickel, cobalt	Producer	0.00	2.90	2.65
Chalice Mining	Platinum group, nickel	Explorer	0.04	1.40	2.38
Patriot Battery Metals	Lithium	Explorer	0.00	0.00	1.94
Sayona Mining	Lithium	Producer	1.80	1.51	1.71
Piedmont Lithium	Lithium	Producer	0.10	1.00	1.65
Core Lithium	Lithium	Producer	0.03	1.74	1.65
Mincor Resources	Nickel	Producer	0.09	0.89	0.76
loneer	Lithium, borates	Explorer	0.60	0.88	0.71
Arafura Rare Earths	Rare earths	Explorer	0.05	0.61	0.68
Syrah Resources	Graphite	Producer	0.84	0.94	0.59
Argosy	Lithium	Producer	0.22	0.45	0.53
Meteoric Resources	Rare earths	Explorer	0.02	0.01	0.38
Global Lithium	Lithium	Explorer	0.00	0.10	0.13

Source: ASX disclosures

The recovery in lithium prices follows a horror five-month period

[https://www.afr.com/wealth/investing/lithium-prices-to-keep-rising-as-demand-outpaces-supply-20230508-p5d6m3] during which they tumbled more than 70 per cent [https://www.afr.com/chanticleer/the-good-news-about-lithium-s-confounding-correction-20230306-p5cpsr] after China curbed electric vehicle subsidies in January, a move that led to faltering demand and rising inventories.

Lachlan Shaw, co-head of mining research at UBS, observed commodity prices continue to recover after bottoming in April. But all eyes are on Chinese EV sales which will determine where the lithium price settles in the near term. UBS forecasts 8 million EV sales in 2023, with year-to-date May sales at 2.8 million units.

In the second half, monthly sales could reach more than 800,000 units.

While the big jump in the share price of some lithium players has come on the back of takeover offers and mega-merger deals – as with Liontown Resources and Allkem – Pilbara Minerals has largely steered clear of M&A speculation and focused on organic growth.

Pilbara Minerals grew production at its Pilgangoora mine, about 120 kilometres south of Port Hedland, from 378,000 tonnes of spodumene concentrate in 2021-22 to 610,000-620,000 tonnes and plans to keep growing to 1 million tonnes in fiscal 2025.

The company expects the lithium hydroxide plant it is building in South Korea in partnership with POSCO to be up and running before December 31.

Mr Henderson said discussions with potential partners in a second lithium hydroxide plant that could access up to 300,000 tonnes a year of spodumene from Pilgangora showed how far the industry had come.

The last time Pilbara Minerals ran a partnering process was 2017 and there were four interested parties with POSCO coming out on top. This time there were more than 70.

Liontown, another of the stellar ASX success stories of 2022-23, is getting on with developing its Kathleen Valley mine near Leinster in WA and weighing up options to move downstream into lithium hydroxide. Liontown firmly rejected a \$5.5 billion takeover offer from New York-listed Albemarle in March.

A lot of its investors have become millionaires, or Lionaires, based on the rise in value of the stock since Liontown uncovered Kathleen Valley and lithium zoomed into prominence.

## M&A 'very likely'

Mr Shaw told *AFR Weekend* it is "very likely" M&A will sweep through the relatively immature lithium sector, driven by battery manufacturers and EV automakers' voracious appetite for the commodity.

The trend of carmakers taking equity positions or financing battery materials producers and explorers has been most apparent in lithium,

[https://www.afr.com/companies/mining/carmakers-buy-into-lithium-miners-in-drive-to-survive-20230321-p5cu00] as demonstrated by Toyota with Allkem, Ford with Liontown, and Great Wall with Pilbara Minerals. [https://www.afr.com/world/north-america/why-detroit-wants-you-to-think-a-1000hp-electric-hummer-is-the-future-20221004-p5bmy2] [https://www.afr.com/world/north-america/why-detroit-wants-you-to-think-a-1000hp-electric-hummer-is-the-future-20221004-p5bmy2]

"The big incumbent miners in the lithium space – Albemarle, SQMs, Ganfeng – see their customers moving quickly to secure more supply, which in turn spurs them to seek more strategic supply," Mr Shaw said.

### Minerals such as lithium, rare earths, graphite

[https://www.afr.com/companies/mining/is-this-beaten-down-battery-stock-the-next-lynas-20230526-p5dbhr] and nickel have surged into focus for investors as governments declared them "critical" to decarbonisation efforts and national security. Rare earths and minerals are crucial for making batteries, solar panels and defence equipment.

The \$US369 billion US Inflation Reduction Act, Joe Biden's flagship energy bill, has become the centre of the global green metals boom, offering tax credits and subsidies to companies striking deals with "friendly" nations, in a move to re-orient China's dominance over supply chains. [https://www.afr.com/world/north-america/whydetroit-wants-you-to-think-a-1000hp-electric-hummer-is-the-future-20221004-p5bmy2]

As countries rush to cut their reliance on China, the Albanese government unveiled its long-awaited critical minerals' strategy last week, committing a further \$500 million from the Northern Australia Infrastructure Facility

[https://www.afr.com/politics/turnbull-government-to-overhaul-5b-northern-australia-infrastructure-facility-20180417-h0yvz6] to give a leg-up to downstream processing. The government will review Australia's critical minerals

[https://www.afr.com/companies/mining/critical-minerals-stocks-are-now-worth-more-than-gold-20230613-p5dg3s] list by the end of the year.

### **Downstream processing**

Australia mines 53 per cent of the world's lithium supply, but 96 per cent of Australian lithium is sent to China because that is where 56 per cent of the world's lithium-processing facilities are located.

The wave of new lithium hydroxide processing plants built in WA is slowly reducing China's dominance of battery-grade lithium, but will amount to only 10 per cent of world lithium hydroxide supply by the end of 2024.

### As Australian miners race to set up downstream

[https://www.afr.com/companies/mining/albemarle-s-downstream-lithium-spend-in-wa-to-hit-4b-20230503-p5d564] processing plants in WA, Mr Shaw says the "jury is still out" on whether the economics stacks up.

"It is a complex question with no easy answer", but the outcome will be shaped by spodumene and chemical prices, the Inflation Reduction Act, relatively competitiveness with China, and the market power of manufacturers. Whether Australian miners have the technical capability "warrants more work and will likely yield different answers depending on the miner/ strategy," he said.



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