

The Dean's List – Part 3: What graphite company could benefit from Canada's commitment to critical minerals?

written by InvestorNews | August 2, 2022

Part 3: Northern Graphite Corporation

It's time for another installment in [our series](#) that looks at Canadian companies in the mining sector that could be impacted by Federal and Provincial government announcements with respect to critical materials, supply chain, EV battery manufacturing, etc. As a reminder, the province of Ontario first announced in March its [strategy for 'critical minerals'](#) followed shortly by a [C\\$4.9 billion electric vehicle battery plant](#) in Windsor, Ontario. This was followed in April by the Federal Government's [Budget 2022 proposing up to C\\$3.8 billion in support](#) over eight years to implement Canada's first Critical Minerals Strategy. The Fed's followed this up in late June with a House of Commons Standing Committee on Industry and Technology report entitled: [Positioning Canada as a Leader in the Supply and Processing of Critical Minerals](#). Just to highlight a few of the momentum building actions in the sector.

Today we're going to have a look at what I consider to be the least publicized critical mineral that comprises a lithium-ion battery (LiB) – graphite. Not only is graphite the largest component in a lithium-ion battery (up to 48%), it also requires the largest production increase of any battery mineral in order to meet forecast demand.



Source: Northern Graphite [Corporate Presentation](#)

Conversely, over 80% of [graphite mine](#) production in 2021 came from China, while China makes almost 100% of the graphite anode material for lithium-ion batteries. Does this sound like a recipe for disaster for the rest of the world to you? Perhaps it's stats like these that have put graphite on the critical minerals list of virtually every country that is attempting to develop a critical minerals strategy.

Assuming governments get their strategies at least partially right, that could result in opportunities galore for miners and explorers of these critical materials. This includes [Northern Graphite Corporation](#) (TSXV: NGC | OTCQB: NGPHF), a Canadian company focused on becoming a world leader in producing natural graphite and upgrading it into high-value products critical to the green economy. Northern is the only significant graphite producing company in North America and will become the third largest non-Chinese producer when its Namibian operations come back on line in the first half of 2023. The Company also has two large-scale development projects, [Bissett Creek](#) in Ontario and [Okanjande](#) in Namibia, that will be a source of continued production growth in the future. All projects have "battery quality" graphite and are located close to infrastructure in politically stable countries.

Looking a little closer at the Bissett Creek project, testing has indicated that graphite from Bissett Creek is very well suited for the manufacture of high capacity, durable, long-life lithium-ion batteries. Bissett Creek is projected to produce 20,000 tonnes of graphite per year in phase 1 of development and has the resources to increase production to approximately 100,000 tpy as demand grows. By comparison, Canada's graphite production in 2020 was estimated to be only 10,000 tonnes. An

independent study has rated Bissett Creek the highest margin graphite project in the world, including existing producing mines. This is due to its very high percentage of valuable large flake graphite, simple metallurgy and favorable location which provides ready access to equipment, supplies, labor, grid power, natural gas and markets.

Why is this important? Along with the above noted Windsor battery plant JV between Stellantis and LG Energy Solution, the latter has also announced two projects in Michigan, just across the US border from Ontario. It is investing US\$1.7 billion to expand its LiB cell plant in Holland, Michigan and has a third joint venture with GM to build a US\$2.5 billion cell plant in the City of Lansing and Delta County, Michigan. Combined with the investment in Ontario, LG will have a collective LiB production capacity of 200 GWH in North America, requiring 250,000 tpy of graphite. And Bissett Creek is the nearest graphite deposit to these megafactories which provides Northern Graphite with a unique opportunity to deliver a secure, local, responsibly sourced supply of graphite.

It seems Northern Graphite might be sitting pretty as LG Energy Solution looks to start sourcing supply for all its facilities. This could dovetail nicely with two upcoming milestones the Company has stated. In Q3, 2022 Northern is planning to announce an LiB anode production strategy, which also aligns with two of the Ontario government's strategies: [Growing domestic processing and creating resilient local supply chains](#) and [Investing in critical minerals innovation, research and development](#). Then come Q4, 2022 they are looking to arrange financing for the Bissett Creek Project which could potentially include government support or possibly loan guarantees, a strategic offtake agreement with LG Energy Solution or just an old-fashioned capital raise. Regardless, the appetite should be there for whichever means the Company determines is its best

course of action with the current tailwind for critical minerals.

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