



## E3 METALS CORP

Suite 2300 – 150 9<sup>th</sup> Ave SW  
Calgary, AB T2P 3H9  
Tel: +1 (587) 324-2775  
Email: [investor@e3metalscorp.com](mailto:investor@e3metalscorp.com)  
Website: [e3metalscorp.com](http://e3metalscorp.com)

**Directors:**  
Chris Doornbos  
Paul Reinhart  
Mike O'Hara  
Peeyush Varshney  
John Pantazopoulos

## E3 Metals Announces Positive Preliminary Economic Assessment Results for its Clearwater Lithium Project

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CALGARY, ALBERTA, November 16, 2020 – E3 METALS CORP. (TSXV: ETMC) (FSE: OU7A) (OTC: EEMMF) (the "Company" or "E3 Metals"), an emerging lithium developer and leading lithium extraction technology innovator, today announced the results of its Preliminary Economic Assessment ("PEA") of its 100% owned Clearwater Lithium Project. The PEA outlines the estimated production of 20,000 tonnes per year of battery-quality lithium hydroxide monohydrate ("lithium hydroxide" or "LHM") over a 20-year period. The Company will file the PEA on SEDAR within 45 days.

The PEA was prepared by Scovan Engineering, NORAM Engineering and Constructors, GLJ Ltd. and Fluid Domains, each being specialists in their field of practice specific to the development of this project. More detail on the contractors is available at the end of this news release. All values reported are in USD unless otherwise noted.

### **Highlights:**

- Pre-tax USD 1.1 Billion NPV at 8% discount rate and IRR of 32%;
- Total initial CAPEX estimate of USD 602.0 Million inclusive of both direct and indirect capital costs and 79.8 Million in contingency
- 20-year project-life producing 20,000 tonnes per year of battery-quality LHM. Over the project-life, a total of 400,000 tonnes of LHM is contemplated being produced from the Clearwater Resource, leaving room for expansion across the Clearwater Resource Area and in E3 Metals' adjacent Exshaw and Rocky Resource Areas; and
- All-in operating costs of USD 3,656 per tonne LHM, USD 73.2 Million annually, including all direct and indirect costs.

"E3 Metals is very encouraged by the results of this Preliminary Economic Assessment that incorporates a significant amount of data and work completed over the past few years to develop both the processes and technology" commented Chris Doornbos, President and CEO of E3 Metals. "The combination of electrochemically produced lithium hydroxide, targeted process re-cycle streams, and relatively low cost of energy in Alberta provides for a very attractive trade-off between OPEX and CAPEX. This provides a robust OPEX capable of withstanding lithium hydroxide price fluctuations. We are very excited to be moving forward with the project development work into 2021 as we progress on the path to a Pre-Feasibility Study."

## Preliminary Economic Assessment Results

	Units	Values
Production	tonnes/year LHM	20,000
Project Life	Years	20
Total Capital Cost (CAPEX)	M USD	710.7
Total Initial Capital	M USD	602.0
Average Annual Operating Costs (OPEX)	M USD/year	73.2
Average Selling Price (LHM)	USD/tonne LHM	14,079
Average Annual EBITDA	USD	208.6
Pre-Tax Net Present Value ("NPV") (8% discount)	USD	1,123.1
After-Tax Net Present Value ("NPV") (8% discount)	USD	819.9
Cash Operating Costs	USD/tonne LHM	3,656
Pre-Tax Internal Rate of Return ("IRR")	%	32%
After-Tax Internal Rate of Return ("IRR")	%	27%
Payback Period (After-Tax)	years	3.4

The PEA is preliminary cost estimate and includes inferred mineral resources that are considered too geologically speculative to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty the Clearwater Project outlined by the PEA will be realized. The economic analysis of the PEA is based on the following main assumptions: a) forecast LHM price of USD 14,079 averaged over the life of the project, b) annual production of 20,000 tonnes per year LHM, c) commerciality of E3's DLE technology and, d) estimated operating and capital costs for the project based on the most current data available.

## Project Development

The Clearwater Project consists of over 250,000 acres located in south-central Alberta, Canada. The development plan prepared for the PEA includes three main process steps designed to deliver 20,000 tonnes of battery-quality lithium hydroxide monohydrate per year.

**Brine Production & Pre-Treatment:** Based on the large amount of geological data available from oil and gas operations in the Clearwater Resource Area, it is expected that lithium grade is consistent throughout the Clearwater Resource Area and that a series of wells, drilled specifically for the production of brine, would be capable of delivering 3,300 m<sup>3</sup>/day per well. At an average grade of 74.6 mg/L lithium, the project will move just over 128,000 m<sup>3</sup>/day of brine, with additional well production capacity in excess of this. As Direct Lithium Extraction (DLE) processing does not evaporate the water contained within the brine, the lithium void brine is returned to the aquifer through a series of injection wells. This re-injection of lithium depleted brine will serve to maintain pressures and brine production rates in the aquifer. The brine production process step also includes pre-treatment for removal of H<sub>2</sub>S from the brine prior for delivery to the Direct Lithium Extraction (DLE) process.

