

# E3 Lithium's Laboratory to Expand to Include Production of Lithium Carbonate

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## Highlights:

- [E3 Lithium](#) is expanding its Calgary-based lab to manufacture battery products, including lithium carbonate
- [E3 Lithium](#) plans to build scaled down equipment to validate lithium carbonate that will support the feasibility study and future operations
- The carbonate produced from this work will allow the Company to refine its process for battery-grade lithium carbonate

[E3 Lithium Ltd.](#) (TSXV: ETL) (FSE: OW3) (OTCQX: EEMMF), "[E3 Lithium](#)" or the "Company," a leader in Canadian lithium, is excited to announce it is expanding the Calgary-based lab to incorporate the equipment to complete the polishing and production of battery products, such as lithium carbonate and lithium hydroxide.

[E3 Lithium](#)'s development facility, located at the University of Calgary, has been operational since early 2021. The facilities' focus has been on the development and verification of Direct Lithium Extraction (DLE) processing technologies. The internal team of experts has been beneficial in ensuring that [E3 Lithium](#) successfully completed the necessary steps towards technology development and selection, including verification testing of third-party DLE processes to support the design and decision making for the commercial facility. E3 also has its own internal analytics team that enables the Company to efficiently and quickly produce consistent results from the various testing processes.

With the definition of the downstream processes utilizing chemical conversion to produce lithium carbonate and then lithium hydroxide, E3 will deploy the same validation, verification and optimization strategy to the conversion processes. This includes building scaled down process equipment that mimics the commercial systems to validate and optimize the production of lithium carbonate. The team will further investigate the necessity to complete the equipment to continue from carbonate to lithium hydroxide. This work will support [E3 Lithium](#)'s feasibility engineering study and future commercial operations.

"Developing this capability in-house offers significant advantages in terms of result accuracy, cost-effectiveness and flexibility" said Chris Doornbos, President and CEO of [E3 Lithium](#). "By building and operating scaled down equipment that closely mimics commercial operations, our highly skilled lab team will verify and optimize the process. The results the lab will produce will support the design and operation of the Company's commercial plant and will bring efficiency to our future commercial operations by offering prompt and accurate data and analysis."

## The Post-DLE to Lithium Carbonate Flowsheet

DLE technology extracts lithium ions from [E3 Lithium](#)'s brine efficiently and effectively producing a lithium rich concentrate stream. The process to convert the lithium rich solution (a liquid) to lithium carbonate (a solid) utilizes conventional chemical reactions and industry standard processes and is comprised of two main steps: purification with volume reduction and precipitation of lithium products.

- Purification and Volume Reduction: This step removes the contaminants, mainly calcium, magnesium and boron, from the DLE lithium rich product stream, further concentrates the lithium stream and recovers water for reuse in the process. Example of process technology used in this step can include precipitation, nanofiltration, ion exchange, reverse osmosis (RO) and evaporation.
- Precipitation: The final step involves a conversion process achieved by mixing soda ash with the purified, concentrated lithium solution to produce a solid lithium carbonate ( $\text{Li}_2\text{CO}_3$ ) precipitate.

[E3 Lithium](#) will analyze the carbonate product for impurities thereby enabling the Company to gain a deeper understanding of the process requirements necessary to achieve battery-grade lithium carbonate and optimize the design and/or operating parameters if necessary. [E3 Lithium](#) will also send the carbonate produced to certified third-party labs for independent validation. The Company is also evaluating the development of the production of lithium hydroxide as it focuses on building the carbonate as a first step.

#### About [E3 Lithium](#)'s Lab

Located within the University of Calgary's research park, [E3 Lithium](#)'s lab comprises an office space and lab facility. Fully equipped to standard lab specifications, it features essential safety installations and a range of analytical instruments for conducting a wide array of tests and experiments. The lab team consists of individuals with diverse academic backgrounds and industry experience, ensuring a multidisciplinary approach to research and development efforts.

#### ON BEHALF OF THE BOARD OF DIRECTORS

Chris Doornbos, President & CEO

[E3 Lithium Ltd.](#)

#### About [E3 Lithium](#)

[E3 Lithium](#) is a development company with a total of 16.0 million tonnes of lithium carbonate equivalent (LCE) Measured and Indicated and 0.9 million tonnes LCE Inferred mineral resources<sup>1</sup> in Alberta. As outlined in E3's Preliminary Economic Assessment, the Clearwater Lithium Project has an NPV8% of USD 1.1 Billion with a 32% IRR pre-tax and USD 820 Million with a 27% IRR after-tax<sup>1</sup>. [E3 Lithium](#)'s goal is to produce high purity, battery grade lithium products to power the growing electrical revolution. With a significant lithium resource and innovative technology solutions, [E3 Lithium](#) has the potential to deliver lithium to market from one of the best jurisdictions in the world.

1: The Preliminary Economic Assessment (PEA) for the Clearwater Lithium Project NI 43-101 technical report is amended Sept 17, 2021. Gordon MacMillan, P.Geo, QP, Fluid Domains Inc. and Grahame Binks, MAusIMM, QP (Metallurgy), formerly of Sedgman Canada Limited (Report Date: June 15, 2018, Effective Date: June 4, 2018 Amended Date: September 17, 2021). The mineral resource NI 43-101 Technical Report for the North Rocky Property, effective October 27, 2017, identified 0.9Mt LCE (inferred). The mineral resource NI 43-101 Technical Report for the Bashaw District Project, effective March 21, 2023, identified 16.0Mt LCE (measured & indicated). All reports are available on the [E3 Lithium](#)'s website ([e3lithium.ca/technical-reports](http://e3lithium.ca/technical-reports)) and SEDAR+ ([www.sedarplus.ca](http://www.sedarplus.ca)).

#### Forward-Looking and Cautionary Statements

This news release includes certain forward-looking statements as well as management's objectives, strategies, beliefs and intentions. Forward looking statements are frequently identified by such words as "may", "will", "plan", "expect", "anticipate", "estimate", "intend" and similar words referring to future events and results. Forward-looking statements are based on the current opinions and expectations of management. All forward-looking information is inherently uncertain and subject to a variety of assumptions, risks and uncertainties, including the speculative nature of mineral exploration and development, fluctuating commodity prices, the effectiveness and feasibility of emerging lithium extraction technologies which have not yet been tested or proven on a commercial scale or on the Company's brine, competitive risks and the availability of financing, as described in more detail in our recent securities filings available at [www.sedarplus.ca](http://www.sedarplus.ca). Actual events or results may differ materially from those projected in the forward-looking statements and we caution against placing undue reliance thereon. We assume no obligation to revise or update these forward-looking statements except as required by applicable law.

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