Creating Sustainable Value from Speciality Metals

Investing in Speciality Metals Recycling Plants

Baker Steel Capital Managers LLP

Investment Manager of the BAKERSTEEL Electrum Fund

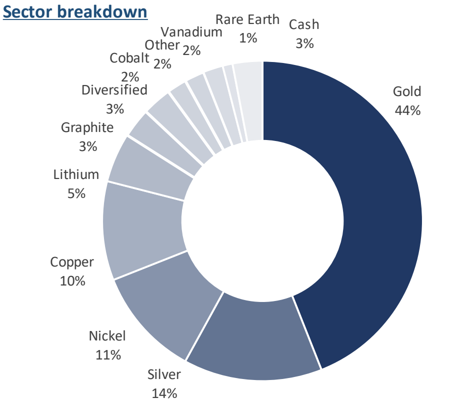
5 June 2020

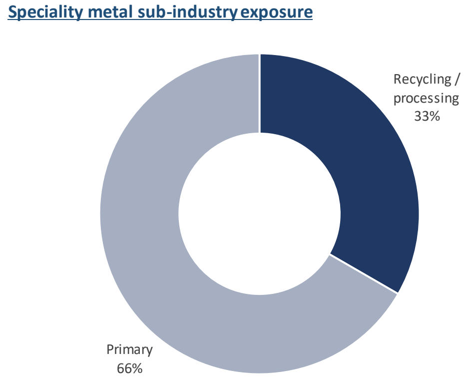
It is widely known that the forthcoming green energy revolution relies on a range of technologies such as wind turbines, solar panels, grid storage, electric vehicles, and lower-carbon steels. What is underappreciated however, is the extent to which these technologies rely on geologically scarce metals, or at least metals which have been underexplored. With policymakers, in Europe in particular, voicing support for a "green recovery" in the aftermath of the COVID-19 crisis, we expect to see fiscal stimulus measures focused on supporting green energy and technology in the months and years ahead. Such policies would be significant drivers for certain speciality metals, offering a multitude of opportunities for investors in this sector. The recycling and downstream processing portion of this rapidly developing sector is likely to attract interest from investors and other market participants as the importance of these speciality metals becomes increasingly apparent. We therefore feel it is important to elaborate on how Baker Steel's investment process in the area of recycling and downstream processing differs from primary extraction.

Given the anticipated speed of adoption, the metal intensity in use, the level of primary production and the limited known reserves of such metals, there are large, and sustained, market deficits predicted. As an actively managed mining equity fund, focused on "future facing" metals, BAKERSTEEL Electrum Fund ("Electrum") aims to give its clients exposure to these metals through selective investments in high quality companies. The investment philosophy at Baker Steel is built on detailed, fundamental bottom up research and due diligence. Our team typically visits the operations, engages with management, reviews the financial statements and undertakes a detailed historical review of the entire company.

While there are a multitude of compelling opportunities in precious, specialty and industrial metals producers, Electrum's investment universe also covers recycling and downstream processing companies, a crucial segment of the supply chain for growth and sustainability. Electrum is one of the few commodity equity funds that routinely invests in recycling and downstream metal processing companies. Typically, such investments account for between 5-15% of the Fund's assets. Not only do these types of companies expand our investment universe and increase opportunities to identify value, but the mix of metals and profit dynamics for these companies can offer important points of differentiation from pure mining companies.

Electrum invests across the speciality metals sector, including recycling / downstream processing





Source: Baker Steel internal. Data at 30 April 2020.

What are the advantages of recycling / downstream processing companies?

- Operations can be set up anywhere in the world, maximising efficiency by targeting a combination of good infrastructure, low power costs, lower political risk, lower staffing costs, and proximity to both the supply of scrap metal and the end user.
- Operational risk is typically lower, due to minimal staff and a proven, industrialised process.
- Margins are usually referenced to the prevailing commodity price.
- Set up costs are minimal, and plants can be put into production very quickly.
- Recycling processes typically produce significantly less CO_2 than primary extraction.
- Recycling plants can be closed and reopened quickly plus holding costs are low.
- The possibility exists for closed loop recycling where manufacturers effectively retain ownership of the metal content in the product through multiple life cycles. This helps reduce upfront costs for the consumer and vastly reduces price volatility for the manufacturer.
- Because of the selective nature of the plant’s feed source and the ability to decide on location, it is much easier to capture value of the metal upstream in the product cycle. This opens up the possibility of alloying the metals or refining them to a much higher purity than is possible at many mining operations.

How can recycling enable the development of green technology

The volume of recycled strategic metals will have to increase substantially over the coming decades, as there is not the resource base to meet the anticipated demand. We have seen previously the importance of recycling enabling another green technology (catalytic convertors) which rely on an overlooked geologically rare and geographically concentrated group of metals: platinum group metals (“PGM”).

