Pre-Feasibility Study Anticipates 10X Increase in Capacity for Nano One LFP Site in Québec

written by Raj Shah | October 23, 2023

Highlights:

- ***FEL 2 study estimates capacity at Nano One Candiac can be increased by 10X, up to 25,000 tpa.***
- ***Compact design cuts down land and water use, adding further value to the One-Pot Process.***
- ***Potential to create 140+ full-time jobs, 1000+ indirect jobs and generate $50M in tax revenue over first 5 years.***
- ***Nano One readying to address a 2035 LFP market estimated at approximately 3 million tonnes and $48 billion per year in North America, the EU and Indo-Pacific regions.[i]***

October 23, 2023 (Source) – **(TSX:NANO)(OTC PINK:NNOMF)(Frankfurt:LBMB)** Nano One® Materials Corp. ("Nano One" or the "Company") a clean technology company with patented processes for the production of lithium-ion battery cathode materials is pleased to announce the completion of its Front-End Loading (FEL) 2 pre-feasibility study with Hatch Ltd, which estimates that Nano One could add 25,000 tonnes per annum ("tpa") of lithium iron phosphate (LFP) production capacity to its Candiac property, potentially making it significantly more efficient in size, footprint, and capital cost than other commercial methods of making LFP.

" *The study anticipates that the optimal production line*

capacity for One-Pot LFP is 12,500 tonnes per year, ” stated Dan Blondal, CEO, *“ and that two such lines may fit in a 167,000 square foot facility at our Candiac site. Capacity could be added in 2 stages to synchronize with demand, supporting about 12.5 gigawatt hours of LFP cell manufacturing and increasing our capacity by 10x with only a 2x increase in footprint, when compared to the existing 2,400 tonne facility. This is a leap forward for our One-Pot process made possible by fewer units of operation, high efficiency kilns and by eliminating all wastewaters, by-products, and treatment thereof.*

“The land and water use implications alone add significant value to the One-Pot Process and bolster our strategic objectives to engineer, package and license low cost, low footprint LFP production plants, for rapid turnkey deployment with partners in North America, Europe, Japan and other regions. “

Image 1. Nano One FEL2 pre-feasibility study anticipates a 25,000 tpa Commercial LFP Plant in Candiac, Québec.

The FEL 2 study is at the prefeasibility stage and defines (a) the potential production line size, (b) the optimal plant size for Nano One’s site in Candiac, Québec, and provides (c) operating cost estimates and (d) Association for the Advancement of Cost Engineering (AACE) class 4 estimates of the capital cost. Cost estimates are based on equipment quotes from various major vendors, installation factors, indirect costs, and best practices in engineering, procurement, and construction management (EPCM). Specifics on cost are commercially sensitive and held in confidence to allow the company to engage effectively in product pricing discussions with customers. LFP sample evaluation with customers is underway, with the goal of securing offtake commitments and building out production capacity to suit.

Nano One is actively engaged with governments, not only in Québec, but also in other jurisdictions where access to financial incentives and technology attraction programs could further increase shareholder value and stakeholder interests.

Based on the FEL 2 pre-feasibility study and subsequent Economic Impact Assessment conducted by the Institut de la Statistique du Québec, it was determined that the project has the potential to create 149 direct, full-time highly skilled jobs and 1065 indirect jobs. In addition, the project has the potential to generate tax revenues for the Governments of Québec and Canada of approximately $35 million during construction and over $17 million annually when at full capacity. It could generate roughly $450 million in economic activity in Québec in the first five years.

Denis Geoffroy, CCO added, " *The proposed facility could potentially supply Gigafactories announced in the US and Canada, creating new opportunities all while helping jurisdictions source local feedstock and meet GHG reduction targets.*"

The FEL 2 study relies on a process design basis from January 2023. Subsequent to this, Nano One has identified further potential cost reductions from its full-scale trials and fast-tracking results, as disclosed on September 14, 2023. These anticipated improvements will be factored into an FEL 3 feasibility study, improving project capital and operating costs and energy usage. The FEL 3 study is out for tender and anticipated to kick off in November 2023 and conclude Q3 2024.

