Li-Metal Announces Completion of Concept Study for a 1,000-Tonne Commercial-Scale Lithium Metal Plant

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Encouraging results from the engineering study indicate that Li-Metal's patented C2M technology holds promise for commercial deployment.

The concept study provides additional backing to Li-Metal's assertions of both cost (CAPEX & OPEX) competitiveness, and reduced environmental footprint compared to traditional LiCl processes.

TORONTO, February 7, 2024 - Li-Metal Corp. (CSE:LIM)(OTCQB:LIMFF)(FSE:5ZO) ("Li-Metal" or the "Company"), a developer of lithium metal anode and lithium metal production technologies, today announced the completion of its previously-announced concept study for a commercial North American lithium metal production facility with an annual capacity of up to 1,000 tonnes.

Highlights:

- Competitive brownfield CAPEX: Upon reaching full capacity with an average production estimate of 1,000 tonnes per year , the total capital expenditures was estimated at USD 109 million . The CAPEX estimates in this concept study aligned with Li-Metal expectations and encompasses both indirect costs (35% of the direct costs) and contingency (30% of direct and indirect costs). Owners' costs and escalation were excluded from this estimate. The capital cost accuracy of this study was estimated to be between -25% and +50%.
- Favorable Operating Costs: The study noted that the expected conversion cost for converting carbonate to lithium metal, excluding raw material costs, would be up to USD 31 per Kg including leasing costs for a brownfield facility. This compares favorably to the expected conversion cost for traditional chloride to lithium metal processes of USD 45-52 per Kg [1] excluding OPEX required to convert carbonate to chloride.
- Feedstock Requirement: The study also highlighted the commercial plant would require approximately 5,600 tonnes of lithium carbonate per year. Li-Metal is currently in discussions with several Inflation Reduction Act (IRA) compliant carbonate producers and battery OEMs to identify partners to commercially jointly scale the C2M technology.

As previously announced, Li-Metal engaged a leading global engineering, project management and professional services firm with extensive lithium and battery metals industry expertise, to conduct the concept study (see news release dated September 6, 2022). The envisioned 1,000 tonnes per year plant will leverage Li-Metal's patented and sustainable carbonate-to-metal (C2M) lithium metal technology. The concept study focused on a compact plant design and validates Li-Metal's assertion that the C2M technology holds promise for the development of a commercial lithium metal plant at a brownfield site. The study showed potential for attractive plant-level economics, in line with the Company's expectations. Additionally, the ability to leverage a brownfield site would enable Li-Metal to benefit from significant cost-efficiencies in addition to being able to utilize existing infrastructure and potentially an existing workforce.

"Li-Metal is pleased to receive promising results following the completion of our concept study as we continue to advance our technologies and commercialization plans," said Srini Godavarthy, CEO of Li-Metal. "The results of the study corroborated the viability of our vision and, importantly, further demonstrated that, in addition to reducing harmful chlorine gas by-product, a commercial-scale plant is expected to produce minimal GHG emissions. We are currently discussing supply, investment and partnership opportunities with IRA compliant lithium carbonate producers as well as next-generation battery OEM's. We also remain actively involved in discussions with state/provincial officials to evaluate the feasibility of constructing a commercial plant at a brownfield site in North America."

Dr. Godavarthy continued, "Li-Metal continues to position ourselves as one of the leading players in

sustainable lithium metal production in the western world, which is key for our ultra-thin lithium metal anodes business, and we look forward to incorporate the key learnings from the study as we continue to progress our lithium metal business."

The study noted that in addition to eliminating chlorine gas by-product, the conceptual plant's GHG emission footprint would be well below the required reporting levels under the relevant regulatory framework in Canada and USA. As outlined in the recommendations for the study, Li-Metal will continue to develop its technology, equipment design and engineering. The concept study envisages completion of all piloting, scale-up, study, engineering, and construction activities in 48 months for a commercial-scale plant. Currently, about 3,000 tonnes per year of battery-grade lithium metal are produced globally, with more than 95% of that production concentrated in China, according to Benchmark Mineral Intelligence [2] . According to market report by McKinsey , by 2030, the demand for lithium metal is projected to increase to between 21,000 [2] - 40,000 [3] tonnes per year to support the production of next-generation batteries. Li-Metal is closely working with customers to understand their demand and accelerate the timeline if necessary.

ON BEHALF OF THE BOARD
Srini Godavarthy
Chief Executive Officer

About Li-Metal Corp.

Li-Metal is a Canadian-based vertically integrated battery materials company and innovator commercializing technologies to enable next-generation batteries for electric vehicles and other applications. We believe our patented lithium metal technology, next-generation battery anode technology and production methods are significantly more sustainable than existing solutions and offer lighter, more energy-dense and safer batteries. Li-Metal's battery materials support battery developers' ability to power more cost-effective electric vehicles that go farther and unlock the future of transportation. For more information, visit: www.li-metal.com .

Forward-Looking Information

This news release contains "forward-looking information" within the meaning of applicable securities laws relating to the Company. Any such forward-looking statements may be identified by words such as "expects", "anticipates", "believes", "projects", "plans" and similar expressions. Readers are cautioned not to place undue reliance on forward-looking statements. Statements about, among other things, the Company's strategic plans are forward-looking information. These statements should not be read as guarantees of future performance or results. Such statements involve known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements to be materially different from those implied by such statements. Although such statements are based on management's reasonable assumptions, there can be no assurance that the development of the business of the Company will be completed as described above. The Company assumes no responsibility to update or revise forward-looking information to reflect new events or circumstances unless required by applicable law.

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[1] Based on discussions with lithium metal producers and Li-Metal's internal estimates

[2] https://www.benchmarkminerals.com/forecasts/solid-state/

[3] https://www.mckinsey.com/industries/metals-and-mining/our-insights/australias-potential-in-the-lithium-market

SOURCE: Li-Metal Corp.

View the original press release on accesswire.com