

Dan Blondal Positions Nano One for Major Share in Expanding LFP Market

written by InvestorNews | March 15, 2024

During an engaging interview at PDAC 2024 with Tracy Weslosky of InvestorNews, Dan Blondal, CEO, Director, and Founder of [Nano One Materials Corp.](#) (TSX: NANO), shared insights into the company's innovative strides and strategic partnerships, notably with Sumitomo Metal Mining. Blondal described Sumitomo as a "fantastic class one partner" with extensive experience in cathode manufacturing and technology, highlighting the partnership's role in enhancing Nano One's position in the battery materials market. With a robust patent portfolio of 40 patents and over 50 pending, Blondal emphasized the importance of continuous innovation in strengthening the company's technological leadership and shareholder value. Government support, particularly from Sustainable Development Technology Canada (SDTC), totaling around \$25 million in funding, underscores the strong backing Nano One has received, further solidifying its stance in the industry.

Blondal highlighted three competitive advantages of Nano One: its unique position with the only North American LFP production facility outside Asia, its one-pot process that reduces cost, complexity, and environmental impact, and a strategic expansion plan aiming to deploy its technology globally through a "Design-Once-Build-Many" approach. These strengths, according to Blondal, place Nano One in a prime position to capture a significant share of the growing LFP market, which is crucial for electric vehicles and energy storage solutions. The feasibility study for Nano One's first commercial plant and the

progress at its Candiatic pilot plant exemplifies the company's commitment to scaling up its technology to meet global demands efficiently.

Blondal's vision for 2024 emphasizes expanding Nano One's customer base, advancing a feasibility study to solidify financial and operational plans for their commercial plant, and securing critical raw material supplies. This approach highlights the company's strategy to scale its patented technology, aiming for a significant impact on the electric vehicle and energy storage sectors, supported by robust partnerships and government engagement.

To access the complete interview, [click here](#)

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About Nano One Materials Corp.

Nano One Materials Corp. (Nano One) is a clean technology company with a patented, scalable and low carbon intensity industrial process for the low-cost production of high-performance lithium-ion battery cathode materials. With strategic collaborations and partnerships, including automotive OEMs and strategic industry supply chain companies like Sumitomo Metal Mining, BASF, Umicore and Rio Tinto. Nano One's technology is applicable to electric vehicles, energy storage, and consumer electronics, reducing costs and carbon intensity while improving environmental impact. The Company aims to pilot and demonstrate its technology as turn-key production solutions for license, joint venture, and independent production opportunities, leveraging Canadian talent and critical minerals for emerging markets in North America, Europe, and the Indo-Pacific region. Nano One has received funding from SDTC and the Governments of

Canada and British Columbia.

To learn more about Nano One Materials Corp., [click here](#)

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Can the Western graphite and anode industry rise to meet China's challenge?

