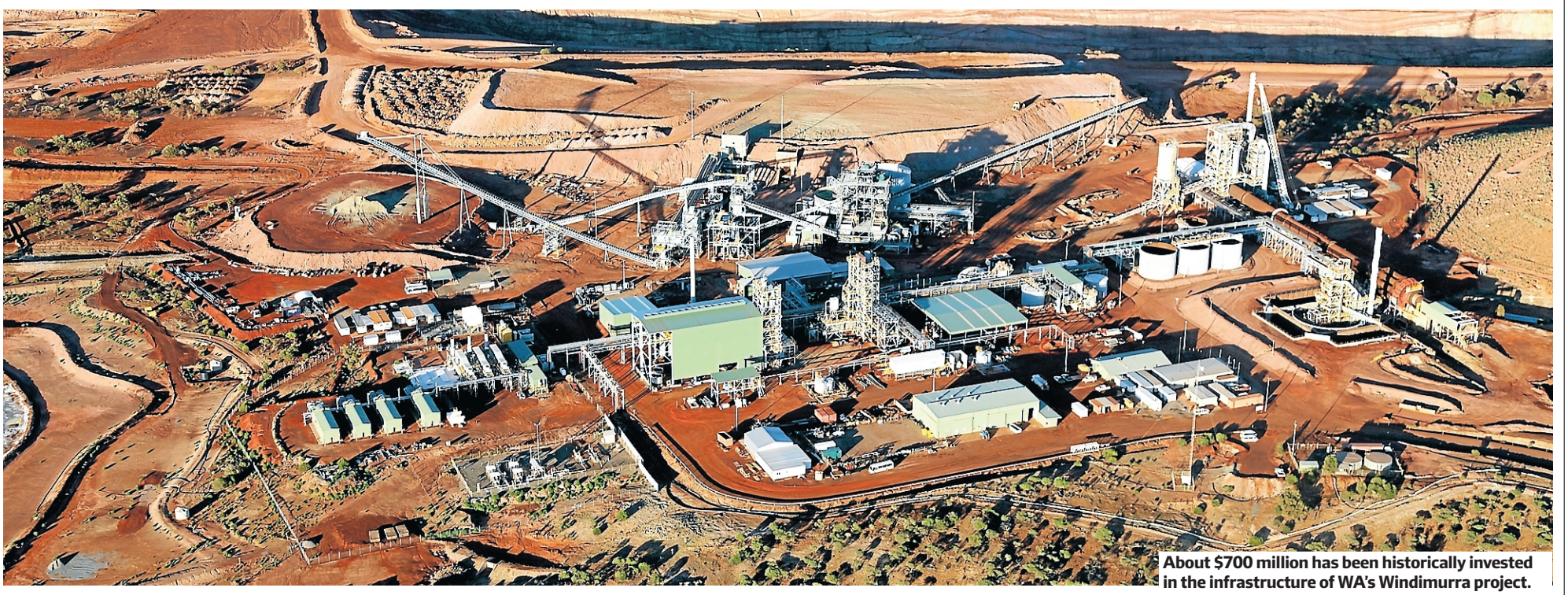
ADVERTISING FEATURE

Vanadium



About $700 million has been historically invested in the infrastructure of WA's Windimurra project.

Atlantic looks to revive vanadium facility

While the iron ore industry may be its main beneficiary, rising appetite for high-grade steel in China is also boosting prospects for a key ingredient used in specialty steels.

Vanadium, a ferro-alloy component that is used primarily to increase tensile strength of particular steels, has surged in price over the past year, in part due to the growing Chinese demand.

Now, an Australian miner is seeking to revive vanadium production in WA to take advantage of a growing supply-demand gap in the global market. Perth-based Atlantic Vanadium Pty Ltd expects to soon complete its feasibility study to redevelop WA's Windimurra project, which it acquired in May 2016.

"Windimurra is the only vanadium production facility in Australia, we have an enormous amount of infrastructure in place already, and we also have all key approvals," Atlantic Vanadium director Tony Veitch says.

Located 600 kilometres north of Perth, Windimurra includes a fully approved vanadium mine with plant and infrastructure. Once developed, it could potentially produce 4500 tonnes of contained vanadium and 0.8 million tonnes of iron ore fines per annum. The project was originally developed by Xstrata in the 1990s, and about $700 million has been historically invested in the infrastructure.

This includes a dedicated gas pipeline from the west coast of WA, a large processing facility and mining operation, a massive roasting kiln, a significant vanadium refinery and a 220-man camp for fly-in-fly-out staff.

Windimurra is now under care and maintenance after a fire damaged part of the plant in 2014, but Atlantic says it expects to make a decision on redevelopment by the middle of the year.

"We estimate we will need to spend

approximately $150 million to redevelop, primarily involving a rebuild of the crushing, milling and beneficiation section of the plant that was damaged in the fire," Veitch says.

Windimurra holds one of the world's largest proven reserves of vanadium, with reserves of 55 million tonnes at 0.49 per cent V_2O_5 , and resources in excess of 200 million tonnes.

There is significant expansion potential given the estimates are based only on a 6km section out

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> Tony Veitch, Atlantic Vanadium

of a 27km strike length, and proven continuation of mineralisation. That would translate to a 15-year mine life based on the JORC reserves. However, the current study is likely to see that increased to a mine life of 25 years or more. The project could potentially have a mine life in excess of 50 years based on existing JORC resources.

All-in cash costs are estimated at $US4.50 per pound of V_2O_5, so Windimurra would be highly profitable even at long term average prices of $US8/lb V_2O_5. Prices currently hover around $US15/lb, making it a highly profitable operation with a payback period between one to two years.

Vanadium is typically used to strengthen steels used in high-rise construction, bridges, or as an alloy with titanium for use in the wings and fuselage of aeroplanes. It is also used in high-speed tools used in the construction industry, and in specialist chemicals.

However, recent applications in the batteries space – particularly in vanadium flow batteries for grid-level storage – have surged, and now account for up to 5 per cent of global demand.

Vanadium prices were first impacted two years ago when a large South African producer shut its steelmaking operations that produced vanadium as a byproduct – taking out about 5-10 per cent of global production. Simultaneously, demand grew from the traditional steel and aerospace industries, especially due to new environmental and safety specifications in China that require use of much more vanadium in steel production. Demand for vanadium flow batteries has jumped, as well. New vanadium demand is estimated to range from 40-80 million pounds/year, underlining real interest in new production facilities globally.

Atlantic is looking to redevelop Windimurra as a vanadium-only project, but is separately studying ways to monetise the iron and titanium that remains as a waste-product under existing processes. It has worked with research institutes in WA to identify a method to convert the existing infrastructure to allow it to produce vanadium, iron and titanium.

While detailed pilot-testing is still required, Atlantic is targeting multi-commodity production in the long-term, such that it could effectively double revenue, but add only 25 per cent to costs.

If its board agrees to proceed with redevelopment, Atlantic aims to start construction by year-end, with production targeted for early 2020.

There have been discussions with interested parties for offtake agreements and it could consider a strategic investor, but a decision will be made once financial metrics for the project are clearer.

Atlantic, which is wholly-owned by Indonesian conglomerate Salim Group, says the financing decision will be made with its shareholder and rules out an ASX listing in the near term.

"The group has the financial capability to develop this project ourselves," Veitch says.

"That may not be how we will do it ultimately, but certainly, unlike other junior miners, we have got a substantial balance sheet behind us."