



# Resources

## Stocks Down Under

📖 *Better to live true to yourself for an instant than never know it.* 📖

- Hannibal Lecter (Hannibal TV show), American TV show character

### — EUROPEAN METALS

Czeching out Cinovec again

### — EURO MANGANESE

Recycling white gold

### — ALLEGIANCE COAL

Horns up on New Elk

## EUROPEAN METALS

Czeching out Cinovec again

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Stocks Down Under rating: ★★★★★

**ASX: EMH**  
**Market cap: A\$ 202M**

**52-week range: A\$0.20 / A\$1.92**  
**Share price: A\$ 1.24**

European Metals owns Europe's largest lithium deposit through its Cinovec Lithium and Tin Project in the Czech Republic. Despite the project's complicated history as a tin mine, Cinovec is likely to get a second life supporting much of Europe's locally sourced lithium thanks to the fact that the project sits in the heart of Europe's battery/automotive industry. Best of all, the project is bigger than all other hard-rock projects in Europe and that has already proven very attractive to the company's partners.

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## EURO MANGANESE

Recycling white gold

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Stocks Down Under rating: ★★★★★

**ASX: EMN**  
**Market cap: A\$ 177M**

**52-week range: A\$0.058 / A\$0.965**  
**Share price: A\$ 0.47**

Chvaletice, named after the village of the same name in the Czech Republic, has been sporadically mined for manganese, iron and pyrite over the last century and could have become a state-owned producing manganese project in 1989 if it weren't for a change in the country's political regime. After being dormant for so long, Euro Manganese is hoping to put that manganese project back in motion in partnership with Europe's green transition – with an added layer of sustainable practice.

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### Share price chart



Source: Tradingview

### Back from the dead

If you want to find a heck of a lot of lithium, tin and other metals, just drive 100 km northwest of the Czech capital of Prague until you get to the border with Germany in an elevated region the locals call the Krusne Hory. You know your deposit is going to be big because Krusne Hory's German name is the Erzgebirge, that is, the Ore Mountains. You see, this region is world-famous as a historic mining centre with artisanal workings as far back as the 1300s. The Cinovec mine, which is the basis for European Metals' current project, began life in the 1940s as a tungsten and tin operation, eventually closing in 1993 following the early 1990s collapse in tin prices. European Metals got hold of it in 2012 and by 2017 a Pre-Feasibility Study posited that Cinovec had the potential to become the world's lowest-cost hard-rock lithium project. The study's hopeful conclusion was that Cinovec can produce 15,000 tonnes per annum (tpa) of lithium hydroxide or lithium carbonate once operations begin. Updates have since pushed this figure up to 21,000 lithium tpa and 1,000 tpa of tin.

While redevelopment will be substantial, the economics for Cinovec are compelling: as of mid-2019 the project had a post-tax Net Present Value of US\$1.1bn (at an 8% discount rate) and an Internal Rate of Return of 29%. The undeveloped resource includes the by-product potential of tungsten, potash and rare earth elements, such as niobium, scandium and tantalum. The uniqueness of Cinovec, including its location and large mineral resource of 372.4 million tonnes at 0.4% lithium, has enabled European Metals to secure strategic

partnerships with the major Czech energy company CEZ and an important EU agency called the European Institute of Innovation and Technology (EIT).

## **Cinovec is a huge part of Europe's EV revolution solution**

Cinovec's location and history as a functioning mine gives European Metals a prodigious opportunity to supply increasingly in-demand lithium hydroxide product for Europe's emerging Electric Vehicle (EV) industry. Europe has quickly become the epicentre for EV demand. No wonder given Europe's ambitious emissions-free transport policies. By 2029, the continent could produce more than 500-gigawatt hours' worth of lithium-ion battery cells, which would require up to 500,000 tonnes of lithium hydroxide.

While this is primarily about predicted EV sales growth, it's also about Europe's self-sufficiency. With majors like Volkswagen planning to build 22 million EVs over the next ten years, there is an almost frantic effort to keep that lithium supply at home and away from big export markets like China. European Metals managing director, Keith Coughlin, has mirrored this sentiment, pointing out promising developments, like Cinovec, will contribute to Europe's own strategic interests.

Even with all that history, Cinovec's redevelopment cost is not small, with European Metals looking at a capital cost of US\$483m. The cost of development is often a barrier for smaller companies hoping to generate viable production, but Cinovec is fully funded (until the investment decision) from the \$29m investment made by CEZ, which owns 51% of the project. Apart from covering power operations across nine countries, CEZ is the biggest operator of EV public charging stations in the Czech Republic and has partnerships with various automotive groups. Although it is only one mine, the build-up of Europe's supply chain from partners like CEZ puts Cinovec one step closer to becoming the first European lithium producer from a local source making a contribution to the EU target of 80% lithium sourced locally by 2025.