**Direct Lithium Extraction:** E3 Metals' proprietary Direct Lithium Extraction (DLE) process deploys an ion-exchange process that is highly selective for lithium over competing cations in the brine. Results of this technology have been outlined by E3 Metals in previous announcements. This process produces a highly

concentrated lithium solution (“Li-IX solution”) with a low level of impurities for delivery to the lithium production process.

**Lithium Production:** There are several stages included in this process step designed to deliver battery-quality lithium hydroxide. The first step includes further concentration of the Li-IX solution, followed by polishing steps to remove the remaining impurities. The solution is then fed into electrolyzers where a highly pure lithium hydroxide solution is formed. From there, the lithium hydroxide solution is crystalized into lithium hydroxide salts. The crystalized lithium hydroxide is then packaged and transported to a nearby rail network where it can be transported to eastern and western shipping ports for international distribution, or south for sale directly into the American market.

### Capital Costs

Capital Costs	Description	Costs (M USD)
Brine Production	Wells, pumps and pipelines	192.8
Brine Pre-Treatment	H <sub>2</sub> S Removal	117.8
DLE Process (Li-IX)	Primary extraction of lithium from the brine	15.6
Lithium Production	Concentration, Polishing, Electrolysis and Crystallization	160.9
Power, Site, Transport and Labour Costs	Misc. Site and labour costs	35.1
Contingency (25%)	Applied to direct capital costs	79.8
<b>Total</b>		<b>602.0</b>
Sustaining Capital	Pump replacement, etc	108.7

The total initial capital cost of the Project for 20,000 tonnes per year production of LHM is estimated at USD 602.0 Million, inclusive of direct and indirect costs and contingency. In additional, USD 108.7 Million of sustaining capital is also estimated, with the majority of this cost associated with the replacement of brine production pumps.

### Operating Costs

Description	Description	Total Annual Costs (M USD)	Cost Per Tonne LHM (USD)
Brine Production	Well, pumps and pipeline	19.1	954
Brine Pre-Treatment	H <sub>2</sub> S Removal	19.9	993
DLE Process (Li-IX)	Primary extraction of lithium from the brine	8.3	414
Lithium Production	Concentration, Polishing, Electrolysis and Crystallization	11.3	564
Site, Labour and G&A	Power, Site, Transport, Labour and G&A Costs	14.6	732
<b>Total</b>		<b>73.2</b>	<b>3,656</b>

A total operating cost of USD 73.2 Million per year, or USD 3,656 per tonne LHM, are broken out by each major project step and are inclusive of direct and indirect costs. The majority of the operating costs are associated with reagents required within the system and power consumption.

### Sensitivity Analysis

LHM Price (USD/Tonne)	After-Tax NPV (USD Million)	After-Tax IRR
12,000	561.8	21%
13,000	686.2	24%
14,079	819.9	27%
15,000	934.0	29%
16,000	1058.1	32%

### Mineral Resource Estimation

The inferred mineral resource estimate for the Clearwater Resource Area has been updated to 410,000 tonnes of elemental lithium, an increase of 14%. Using a conversion factor of 5.323, this equates to 2,200,000 tonnes of lithium carbonate equivalent (LCE). Several factors contributed the updated estimate, including: 1) an expansion of the resource area by 85 km<sup>2</sup> based on additional permits E3 Metals acquired since the initial resource estimate in 2017; 2) new and repeated sampling within the resource area has resulted in an updated average concentration of 74.6 mg/L Li; and 3) updated well network modeling has outlined the ability for the reservoir to produce a larger amount of lithium from brine than was originally envisioned, increasing the production factor from 50% to 80% in some areas.

The resource is classified as inferred because geological evidence is sufficient to imply but not verify geological, grade or quality continuity. It is reasonably expected that the majority of the Inferred Mineral Resource Estimate could be upgraded to Indicated Mineral Reserves with continued exploration.

### Lithium Pricing and Production

A detailed future pricing study for lithium chemicals was not completed for this PEA. The average price used for future sales of battery-quality lithium monohydrate hydroxide was developed by reviewing pricing data generated from reliable sources as reported in publicly disclosed data collected from peer companies. The future average selling price of USD 14,079/tonne lithium hydroxide is consistent with that used for publicly released economic assessments of other lithium projects in the previous 4 months. Future selling prices ranging between USD 12,910/tonne to USD 17,238/tonne were modelled as part of a sensitivity analysis exercise.