Alex Holmes, COO commented, *"The FEL 3 study will define a stand-alone facility for expansion purposes, optimal financing, sighting, and joint venture opportunities. Timing of the study is aligned with the execution of our roadmap, as disclosed on April 24, 2023 and is synchronized with project finance,*

government funding, customer support and further strategic investment activities. Following the closing of our deal with Sumitomo Metals Mining, Nano One is in a strong cash position with approximately $41 million in cash and cash equivalents. We continue to execute on our plans and look forward to meeting our milestones on the path to commercialization. "

As previously disclosed, Sumitomo Metals Mining made an equity investment of C$16.9M in Nano One on October 5, 2023, and entered into a collaboration agreement to support the piloting and commercial adoption of Nano One's sulphate-free LFP and NMC CAM. This is complementary to Nano One's existing joint development programs with Rio Tinto, BASF, Umicore and Our Next Energy, in its bid to expand and address CAM markets in North America, Europe and the Indo-Pacific region that are projected to reach approximately 2.7 million tons of NMC and 3 million tons of LFP by 2035, for an LFP market value of approximately $48 billion and a combined total market value of approximately $146 billion. [i]

About Nano One®

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.

For more information, please visit **www.nanoone.ca**

Company Contact:

Paul Guedes
info@nanoone.ca
(604) 420-2041

Cautionary Notes and Forward-looking Statements

Certain information contained herein may constitute "forward-looking information" and "forward-looking statements" within the meaning of applicable securities legislation. All statements, other than statements of historical fact, are forward-looking statements. Forward-looking information in this news release includes but is not limited to: the Company's current andfuture business and strategies; estimated future working capital, funds available, and uses of funds, future capital expenditures and other expenses for commercial operations; results of the FEL 2 pre-feasibility study and timely completion of the FEL 3 study; industry demand; potential offtake commitments; projected revenue generation; ability to obtain employees, consultants or advisors with specialized skills and knowledge; joint development programs; incurrence of costs; competitive conditions; general economic conditions; the intention to grow the business, operations and potential activities of the Company; the functions and intended benefits of Nano One's technology and products; the development and optimization of the Company's technology and products; the commencement of a commercialization phase; prospective partnerships and the anticipated benefits of the Company's partnerships; the Company's licensing, supply chain, joint venture opportunities

and potential royalty arrangements; the purpose for expanding the Candiac facilities; the scalability of developed technology to meet expanded capacity; and the execution of the Company's stated plans – which are contingent on support and grants. Generally, forward-looking information can be identified by the use of terminology such as 'believe', 'expect', 'anticipate', 'plan', 'intend', 'continue', 'estimate', 'may', 'will', 'should', 'ongoing', 'target', 'goal', 'potential' or variations of such words and phrases or statements that certain actions, events or results "will" occur. Forward-looking statements are based on the current opinions and estimates of management as of the date such statements are made are not, and cannot be, a guarantee of future results or events. Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking statements or forward-looking information, including but not limited to: general and global economic and regulatory changes; next steps and timely execution of the Company's business plans; the development of technology, supply chains, and plans for construction and operation of cathode production facilities; successful current or future collaborations that may happen with OEM's, miners or others; the execution of the Company's plans which are contingent on support and grants; the Company's ability to achieve its stated goals; the commercialization of the Company's technology and patents via license, joint venture and independent production; anticipated global demand and projected growth for LFP batteries; and other risk factors as identified in Nano One's MD&A and its Annual Information Form dated March 29, 2023, both for the year ended December 31, 2022, and in recent securities filings for the Company which are available at www.sedar.com. Although management of the Company has attempted to identify

important factors that could cause actual results to differ materially from those contained in forward-looking statements or forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements and forward-looking information. The Company does not undertake any obligation to update any forward-looking statements or forward-looking information that is incorporated by reference herein, except as required by applicable securities laws. Investors should not place undue reliance on forward-looking statements.

Hatch disclaims any and all liability arising out of, or in connection with, any third party's use of, or reliance upon, information contained in this press release and the use of this information by any third party is at the risk of that party. The following items were excluded from the project scope of the Hatch project: offsite infrastructure and services; utility connections including water, gas and power; all services are assumed to be available at the site boundary; storage facility for effluent or solid residue are assumed to be discharged to environment or managed/stored by a third party; costs of environmental and ecology related studies; no allowance for study costs (feasibility studies prior to detailed engineering/execution); land acquisitions and associated work land; schedule acceleration costs; schedule delays and associated costs, such as those caused by force majeure; permit applications; forward escalation beyond the estimate base date; government levies and taxes; sustaining capital costs; detailed owner's costs; and tailings or effluent impoundment costs.

[i] Demand data from Benchmark Mineral Intelligence Q2 2023

Lithium Ion Battery Database, pricing assumes the prior 6 months' average from Benchmark's 2023 Monthly Cathode Assessments.

SOURCE: Nano One Materials Corp.