

## Drill now, dig later

Australia's mining industry is once again poised for growth as renewed exploration spending plants the seeds of future expansion.

John Robertson\* | 03 Aug 2017 | 6:15 | Opinion



*Australia is already a lithium producer on a global scale thanks to the Greenbushes mine in Western Australia*

The Australian Bureau of Statistics (ABS) has reported that the number of metres of exploration drilling within Australia across existing and new mineral deposits rose by 22.3% over the year to the end of March 2017.

Unsurprisingly, exploration efforts have been highly cyclical. Despite the recent rise, the seven million metres of drilling completed by the industry over the year are still at the lower end of the range of outcomes over the past three decades.

From a peak of 11.4 million metres in 2011/2012, the annual drilling rate dropped to slightly below six million metres at the most recent low point in the exploration cycle in 2015. In 1997, annual drilling rates had peaked at 13 million metres before dropping to under five million metres in the cyclical trough during 2002. In the early 1990s, the drilling rate sat slightly below six million metres at the bottom of that cycle.

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The ABS has also reported that Australia's mining product declined 2% over the year to the end of March 2017 after an 80% increase between 2010 and 2016 driven by a surge in iron ore and coal production.

Thirty years of data show a strong positive correlation between the amount of drilling undertaken by the industry and

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*"Companies have laid the foundations for genuine opportunities across a wide array of industrial commodities beyond iron ore, coal and copper"*

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growth in mine output approximately two years later. The near-term decline in output that followed more than three years of declining exploration activity is consistent with this historical relationship.

The most recent rise in exploration activity now suggests an output-growth acceleration in another 18-24 months.

In addressing the growth outlook for the Australian industry, Daniel Gleeson's recent Mining Journal report (Australia after the boom, July 17, 2017) highlighted a possible mismatch between the industry's bulk commodity orientation and the changing demands of raw material users.

Australia, with its endowment of iron ore, coal and copper controlled by some of the largest companies in the industry, was well positioned to take advantage of China's early-stage development needs.

The composition of China's raw material needs was always likely to shift. As I first discussed in a Mining Journal column in 2014 (Old metals to slow as China restructures, April 25, 2014), a Chinese economy relying more heavily on domestic demand and services would mean less emphasis on iron ore, for example, and a heavier emphasis on metals such as aluminium, zinc and tin.

Historically-unique structural changes are also having an impact on demand patterns, the most obvious of which is the world-wide electrification of transport driving interest in lithium, graphite and cobalt.

The fear of climate change also looms as an influence, negatively for coal but positively for uranium and some critical rare earth elements.

While Australia's largest and highest-profile miners have been focused on delivering bulk commodities to China, dozens of other companies have been establishing an impressive pipeline of prospects that more closely match future global needs.

From an investment standpoint, some of these development initiatives have proven disappointingly premature. Still, in some of the toughest conditions in the history of the industry, companies have laid the foundations for genuine opportunities across a wide array of industrial commodities beyond the iron ore, coal and copper needs of an industrialising Chinese economy.

Australian zinc production has fallen with recent mine closures in Queensland but MMG will help push output higher in the coming year. Meanwhile, Metalicity is sitting on a world-scale development in Western Australia.

Australian aluminium production is taking a hit as governments become less willing to subsidise energy-intensive industries. With over 20% of the world's estimated bauxite reserves, however, the country is likely to ship more to alumina refineries closer to more competitive energy supplies opening up opportunities for smaller companies in Western Australia and Queensland to engage in direct shipping.

TOPICS (select for more information):

Coal Copper Iron ore Lithium

Nickel Phosphate Potash

rare earth elements Tin Zinc

Australia China BHP

Elementos Independence Group NL

Kidman Resources Metalicity

MMG Northern Minerals

Pilbara Minerals SQM

St George Mining Toro Energy

Verdant Minerals Vimy Resources

Australia's nickel production has been damaged by refinery and mine shutdowns in the near term but the development pipeline remains especially strong, with exploration increasingly spurred by the attraction of cobalt co-credits.

Independence Group is currently at the forefront of the industry's growth potential but currently mothballed properties are sources of additional metal. St George Mining, a beneficiary of BHP quitting the space, is producing exploration results that suggest future development opportunities.

Australian governments have not always supported uranium mine development but, in recent weeks, both Vimy Resources and Toro Energy, along with two foreign-owned miners, have been given the go-ahead by the Western Australian government to continue their development planning, while Australia's largest uranium mine at Olympic Dam still operates below potential.

Western Australia is already a globally important source of lithium. Ventures by Pilbara Minerals and the newly formed Kidman Resources/SQM partnership will ensure its ongoing importance. Australian Vanadium is also optimistic about changed energy-storage needs underpinning its Gabanintha vanadium mine development.

In Tasmania, Elementos is making progress toward a tin mine at Cleveland in a region of proven mineralisation.

Australia is well positioned geologically and geographically to participate in the growing trade in fertiliser inputs such as phosphate and potash. The Dandaragan property held by Parkway Minerals is too big for a small company on its own but remains a standout development for a major investor. Verdant Minerals has ambitious plans for an eventual fertiliser plant in the Northern Territory based on regional phosphate and potash deposits.

In the rare earth element space, Northern Minerals is pushing ahead with Browns Range in Western Australia, a world class dysprosium mineral deposit.

Most of this handful of examples have faced significant funding headwinds but are near existing infrastructure leaving them easier to finance, as markets turn, than many of the large-scale mining developments of the last cycle.

The Australian industry has been positioned – sometimes inadvertently – for life after coal and iron ore with a pipeline of projects based on demonstrated mineral resources capable of being brought forward as market needs evolve.

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