## **Strengthening the chain**

Because of Cinovec's proximity to leading EV makers, European Metals is looking to take its own advice in making the project sustainable. For example, the mining fleet will be fully electric. The real money-test, however, will be the choice of mining process. Cinovec's hard rock zinnwaldite ore is amenable to single-stage lithium roasting rather than the double process of roasting and cooling of ore involved in some Australian lithium spodumene projects. Not only is this a lot less complicated, but it's also slated to reduce operating costs to \$4,876 per tonne lithium hydroxide. European Metals is confident its operation is very clean and in early May it filed its Environmental Impact Assessment with the relevant Czech ministry.

By reducing its majority stake to 49% in favour of CEZ's 51%, European Metals is hardly losing out, in our view. As we noted above, the CEZ partnership comes with the necessary funding security needed to get the project into development. The CEZ deal (along with EIT and another plant construction specialist, the Düsseldorf-based SMS Group) is an indication of how quickly Europe is gearing up to meet its targets (both the climate targets and the sales kind), but there is still a long-lead to commercialisation at Cinovec.

European Metals is progressing drilling for an updated resource, but additional strategic partnerships with local battery and EV makers will be a bigger catalyst for the project as the continent continues to strengthen its own supply chain. Four stars from us, ahead of a DFS completion next year.

# EURO MANGANESE

Recycling white gold

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## Share price chart



Source: Tradingview

## Making use of existing material

Although manganese has always had a primary function as an essential ingredient in steel production, it is also a critical battery metal. The demand for high-purity manganese (HPM) is set for major growth in the battery sector. Manganese is not in short supply – Australia, China and South Africa make up around two-thirds of global production – but that kind of tightly-held production makes it susceptible to supply disruptions. And like other battery metals like lithium, manganese is not a 'free compound,' meaning it usually has to be extracted through extensive crushing and leaching.

Euro Manganese thinks it has a solution to this, at least where Europe's supply chain is concerned, in Chvaletice. The village's name, by the way, is pronounced 'khwai-a-teet-say' and yes, it took us a few times to get this right as well. To Euro Manganese Chvaletice, about 90 km east of Prague, is a great source of manganese, not through mining but through processing the existing wastes of the old mining operations. Manganese is spread evenly throughout the deposit in three above-ground tailings, with about 2 million tonnes contained overall. The company previously determined a total mineral resource estimate of 27 million tonnes with a manganese grading of 7.3% through its 2017-2018 drill and metallurgical testing program.

Based on that estimate, Euro Manganese's 2019 Preliminary Economic Assessment (PEA) has highlighted a 25-year operation producing 50,000 tonnes of high purity electrolytic manganese metal (HPEMM) per annum, 65% of which could be converted to high purity manganese sulphate monohydrate (HPMSM). The project has an after-tax Net Present Value of \$593m (10% discount rate) and an Internal Rate of Return of 22.6% requiring \$404m in capital costs.

## **Recycling, not mining**

Chvaletice is already proving irresistible to investors for its potential to become Europe's only realistic large-scale production of HPM products and critical battery materials, with Euro Manganese's share price lifting to a high of 88 cents in February. Although we've noted here that HPM demand is growing, not all manganese is created equal, and manufacturing high-performance lithium-ion batteries increasingly requires HPM as the technology improves. While 7.3% sounds small, the emphasis is on quality: Euro Manganese's original pilot plant confirmed Chvaletice's suitability to produce ultra-high quality HPEMM containing 99.9% manganese. The difference between 'conventional' electrolytic manganese and HPM is only 0.2%, which may seem small but is a significant factor for battery makers when choosing the right product.

Once Euro Manganese begins the process through an upgraded on-site processing plant, the forecast for the company and the wider battery sector is set to get interesting: use of HPM will grow from 50% to 60% of all batteries, with Electric Vehicle batteries accounting for 84% of the manganese demand across the battery sector by 2040.

The extraction of pyrite, in particular during the early '70s, and the creation of significant amounts of waste from the three existing tails piles at the site of the decommissioned mine has impacted the local area, including the water supply. So, Chvaletice's repurposing as a recycling plant is arguably a greater selling point for Europe's battery industry. Because no mining or milling is required to extract the manganese – the ore being well and truly crushed – the company's strategy has attracted support from private and public groups, including EIT InnoEnergy. The support the company will receive from EIT – such as €362m in project funding and assistance with offtake agreements – puts it ahead in terms of integrating into the European supply chain. It also demonstrates the level of confidence in a project like Chvaletice given its green credentials.

## **A sustainable, circular economy**

The next critical step for Euro Manganese will be the facilitation of a demonstration plant, targeted for completion in early 2022. The demonstration plant, which is a scale-up of the pilot plant designed to produce 32 kg of HPEMM or 100 kg of HPMSM, is key to securing HPM customers and getting that supply chain qualification. As the project nears a final Environmental Impact Assessment (EIA), the development plan will also focus on the Feasibility Study built upon the earlier PEA with a potential start for commercial production in 2024.

