



CLOSING THE LITHIUM CONVERSION GAP



THE LITHIUM CONVERSION GAP

MINE SUPPLY

+40 companies Quebec
>500Mt +1% Li_2O resource
Canada, Brazil, Africa

No current lithium converters
Only 100 Ktpa planned
No lithium refining experience

DEMAND

+20 battery manufacturers
1,000GW by 2028
850,000t LCE per year



MINERAL SUPPLY

AMERICA

CANADA

GREENLAND
(DENMARK)

RUSSIA

PROCESSING

CHINA

UNITED STATES

BATTERY D

MEXICO

BRAZIL

AUSTRALIA

DOWNSTREAM | REGULATION

- Cut Chinese battery material reliance
- Chinese firms ordered to exit
- Trade war with US
- Canada on-shoring objective hasn't changed

SOURCE / ECONOMY

Planned lithium export curbs aim to 'safeguard China's core technology': deputy head of industry body

By Qi Xijia

Published: Jan 08, 2025 12:05 AM





PROBLEMS FILLING THE GAP

- Many failures, technical difficulties
- Existing Lithium producers
- Relative young industry
- Complex chemical business



Experienced Operators



Proven Technology



CHALLENGES WITH LITHIUM CONVERSION PLANTS TODAY



FAILED CANADIAN Li PROJECTS



North American Lithium

- Shutdown 2015
- Spent circa CAD 250m
- Produced 109 t LC



Nemaska Lithium

- DFS completed 2018
- Spent CAD 411 m
- Failed to start up 2019

THE COMPETITION



TROUBLED LiOH PLANTS



Tianqi Kwinana LiOH

- 8 Years so far
- Capital Cost Blowout
- > A\$1 billion
- Care and Maintenance



Albemarle Kemerton LiOH

- 5 years so far
- Still <20% of design rate
- Shut trains 2,3,4
- Write down US\$1.5 billion



Alkaline Pressure Leach

- New Technology
- Unproven
- 1995 Greenbushes 5Ktpa
- Failed due to scaling

THE COMPETITION



WHY HAVE THESE PROJECTS FAILED?

- Nearly all the expertise is in China
- Lack of operating supervision – design
- Cultural transfer a problem
- Chinese batch → Western continuous

Our Lithium Dream Team are Operators



DESIGN



THE LITHIUM DREAM TEAM



Terry Stark
Head of Mining
Ex Galaxy GM Operations



Roger Pover
Head of Processing
Ex Galaxy Plant Manager



John Loxton
Head of Li Refinery
Ex Hatch Li Carb Plant



John Sobolewski
Chief Financial Officer
Ex Galaxy CFO & Co Sec

HATCH





DREAM TEAM TRACK RECORD

Jiangsu Li Carbonate Plant



- Capital Cost – US\$120 m
- At design rate 20,000 tpa
- Highest quality LC worldwide



Jiangsu Lithium Carbonate Plant





CLOSING THE LITHIUM CONVERSION GAP



CLOSING THE **LITHIUM GAP**

BÉCANCOUR LITHIUM REFINERY

- Replicate the success at Jiangsu
- 18,270 tpa green BG lithium carbonate plant
- Bécancour, Quebec's Battery Hub
- Same flow sheet, same equipment, same suppliers