In 1980 about 1.8Moz of PGMs were used globally in auto catalysts, with none of this metal sourced from recycled material. In 2019 over 12Moz were required but only 5Moz came from recycling. Without both a dramatic ramp-up in primary production and recycling, many more lives would have been blighted by chronic diseases caused by air pollution.

New York City: 1973 vs. 2013

Source: EPA

Recycling / downstream processing case study 1: Rare earth oxides

Last year, amid escalating US-China trade tensions it became clear to our team that the world's dependence on China for rare earth oxides ("REO") would come into public view again. REOs are a group of 17 elements often found in the earth together and many of them are used in a multitude of strategic and green energy technologies from magnets that drive motors to night vision goggles.

China accounts for the vast majority of primary REO production and an even greater percentage of refined production (100% for some of the most strategic elements are refined in China). Late in May last year Premier Xi Jinping was photographed visiting a REO processing facility. The message to the US and the world was clear: "in a trade war we will weaponise the supply of these elements". Investors began to see the implications and the possibility emerged of another spike in REO prices as witnessed in the late 2000's.

Our analysis led us to investing into a more diversified recycling and processing company that, as part of its business, kept large stores of REO in inventory and which is the only producer outside of China of a certain grade of REO magnet. We understood the company would benefit from any increase in REO prices in the short-term and in the longer-term the on-shoring of supply chains for critical materials. Crucially our team's valuation modelling implied the company also had a compelling investment case at spot REO prices.

The shares reacted well over the year, allowing for prudent profit-taking, and we increased the Fund's position as short-term investor interest died down. While the company's shares did not see the explosive gains that some of the junior "development" stories did during that period, we slept well at night having invested into a high-quality company and we weren't relying on timing the market to perfection.

Importantly, the Fund had invested in a solid business which not only had growth potential in a strategic area but also had the potential to benefit from a shorter-term thematic trend. As that trend ran its course, we were able to take profits before reinvesting later (as an additional benefit the Fund collected some dividend income).

Recycling / downstream processing case study 2: Rhodium

In the wake of the Volkswagen diesel scandal in 2016 it became clear that testing and real-world standards for the emissions of NOx would increase across the globe. As those with knowledge of the technology are aware, the most effective way to reduce those emissions is by increasing the rhodium content in the car's catalytic convertor.

Our team therefore identified a clear strategic shift in the demand for rhodium over the near- and medium-term. At the time rhodium was trading for about USD 1000/oz and its value in use was many (many) multiples of that for the end user. We also noted there was a large degree of price inelasticity.

The problem was that rhodium is only found as a by-product in a basket of other PGMs and therefore getting targeted exposure to this metal through a traditional mining investment was problematic.

Over the next six months we actively researched opportunities to invest in mines with relatively high levels of rhodium in the ore. However, because none of the operations could generate a high enough return at spot, or meet our other investment metrics, we did not invest and instead identified alternate exposure through secondary supply and warehousing options.

The postscript is that the rhodium price rose from USD 1000/oz to over USD 10,000/oz from 2016 to 2019. However, the interesting point to note is that in the interim period the price dipped down to USD 650/oz, even with the very obvious market deficit looming and all information being publicly available. We note that the mines our team visited all went bankrupt and have never since reopened.

Investing in recycling / downstream process vs. traditional mining investments

All the Investment Team at Baker Steel have worked in the mining industry and we all love the excitement of a new discovery. We also consider that we have a strong track record of identifying hidden value in deposits (as well as liabilities not sufficiently accounted for). Our first preference therefore is to leverage our skillset towards investments in the mining sector as this is where the best risk/reward is usually found in the mainstream metals.

We will never compromise our belief that all investments must generate a return at spot commodity prices and operate with a margin of safety with regards to those prices falling further. With certain niche metals there are a limited number of investable mining companies and if we cannot find value on a spot basis, we will not invest.

It is also worth noting the market dynamics in several of these niche metals allow for greater integration of the value chain and for easier tracking of the metals throughout the life of the product. This ability creates a lot of opportunity for producers to retain ownership of the metal even over a >10-year product life.

Above all, we look for companies that can maintain an abnormal profit margin in the event of substantially higher commodity prices either through a technical, geographical, or capital advantaged position. In addition, the company will preferably have valuable intellectual property or contracts with customers which allow for positive price participation. This embedded optionality is often undervalued by the market.

Baker Steel targets those companies with high quality assets and effective management teams, at attractive valuations. We conduct the vast majority of our research ourselves, and environmental, social and governance factors are incorporated into Baker Steel's investment process during stock screening and company analysis, as well as being directly addressed with company management during meetings and site visits. In the coming weeks we intend to write in more detail about our investment process and will revisit some topics covered here in more detail.

Following a successful first year of performance and growth for BAKERSTEEL Electrum Fund, we would like to thank our investors and partners for their support as we look ahead to the multitude of opportunities in this exciting and fast-developing sector. A range of share classes remain open to new investment. Please do not hesitate to contact Baker Steel's team for more information.

Important