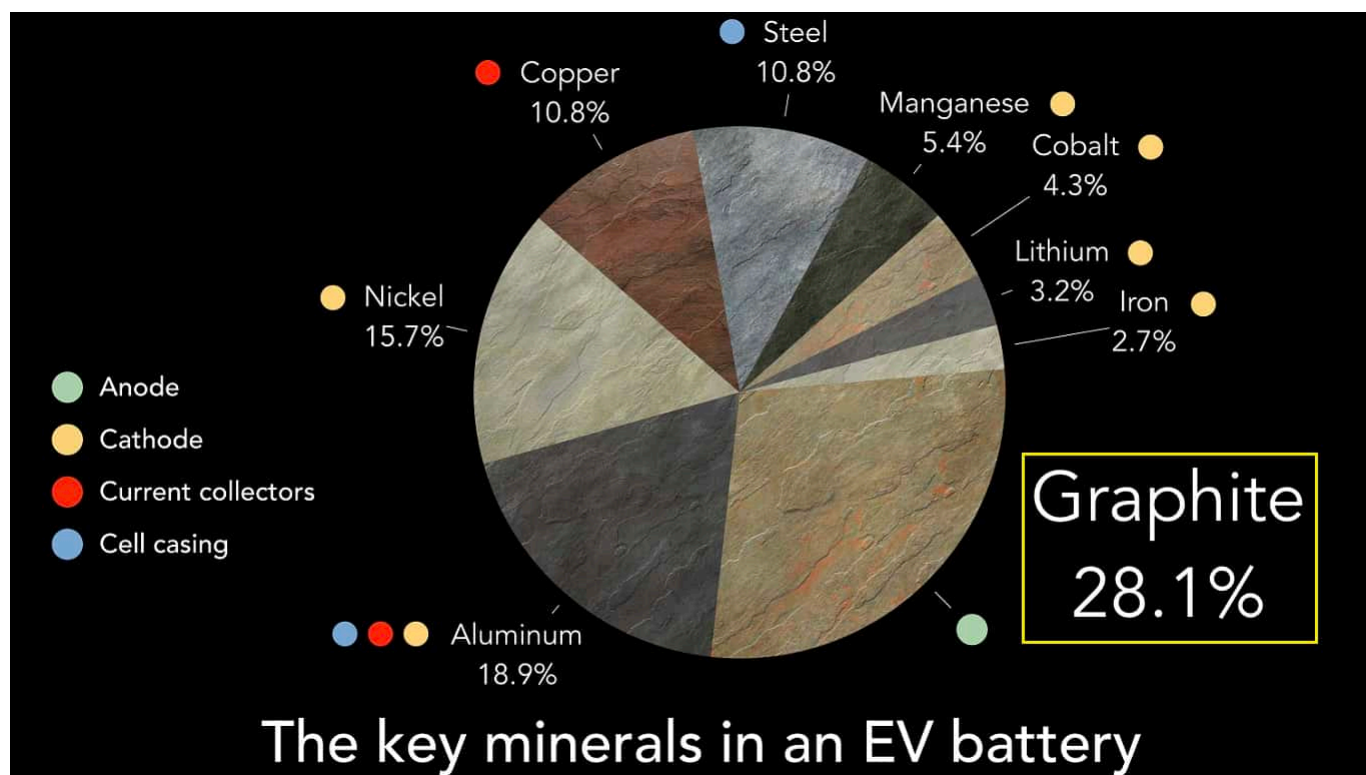
written by Matt Bohlsen | March 15, 2024

China to impose some graphite and

processed graphite materials 'export permits' from December 1, 2023

Last week it was [reported](#) that China, the world's top graphite producer plans to curb exports of key battery material by implementing export permits for some graphite products from December 1 to protect national security. Another report [stated](#): "China graphite export restrictions could hinder ex-China anode development...if it lasts into the longer term, it is likely to accelerate the build-out of a localized graphite and battery anode supply chain outside China."

Graphite is the number one metal required for lithium-ion batteries making up about a 28% share. It is used in the anode.



The key metals and minerals in a battery of an electric vehicle

The world is very dependent upon China to supply processed graphite material and anodes for Li-ion batteries

The reason why this is huge news in the graphite world is that China produces [67% of global natural flake graphite](#) supply and refines more than [90%](#) of the world's graphite into active anode material (typically spherical graphite). If China were to deny or delay permits for spherical graphite it will cause major problems for anode manufacturers outside China, such as those in South Korea, Japan, or North America.

China currently produces [~77% of global lithium-ion batteries](#) and 75-80% of global electric cars, thereby completely dominating the industry. If the West is shut out from sourcing processed EV battery materials from China then they will have a major problem producing their own EVs. China plans to prioritize EV battery materials for their own needs. This is why President Biden introduced the Inflation Reduction Act (IRA) and the EU introduced the EU Critical Raw Materials Act. Both are designed to address the shortages in the EV supply chain and the forecast shortages of future supply of critical raw materials. The problem is the IRA has done little to address the supply of raw materials and the EU Critical Raw Materials Act is [woefully inadequate](#) and targets fall way short of what will be needed.

Which western graphite companies can rise to meet the challenge to

establish an ex-China graphite supply chain

The leading western graphite companies that are working to establish an ex-China supply chain for flake graphite, synthetic graphite, and spherical graphite include:

- [Syrah Resources Limited](#) (ASX: SYR) – Largest western flake graphite producer with their 350,000tpa flake graphite capacity Balama Mine in Mozambique. Currently constructing the Vidalia spherical graphite facility in Louisiana, USA with Stage 1 production plans to produce 11,250tpa of spherical graphite. Longer term they plan to expand to 45,000tpa in 2026 and then to >100,000tpa by 2030 with an Europe/Middle East facility. Syrah already has an off-take agreement with Tesla (NASDAQ: TSLA). Syrah's stock price has surged ~80% higher the past week following the release of the China export permits news.
- [Nouveau Monde Graphite Inc.](#) (NYSE: NMG | TSXV: NOU) – Is rapidly progressing their plans for their Matawinie Graphite Mine and Bécancour Battery Anode Material Plant in Quebec, Canada. The company is [working with Panasonic](#) to qualify their graphite anode material. Panasonic supplies Tesla with batteries.
- [Northern Graphite Corporation](#) (TSXV: NGC | OTCQB: NGPHF) – Owns graphite producing and past producing mines in Quebec, Canada and Namibia. They also own the Bissett Creek graphite Project in Ontario, Canada. The Company [state](#) that they are “North America's Only Significant Natural Graphite Producer”. The Company plans to develop one of the world's largest battery anode materials facilities in Baie-Comeau Québec with [200,000tpa](#) of capacity.

