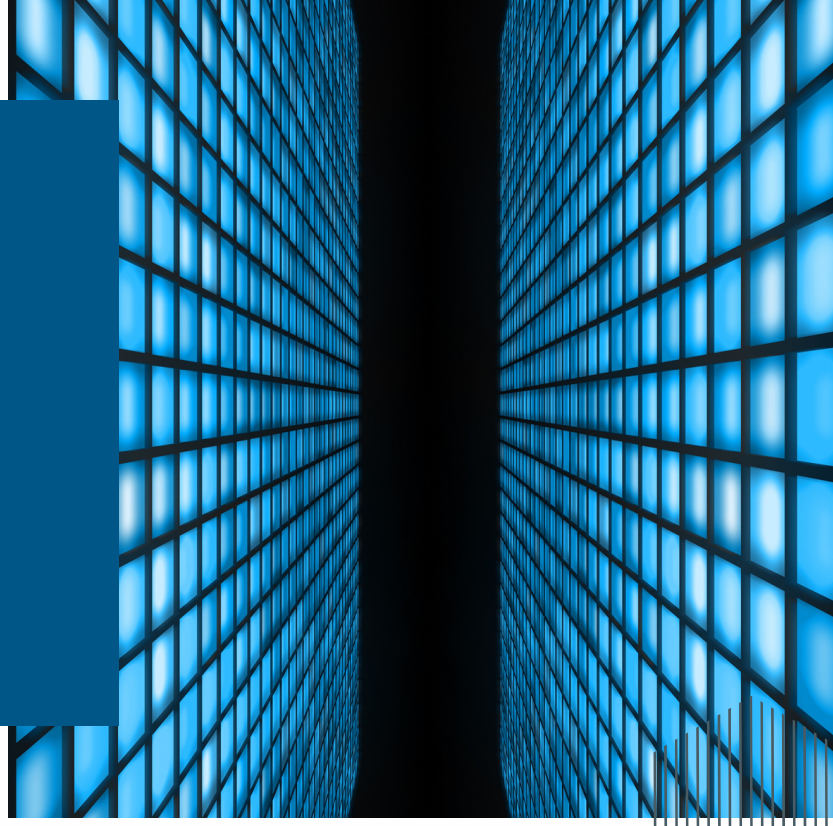
PERSPECTIVES

A Tale of Two Markets

WILL GRAPHITE PRICES BIFURCATE?



Can Rest of the World (RoW) graphite producers compete with China on price as the EV revolution unfolds?

Going forward there will be two markets for graphite, the heavily-state-subsidized Chinese market, where graphite is produced with minimal environmental and sustainability restrictions as China feeds its ambition to dominate the global EV industry, and the North American markets, where automakers will have to use locally sourced graphite, be it natural or synthetic, for the Lithium-Ion batteries that power their cars.

The industries will develop along parallel but separate lines, and the days when the fortunes of global graphite markets waxed and waned with the amount of graphite China sold into the global market will recede into the rearview mirror.

Energy security is keeping our governments and our companies up at night, and they are creating the conditions to be able to source critical minerals like graphite locally.

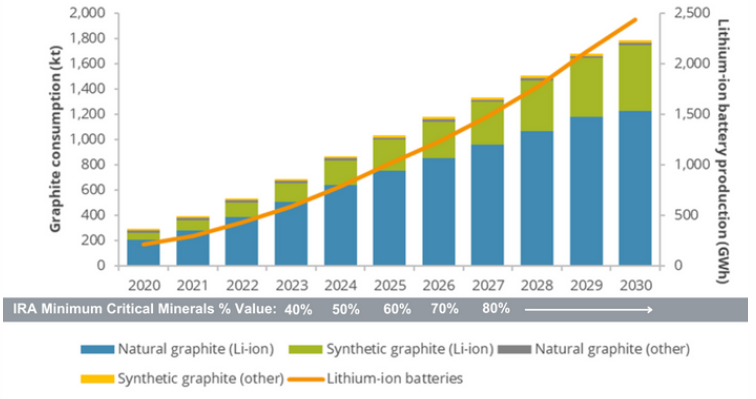
As the history of the mining industry has shown, time and time again, higher prices for the commodity lead higher stock market valuations. When early talk of EVs drove a massive surge in graphite prices about a decade ago, our own share prices reached heights of over $3/share, or 10 times where we are now, before China flooded the market and prices plummeted again.

Inflation Reduction Act

Let's be clear … Those times are behind us.

