

## Opinion

FROM THE CAPITAL

# Lithium disrupters changing market

Future for metal supply chain looks very different to today. But should investors just charge in?

John Robertson

Cobre Montana is not, as its name suggests, looking for copper in the Americas. It aims to turn the lithium market on its head by demonstrating a mineral resource big enough to confound any industry observers.

The lithium market is undergoing cathartic change. With disrupters on the supply side as well as among the users of the metal, the transformed industry is set to look vastly different in five or 10 years from now.

Adrian Griffin, the managing director of Cobre Montana, starts his company presentation to investors with a bold statement of intent. The company, he says, "aims to control the greatest lithium resource base of any company worldwide".

Griffin's remarks, no doubt designed to grab attention, still push against the bounds of credibility, even in an industry with as many artful practitioners of exaggeration and overstatement as mining.

But Griffin, surprisingly enough, does have a case to put in support of his claim. Cobre Montana is the first and only company, he says, to produce battery-grade lithium carbonate from micas. This he knows to be true because the process for treating micas has only been developed recently in partnership with Perth-based metallurgical consultants Strategic Metallurgy Pty Ltd. Until now, the mineral had been a worthless waste product.

Cobre Montana has an exclusive licensing right for the technology throughout Western Australia and at two sites worldwide with more licences to be made available as required.

The potential to extract lithium from micas will break the lock on the economic sources of lithium by brines and the hard rock spodumene and petalite deposits found in Australia, Canada and elsewhere.

Cobre Montana has run tests on micas drawn from sites in Western Australia but is yet to engage in commercial production. Conceptually, the company can bypass the mining stage and move straight to treatment of ores previously regarded as uncommercial waste. It has set up partnerships with Pilbara Minerals and Focus Minerals in Western Australia but the main goal presently is to use its technological advantage on a tin deposit at Cinovec on the border with Germany in the Czech Republic.

Cinovec has an inferred resource of 515Mt



of ore containing 0.43%  $\text{Li}_2\text{O}$  with an additional exploration target of 350-450Mt with 0.39-0.47%  $\text{Li}_2\text{O}$ . The property belongs to ASX-listed European Metals Holdings.

Cobre Montana intends coming up with a development proposal in the next few months that will lead to a processing agreement and some form of joint working relationship.

Most likely, Cobre Montana will have to contribute to some of the mining costs, even where it is treating waste. Even then, Griffin says it will produce competitively with brine producers in South America at the low end of the cost curve.

Whether or not Cobre Montana realises its aspirations, the company illustrates a broader point for any investor looking at the lithium market today. Technology is transforming all aspects of the lithium supply chain.

Just as Cobre Montana was marketing its wares this past month, another company doing its bit to transform the supply side was pushing its own innovations. Canadian company Nemaska Lithium announced in mid-February that it had received a C\$13 million (US\$10.3 million) grant under a Canadian government funded scheme to commercialise a lithium hydroxide plant.

The plant, using the company's proprietary technology, will convert spodumene concentrate into high-purity lithium hydroxide. The product will complement a lithium carbonate production stream based on its Whabouchi deposit in Québec for which the company has estimated 27.3Mt of proven and probable reserves with an average 1.53%  $\text{Li}_2\text{O}$  grade. Nemaska Lithium has produced a feasibility study based on annual average production of 28,000t of lithium hydroxide and 3,250t of lithium carbonate.

Any judgement about the state of the lithium market in five or 10 years will depend on how effectively these companies, among many others attracted by seemingly impregnable operating margins, deliver against their expressed intentions.

Then there is the disruption being wrought by the users of lithium. Elon Musk's Tesla motor vehicle is the headline perpetrator of changes, but he might yet prove small beer. He is currently tied to Panasonic, the world's largest producer of lithium-ion batteries and the operator of the proposed Nevada gigafactory that is supposed to have capacity by 2020 to produce as many lithium-ion batteries in the one location as are currently manufactured worldwide.

Other car manufacturers, all of which are looking to bring electric powered cars to market, could swamp his ambitions to manufacture electric vehicles. They might also be in a stronger position to dictate technology, including technologies that favour other raw materials.

Musk's ambitions, in any case, seem to extend beyond motor cars. It might be better to think of his goal as changing the way electricity is distributed. Eventually, he might do more damage to the business model for power utilities than how motor car manufacturers do business. How households generate and store electricity and their relationship with local, regional and national suppliers could drive technology and dictate raw material needs in the future.

Taken together, the likes of Cobre Montana, Nemaska, Panasonic and Tesla suggest disruption on a large scale at every point along the supply chain. Into this mix steps the investor who, explicitly or otherwise, must take a view about how these forces will evolve and where along the supply chain the best investment returns are going to be found.

There will be a temptation at this point in the cycle to go looking for lithium in preference to other commodities whose investment fortunes appear far dimmer due to their links to a dour global economic outlook.

A portfolio manager may still want multiple exposures to a range of possible business outcomes, but any representation of the future will necessarily come with very wide confidence limits. Lithium might offer an escape from the dreaded economic cycle but a leap into the unknown comes with a different set of investment challenges. ▼

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