- [NextSource Materials Inc.](#) (TSX: NEXT | OTCQB: NSRCF) – A new graphite producer from their Molo Graphite Mine in Madagascar with Phase 1 capacity of [17,000tpa](#) of flake graphite production and plans to expand to [150,000tpa](#). The Company's short term plan is for [a Battery Anode Facility in Mauritius](#) and longer term for similar facilities in USA/Canada, UK, EU.
- [Magnis Energy Technologies Ltd.](#) (ASX: MNS | OTCQX: MNSEF) – Magnis aims to produce high performance anode materials utilising ultra-high purity natural flake graphite from their Nachu Graphite Project in Tanzania. Magnis' partially owned U.S.-based subsidiary Imperium3 New York, Inc ("iM3NY") operates a gigawatt scale lithium-ion battery manufacturing project in Endicott, New York.
- [Talga Group Ltd.](#) (ASX: TLG) – Own the integrated mine to anode Vittangi Graphite Project in Sweden. In September 2023 Talga broke ground on their [19,500tpa](#) anode facility, [stating](#) "the refinery is projected to be the first commercial anode production in Europe for electric vehicle Li-ion batteries".
- [Novonix Limited](#) (NASDAQ: NVX | ASX: NVX) – Has a production capacity target of [up to 20,000 tpa](#) of synthetic graphite anode material from their Tennessee facility in the USA.
- [Anovion Technologies](#) (private) – The USA anode producer plans to invest US\$800 million to produce a [40,000tpa synthetic graphite anode material facility](#) in Georgia, USA with plans to expand to [150,000tpa](#) by 2030.

Syrah Resources leads the West's attempt to build an ex-China flake graphite and anode material supply chain

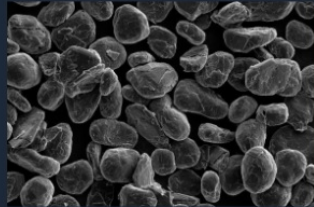
Our Position



Syrah is a major ex-China natural graphite and active anode material (AAM) supplier for global customers, with upstream and downstream expansion potential underpinned by its world-class Balama resource



Natural graphite and AAM demand will increase four and six times, respectively, over the next 10 years¹



Syrah is the only operating vertically integrated natural graphite AAM supplier outside of China



Balama is a 350ktpa graphite producer in Mozambique supplying global battery anode and industrial customers since 2017