After five years of studies, evaluation and planning, Euro Manganese is fairly well funded as a result of an oversubscribed placement of \$30m (CAD29m) in March, putting that cash balance at CAD33m. Although the company anticipates further funding will be needed to complete the Feasibility Study and plant, the funding it does have stems in part from environmental and social governance funds. Since the project has the potential to provide up to 50% of projected European demand, Chvaletice has wider implications for Europe's switch to sustainable development and self-sufficiency beyond the remediation of one old, polluted mine.

For investors with the patience to back this vision ahead of the Feasibility Study, Euro Manganese is four stars, although it might be better buying if it successfully breaks the 50-cent resistance level.

# ALLEGIANCE COAL

## Horns up on New Elk

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### Share price chart



Source: Tradingview

Like most commodities, metallurgical coal, or metcoal, the coal we need to make coke and from the coke, steel, is showing signs of life. After several years of declines, the price of metcoal bottomed at around US\$100 a tonne in late 2020 and is now set to head back towards US\$150 a tonne, according to most forecasts. That's great timing for Allegiance Coal, which expects to be producing at its New Elk Mine in Las Animas County of south-eastern Colorado shortly.

### A great maiden project, albeit not yet a company-maker

For several years Allegiance's flagship project was Tenas, in northwest British Columbia. In 2016 Allegiance had picked up three deposits in the old Telkwa coalfield, which sits about 375 km east of the port of Prince Rupert. Tenas was the richest of the three and by March 2019, Allegiance had completed a Definitive Feasibility Study valuing this project alone at A\$407m pre-tax on an 8% discount rate.

The location of Tenas was exquisite. We've already noted in Resources Stocks Down Under (see our article on Atrum Coal, ASX: ATU, on 4 June 2020) that metcoal projects in western Canada have a speed advantage over their competitors in Queensland's Bowen Basin. Which is to say, you can get the coal to either Vancouver or Prince Rupert and from there onto bulk carriers out to steel mills in northeast Asia a few days faster. Also

important for Allegiance was the fact that Tenas only required US\$54m in capital expenditure to get started. However, the market just shrugged and left Allegiance stock at a measly 30 cents a share. In 2019 no one was funding new metcoal projects in Canada, because there wasn't any demand.

### **Cline's loss, Allegiance's gain**

Other companies would just sit idle and wait for the market to come around to its way of thinking regarding metcoal's long-term future in a steel-hungry world. Not Allegiance. Not long after the Tenas DFS, it announced that it was buying New Elk and its 656 million tonne resource of hard coking coal for just one of those pieces of green paper carrying George Washington's portrait (US\$1). Sure, Allegiance was also on the hook for about US\$42m to the vendor, Cline Mining, but about US\$31m of that debt could be paid from mine cash flow once New Elk restarted.

New Elk, you see, had been an operating mine in the coal-rich Raton Basin of south-eastern Colorado and north-eastern New Mexico. Sadly, for the previous owners, its time as a producer for them was brief. The mine had been around since the 1950s, and Cline had recommissioned it in 2010, but it was idle and in bankruptcy protection by 2012 thanks to lousy metcoal prices. Allegiance inherited, with its dollar down, all of Cline's more than US\$100m infrastructure spend.

### **Lower and lower start-up costs**

By early this year Allegiance was ready for its New Elk restart, having finalised the acquisition in October 2020. The company now also owns the neighbouring Lorencito property, so it had a 761 million tonne resource. It had a viable coal handling and preparation plant (CHPP). Permits were in place for everything. It had a mine plan that would gradually ramp up to 2.5 million tonnes annually for at least 25 years. And, importantly, in December 2020, it had worked out an arrangement with a coal miner down in Alabama where it would buy high-sulphur coal from a producer there and blend it with the low-sulphur coal coming from New Elk. The result would be a coal blend that could meet the 1% sulphur threshold of the steel mills and allow more coal to be available for sale at lower capital costs than had initially been expected.

If New Elk works out, we believe shareholders will make out like bandits. A November 2019 feasibility study on New Elk valued the project at A\$1.2bn before interest and tax on the usual 8% discount rate, after a very affordable US\$56m in start-up capital costs. In January 2020, a smaller version of the original mine plan cut this NPV to a still reasonable A\$560 NPV, but with US\$40m in start-up capital, while by April 2020, that initial capital outlay was down to just US\$24m.

### **A future billion-dollar company?**

A smaller-scale start-up at New Elk focused on the blend with the Alabama coal cuts the capital costs to just US\$13.5m and the NPV to US\$564m, but that's still a lot of upside from the current share price. Allegiance was expecting to produce its first coal at New Elk in late April and ship its first coal in June, with the restart now fully funded after a \$10m placement at 40 cents a share in March.

It's important to remember that New Elk's upside is before Tenas kicks in, which is still on the cards. Allegiance hopes to get permits to mine at Tenas later this year. It's fair to say that funding Tenas will be easier once New Elk is generating cash for Allegiance. So, potentially Allegiance is a future billion-dollar company. Ahead of that, with a General Meeting slated to be held on 18 June 2021 and metcoal back in favour, Allegiance is a strong four stars from us.



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