

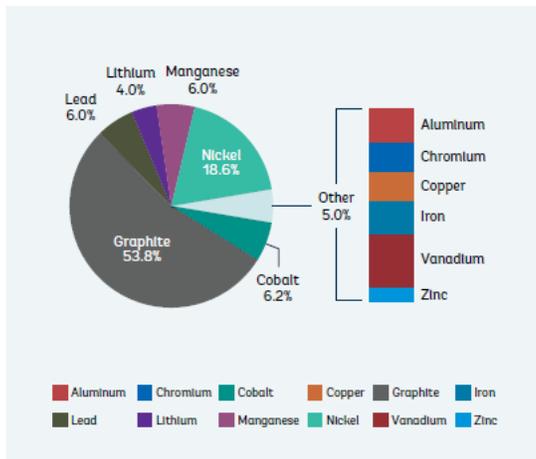
What Mineral Requires the Largest Production Increase to Meet Growing EV Demand?

It may surprise you to know the answer is GRAPHITE!

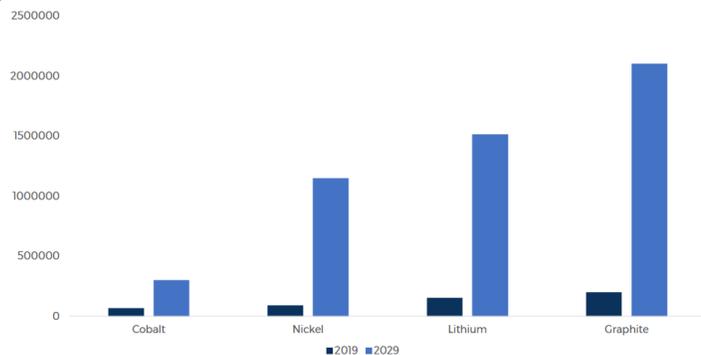
In order to meet its 2025 EV sales targets, VW needs 300 giga watt hours (“gWh”) of lithium ion battery production. Tesla needs 350 gW hours, Daimler (Mercedes) needs 200 and China needs at least 250 for expected domestic sales. Then there are all the other automobile manufacturers plus the grid storage market.

Most investors do not know the difference between a gWh and a lightbulb. But they should know that even if these companies are only 25% successful in meeting their sales targets, multiple new graphite mines are required and billions of dollars needs to be invested. You cannot have any kind of EV market without a lot more graphite. Graphite is the anode material in a lithium ion battery and is the single largest component. There are no substitutes. Elon Musk said they should be called nickel-graphite batteries. Graphite requires the largest production increase of all the battery minerals. And almost all of it currently comes from China.

Share of Mineral Demand from Energy Storage (source:IEA)



Battery raw material demand will grow between 5x and 13x to feed the megafactories



Automobile manufacturers and their battery suppliers are playing a massive game of chicken. They are betting that China, which has the largest EV market in the world, will continue to have the resources and the desire to supply the rest of the world with anode material. They are also betting that the market will finance new mines in the west. That bet is not looking so good as none are currently under construction due to low prices and the clock is ticking faster and faster. New mines do not happen overnight.

Large companies are conservative by nature and the history of commodity markets shows us they generally do not move until supply shortages occur and prices take off. Then they all try to get through the same door at the same time. Investors might want to consider making a bet that day is coming soon to the graphite market. And it should be done while valuations are low.

While there are approximately 20 public graphite companies with advanced stage, feasibility level projects it is relatively easy to pare the list down. 14 are in Africa with varying degrees of security/stability risk. Many have weathered deposits which can be (but not always) metallurgically challenging. Two recent attempts to bring new deposits into production both had serious and in one case fatal financial/metallurgical issues. Not all graphite is “battery grade” which is more difficult for the average investor to determine. Strong, independent third party validation is recommended.

Finally, many years of low graphite and share prices have left most graphite juniors with hundreds of millions, or even over a billion, shares outstanding with mine construction yet to be financed.

The number of high quality, advanced stage graphite companies located close to infrastructure in politically stable countries can be counted on the fingers of one hand with some left over. If your screen includes a tight capital structure and low market capitalization then there is only one candidate. **Northern Graphite (NGC:TSXV, NGPHF:OTCQB)** owns the Bissett Creek deposit which is located five hours north of Toronto, between North Bay and Ottawa, and 15 kms from the Trans Canada highway. Labour, equipment, supplies and access to natural gas are all readily available. Transportation to US markets, or internationally through the port of Montreal, is straightforward. A feasibility study has been completed and major mining permit received. The project is essentially construction ready subject to the completion of operational permitting and financing.

A recent independent study by Benchmark Mineral Intelligence indicated that Bissett Creek will have the highest margin of any existing or proposed graphite deposit. This is largely due to simple metallurgy and the high quality, large flake nature of its concentrates. The Company is initially planning to produce 25,000 tpy from a mine that will cost approximately US\$85 million to build. To put that into perspective, one battery plant such as Tesla's Gigafactory or GM/LG Chem's new facility which is under construction in Ohio requires that much or more. Northern has already drilled off sufficient measured and indicated resources to substantially increase production as demand grows and the deposit has not yet been closed off by drilling.

Investing in junior mining companies comes down to the three "Ps". Northern Graphite has a high quality **P**roject run by respected, experienced **P**eople and with only 75 million shares outstanding and a market cap in the order of \$30 million, the **P**rice is right.