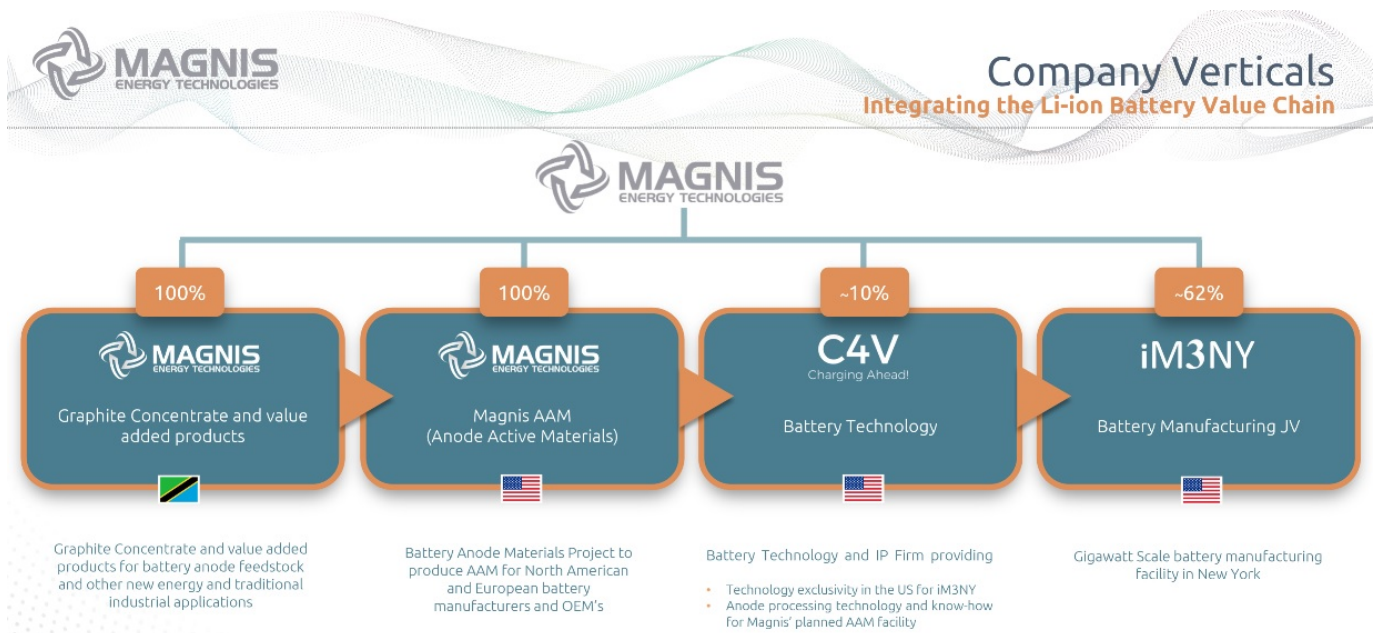


Syrah is nearing completion of an 11.25ktpa AAM facility at Vidalia in the US with commercial sales arrangements in place with tier 1 customers

1. Source: Benchmark Minerals Intelligence Flake Graphite Forecast, Q3 2023. Note: AAM demand is for natural graphite AAM.

Source: [Syrah Resources September 2023 Quarterly Activities presentation](#)

Magnis Energy Technologies is working towards becoming a graphite producer, anode materials producer and is already a small scale JV battery producer in the USA



Source: [Magnis Energy Technologies company presentation](#)

Closing remarks

The Western world received a loud wake-up call the past week. The China graphite products 'export permits' may only serve to restrict or slow down some anode material supply from China, but it puts the West on notice of how dependent they are upon China.

Given the world is rapidly moving to electric vehicles, the West must urgently build up its EV materials supply chains or risk being left behind in the global EV race.

The USA is making some bold moves and the companies discussed in this article are moving in the right direction. Let's just hope that the western EV supply chain build out accelerates rather than stalls like [GM's latest electric pickup truck plans](#). I think Americans will want U.S.-branded electric cars and I know Europeans will want European branded electric cars. If we are not careful our only choice one day might be Tesla and Chinese electric cars. Stay tuned.

Nano One's Dan Blondal on the Umicore joint development agreement and scaling up the battery materials space

written by InvestorNews | March 15, 2024

Tracy Weslosky chats with [Nano One Materials Corp.](#)'s (TSX: NANO) Founder, CEO, and Director, Dan Blondal, to discuss their recent

[Joint Development Agreement](#) with Umicore. Nano One and Umicore have entered into a joint development agreement to improve the throughput and cost of cathode manufacturing with the goal of making Umicore's cathode materials using Nano One's patented M2CAM® One-Pot process. Umicore is a massive company in the battery materials space, with €2.1 billion (turnover of €13.8 billion) in revenue in the first half of 2022, making this announcement exciting for the Nano One team.

Dan goes on to say, "We can't get to terawatt hours of batteries and electric cars in everybody's driveways unless we solve some of the big problems associated with the scale up of this industry." The agreement leverages both parties' technologies for cathode materials to drive down cost, complexity, and environmental footprint. Nano One shareholders can anticipate seeing impacts on the bottom line in years, as the project is measured in multiple phases with go/no-go milestones.

To access the full InvestorIntel interview, [click here](#)

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About Nano One Materials Corp.

Nano One Materials Corp (Nano One) is a clean technology company with a patented, scalable and low carbon intensity industrial process for the low-cost production of high-performance lithium-ion battery cathode materials. It employs approximately 120 people at its innovation and commercialization hubs in British Columbia and Québec, including the only LFP plant and production team in North America. It has strategic collaborations and partnerships, that include Rio Tinto, BASF, Umicore, CBMM and various automotive OEMs.

Nano One's technology is applicable to electric vehicles, energy

storage, consumer electronics and next generation batteries in the global push for a zero-emission future. Its One-Pot process, its coated single crystal materials, and its Metal to Cathode Active Material (M2CAM®) technologies address fundamental performance needs and supply chain constraints; they also reduce equipment and raw material costs, operating expenses, and carbon intensity; and they eliminate a significant waste stream for a much-improved environmental footprint.