The US Inflation Reduction Act (IRA) is the most significant piece of climate legislation enacted in our lifetimes. It is a game changer for not just North America, but for the way in which the entire world ex-China sources its critical minerals. Under the IRA, any automaker selling into the massive North American market, including the European cars North Americans are so fond of, will have to source their graphite locally if they want to qualify for a $7,500/car rebate.

To be eligible for the critical minerals portion of the credit, the percentage of the value of the battery's critical minerals extracted or processed in the United States or a U.S. free-trade partner must meet a rising scale of thresholds, beginning at 40 percent in 2023 and rising to 50 percent in 2024, 60 percent in 2025, 70 percent in 2026 and 80 percent in 2027 and beyond.



A Tale of Two Markets

Critically, the IRA gives producers of natural graphite the security to invest billions of dollars to build capacity to supply an EV industry being built from scratch in a very short period of time, and the world is taking notice.

You don't have to get very far into the news headlines before you come across another story about OEMs and automakers teaming up to build batteries for EVs.

I spoke to S&P Global Intelligence just recently about this phenomenon, and about how the North American graphite market will disconnect from Chinese prices in the not-so distant future as governments push for localized electric vehicle supply chains to protect against a Chinese monopoly and consumers demand the kind of environmental, social and governance standards that China simply cannot meet.

This will be **A Tale of Two Markets.**

On the one hand, we'll have China's standalone, opaque market, where a handful of state-subsidized companies account for costs very differently from the West – looking at cash costs as opposed to Capex – and produce graphite at prices the rest of the world cannot match.

On the other hand, and here's where it gets interesting for graphite producers like #NorthernGraphite, you'll have the RoW market, where prices are based on costs of production and which, while higher than in China, will be transparent.

Much like what happened with lithium, as graphite supply develops in the rest of the world, transparency will happen and buyers and sellers will understand what the gap is between demand and supply, and then suddenly, the pricing on graphite will move forward.

That means RoW graphite prices that can sustain production costs and return a healthy margin, and justify the massive capex required to get this industry off the ground. Our plans to build a 200,000 tonnes-per-year Battery Anode Material (BAM) facility in Baie-Comeau will require about $500 million by 2026 to build just the first of four phases.

That's a lot of money in a relatively short period of time, but in the context of what is required to supply North America's EV revolution, it is a drop in the bucket. According to BloombergNEF, the average Lithium-Ion battery costs $151 per kilowatt-hour (kWh). Considering that the Anode is about 7 percent of the battery cost – requiring about 0.8 kg of BAM - that implies a cost of less than $10 per kWh, or peanuts compared to the IRA incentive and considering EV makers' average $,1000-per-vehicle margin.

The competitive imperative for the North American energy transition, and the EV industry in particular, is to develop economies of scale like in any industry. Success of individual companies will be predicated on their resource (graphite mines) and infrastructure.

Meanwhile, prices will march in parallel with capital costs while producers justify investments to build mines and establish local supply chains.

The Stage is Set

The stage has been set. The medium- to long-term prospects for electric vehicles are as good as, or better, than what has been forecast in the past, and any way you look at it, graphite will be in short supply.

We are living a revolution in the way in which we consume and produce energy

We are living a revolution in the way in which we consume and produce energy, and when I think about what lies ahead as the energy transition unfolds, and the pieces of the global economy are shuffled and reassembled, I am reminded of Charles Dickens' classic novel, ***A Tale of Two Cities***, written during the time of the French Revolution.

A Tale of Two Markets

> ***It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us ...***

Today's is a different kind of revolution, but the lessons are the same.

It is the best of times. It is the epoch of belief. It is the spring of hope, and we have everything before us.

At Northern Graphite we're betting on exactly that, growing our graphite production in Canada and Namibia and tracking construction of what will be one of the world's largest and cleanest Battery Anode Material plants in the port city of Baie-Comeau, Quebec.

Let's Make It Happen.

AN ENERGY TRANSITION PLAY

with Exposure to the EV Battery Revolution

- EVOLVING with IRA incentives
- EXPANDING Lac des Iles Mine in Quebec
- DRIVING to restart Namibia Mine in 2024
- TARGETING first production at our Baie-Comeau Battery Anode Material Plant in 2026

North America's only natural graphite producer

Hugues Jacquemin is the CEO of Northern Graphite and has more than 30 years senior management experience growing Specialty Materials businesses for listed Fortune 500 & Private Equity firms.

NORTHERN GRAPHITE CORPORATION

Northern Graphite Corporation
1000 Innovation Drive, Suite 500
Ottawa, ON Canada K2K 3E7
1 (613) 271 2124