The total production of 20,000 tonnes/year lithium hydroxide is based on recovery of lithium from the enriched brines of the Leduc Aquifer in Alberta. It does not take into account the ability for E3 Metals to increase production of brine and subsequent expansion of production facilities to increase total lithium production. Nor does it contemplate the possibility of including brine streams from oil and gas operators in the area (i.e. oilfield produced water), which could potentially be added to the feed brine stream at a small incremental cost to the company.

## Summary of Contractors – Quality Assurance

As this project combines a mature oil and gas industry in Alberta with lithium production expertise, three contractors were selected to produce the report, each having expertise in their field of practice. This was combined with the resource estimate prepared by Fluid Domains. The Preliminary Economic Assessment was prepared by these four contractors, with the final economic analysis completed by Scovan. All contractors completing the report are Qualified Persons as defined by NI 43-101 and are independent of the Company. The National Instrument 43-101 PEA report will be filed on SEDAR ([www.sedar.com](http://www.sedar.com)) within 45 days.

**GLJ Ltd.:** GLJ Ltd. is an energy consulting services company offering a variety of products and services to solve industry challenges and create opportunities for future growth in the petroleum industry. Through technical excellence, industry knowledge and insights gleaned from close relationships with Canadian and International clients, GLJ Ltd. has established itself as one of the largest energy evaluation companies in the world.

**Fluid Domains:** Fluid Domains is a hydrogeology consultancy that provides technical support to clients from many sectors, including: energy, consulting companies, municipalities, mining, policy development and expert testimony. Gordon MacMillan, P.Geol., is an owner of Fluid Domains and has 20 years of experience providing strategic leadership on modelling and hydrogeological characterization.

**SCOVAN:** Scovan Engineering is a Calgary-based firm that specializes in offering innovative and sustainable solutions for industrial, renewable and emerging energy projects. Their multidisciplinary team provides engineering, procurement and construction management services (EPCM).

**NORAM:** NORAM is a private company, founded in 1988, based in Vancouver, BC, Canada employing approximately 100 people with a strong focus on technology and technology development. The NORAM group includes a fabrication facility Axton and research facility BCRI in Vancouver as well as an engineering and SX® equipment supply company NORAM International in Gothenburg, Sweden.

NORAM is active in a wide range of technologies, primarily in nitration, sulphuric acid and electrochemistry, with more than 100 clients in 25 countries. NORAM has experience in the lithium industry with projects ranging from concept evaluation to design and supply of electrolysis equipment.

The information contained in this news release relating to the PEA has been compiled by the four contractors listed above. The information has been reviewed and approved by Damian Bransby-Williams, P. Eng., of Scovan. Mr. Bransby-Williams is a "Qualified Person" as the term is defined in National Instrument 43-101 and is independent of E3 Metals Corp. All four contractors have reviewed and approved the presentation of the PEA information in this news release.

## About E3 Metals

E3 Metals is a lithium development company with 6.7 million tonnes of lithium carbonate equivalent (LCE) inferred mineral resources<sup>1</sup> in Alberta. E3 Metals is currently advancing its proprietary direct lithium

extraction (DLE) process in partnership with Livent Corporation, a global leader in lithium production, under a joint development agreement. Through the successful scale up its DLE process towards commercialization, E3 Metals' goal is to produce high purity, battery grade, lithium products. With a significant lithium resource and innovative technology solutions, E3 Metals has the potential to deliver lithium to market from one of the best jurisdictions in the world. E3 Metals also continues to work with partners at the University of Alberta and at GreenCentre Canada. For more information about E3 Metals, visit <http://www.e3metalscorp.com>.

ON BEHALF OF THE BOARD OF DIRECTORS,

*"Chris Doornbos"*

President & CEO

E3 METALS CORP.

1. E3 Metals has released information on three NI 43-101 Technical Reports totaling a resource of 6.7 Mt LCE. The Central Clearwater Resource Area (CCRA) Technical Report, identifying 1.9 Mt LCE (inferred), is dated effective October 27, 2017, and the North Rocky Resource Area (NRRRA) Technical Report was dated effective October 27, 2017, identifies 0.9 Mt LCE (inferred). A third report for the Exshaw West Resource Area (EWRA), identifies 3.9 Mt LCE (inferred) and was filed on June 15, 2018, effective June 4, 2018. All reports are available on SEDAR ([www.sedar.com](http://www.sedar.com)).

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

This news release includes certain forward-looking statements concerning the potential of the Company's projects and technology, 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.sedar.com](http://www.sedar.com). 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.