The company aims to pilot and demonstrate its technology as turn-key CAM production solutions for license, joint venture and independent production opportunities. This leverages Canadian talent, critical minerals, renewable energy, and a thriving ecosystem with access to large emerging markets in North America, Europe and the Indo-Pacific region. Nano One has received funding from the Government of Canada and Government of British Columbia.

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**Nano One Strives For
Sustainability and a Total
Domestic North American
Lithium Ion Battery Supply**

Chain

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My biggest takeaway from COP26 is not so much climate action and emission reduction, but the message of sustainability. Without focusing on the importance of sustainability one risks thundering down a path of unintended consequences. What do I mean by this? Several years ago I read that if we could convert all coal fired power generation to natural gas it would achieve the Kyoto emission target. I can't confirm if this is completely accurate or not, regardless it would have been a large step in the right direction (despite still being a fossil fuel based solution). At the time it would also have been achievable with existing, available resources and bought the world some time to continue building out renewable resources, which is the ultimate end game. However in 2021, with the lack of energy investment over the last several years due to a combination of factors, that isn't the case today, and we are starting to see parts of the world where renewables haven't developed enough by themselves to even keep people warm this winter. Meanwhile, the fossil fuel alternatives aren't any longer as readily available as backup and may still not even provide enough for home heating. I understand the urgency of eliminating coal fired power, but if there aren't enough alternative power options to keep people warm then who knows what happens next.

That's why I think in order to successfully green our economy and reduce our global carbon footprint, the focus has to be on how to do it sustainably. One company that has to be at or near the top of the list in the transition to clean energy in a sustainable way is [Nano One Materials Corp.](#) (TSX: NANO). Nano One is a clean technology company with a patented, scalable and low carbon intensity industrial process for the low-cost production of high-performance lithium-ion battery cathode

materials. The technology is applicable to electric vehicle, energy storage, consumer electronic, and next generation batteries in the global push for a zero-emission future. Nano One's One-Pot process, its coated nanocrystal materials, and its Metal to Cathode Active Material (M2CAM) technologies address fundamental performance needs and supply chain constraints while reducing costs and carbon footprint.

Another facet of sustainability that is very applicable today is the supply chain. Currently, the cathode supply chain is long and complex. Nano One manufactures its cathode materials directly from nickel, manganese, and cobalt metal powder feedstocks rather than metal sulfates or other chemical salts. The metal powders used are one fifth of the weight of metal sulfates, avoiding the added costs, energy, and environmental impact of first converting to sulfate and then the shipping and handling of waste. The manufacturing process for all of its Cathode Active Material (CAM) uses lithium feedstock in the form of carbonate rather than of (lithium) hydroxide, which is costly, corrosive and harder-to-handle. The process is feedstock flexible which enables improved optionality of sourcing of raw materials. Nano One's technology aligns it with the sustainability objectives of automotive companies, investment communities and governmental infrastructure initiatives.

On Tuesday, November 10, 2021, [Nano One announced](#) the goal of building a fully integrated and resilient battery supply chain in North America, which must include responsible mining of battery metals, onshore refining, environmentally favorable cathode material production, and recycling. The Company believes there is a once-in-a-generation opportunity to create a secure and cost competitive supply chain that is domestically integrated with a low environmental footprint. Accordingly, Nano One is shifting its LFP (lithium-iron-phosphate) cathode material strategic direction to large emerging markets outside

of China, starting in North America, and has ceased joint development activities with Pulead Technology Industry.

LFP production is free from the constraints of nickel and cobalt, and although its origins are deeply rooted in Canada, its growth over the last decade is almost entirely based in China. Recent LFP cell-to-pack innovations have driven costs down and enabled greater EV range, setting the stage for EV pioneers to shift to LFP. The need has never been greater for a sustainable, responsible, and secure supply of LFP materials and batteries, to be established and supported in North America and Europe, proximal to where the EV's are manufactured. Canada has clean energy assets, responsibly sourced critical minerals, and a rich history in LFP technology and manufacturing. By leveraging these opportunities with the Company's simplified low-cost approach to cathode production, Nano One seeks to create a resilient value-added North American LFP supply chain in a collaborative ecosystem with a smaller environmental footprint.

There you have it. A company that sees the bigger picture and embraces sustainability in an effort to advance clean technology while reducing both costs and the overall carbon footprint. If this were a video, at this point I would simply drop the mic and walk away. Since it's an article and I need a conclusion I'll finish off by saying Nano One has the potential to have its technology in every EV built in North America and Europe, and that's going to be a pretty big number in the not too distant future.