HATCH

RAILWAY

BECANCOUR
LITHIUM
REFINERY

ASX: LDJ

PORT FACILITIES

HIGHWAY

**GOOD
LOCATION**

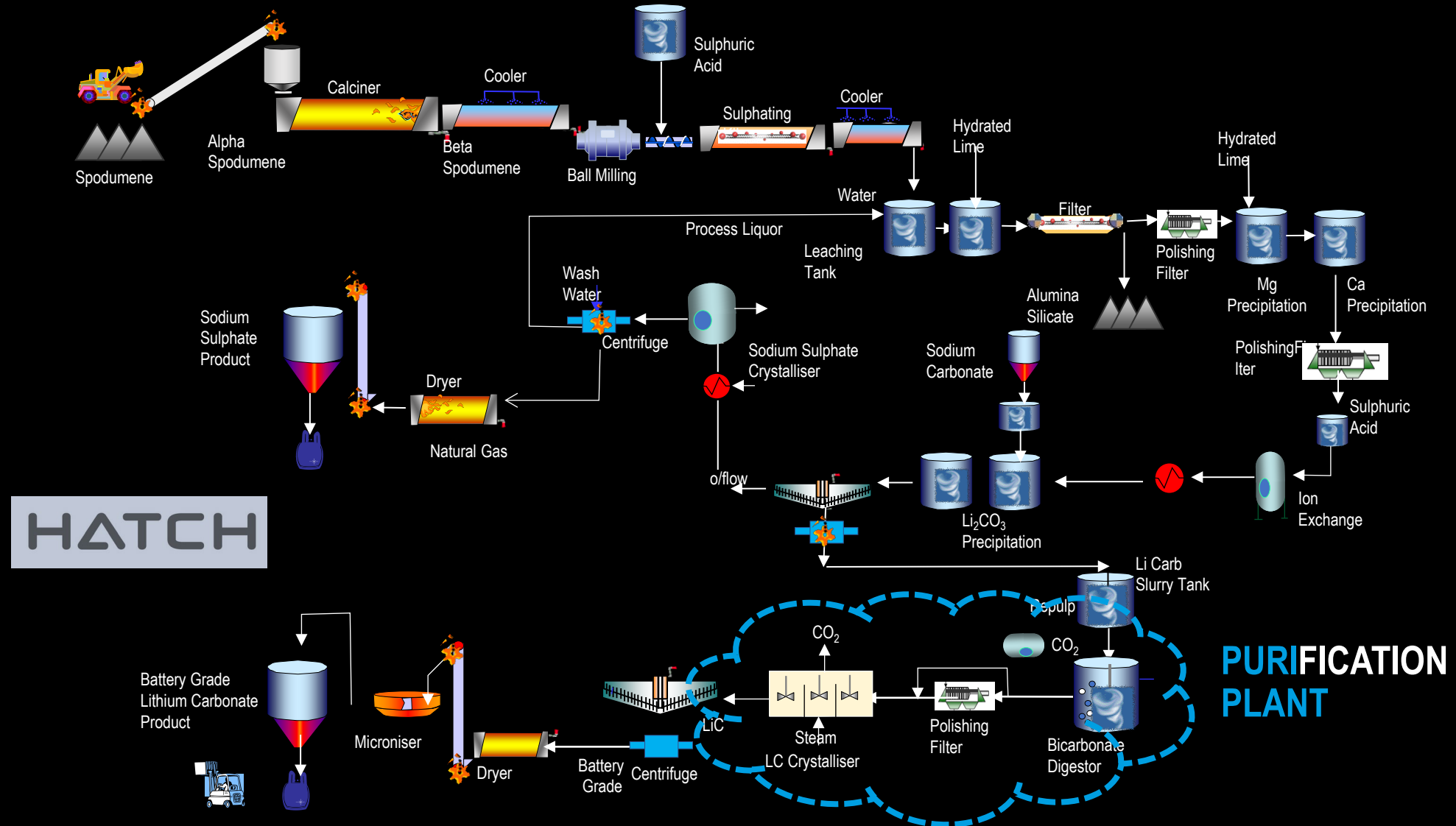
CLOSE TO
INFRASTRUCTURE



GOOD LOCATION



THE LITHIUM REFINERY





BECANCOUR LITHIUM REFINERY



ROBUST PROCESS

- Refinery to process all types of spodumene
- Sampled - international sources of spodumene
- Imports while Canadian Li industry develops
- Achieve battery grade specs 99.5% Li_2CO_3

1. LU7 ASX Announcement 30 Sept 24 – “Strong Preliminary Feasibility for Becancour Lithium Refinery”

THE LITHIUM REFINERY





BECANCOUR LITHIUM REFINERY

STRONG POSITIVE ROBUST DFS



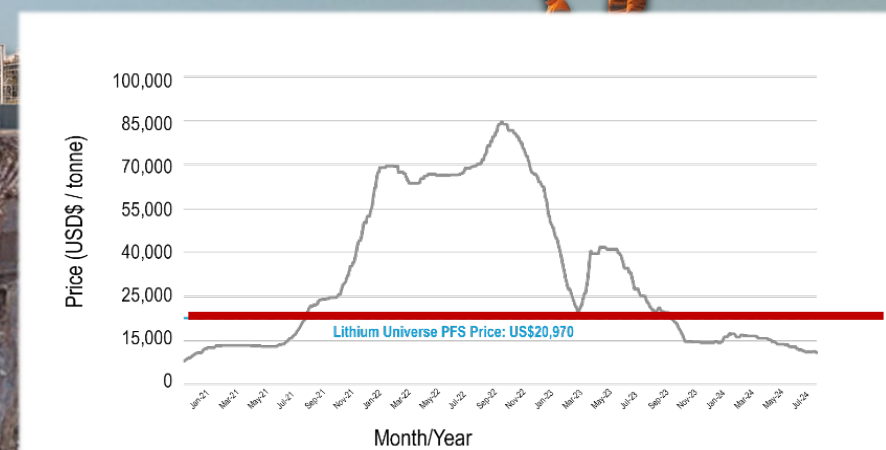
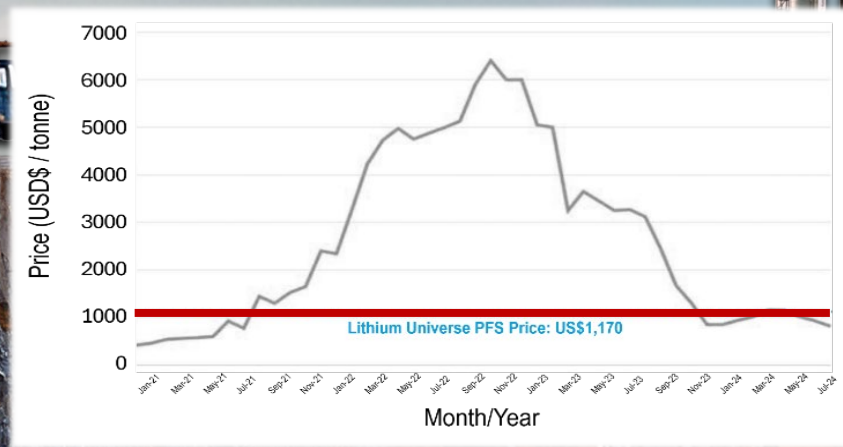
1. LU7 ASX Announcement 30 Sept 24 – “Strong Preliminary Feasibility for Becancour Lithium Refinery”



BECANCOUR LITHIUM REFINERY

CONSERVATIVE PRICE FORECAST

SC6 US\$1,170/t LC \$20,970/t





BECAINCOUR LITHIUM REFINERY

% NET PRESENT VALUE
US\$ 718 MILLION





BECANCOUR LITHIUM REFINERY

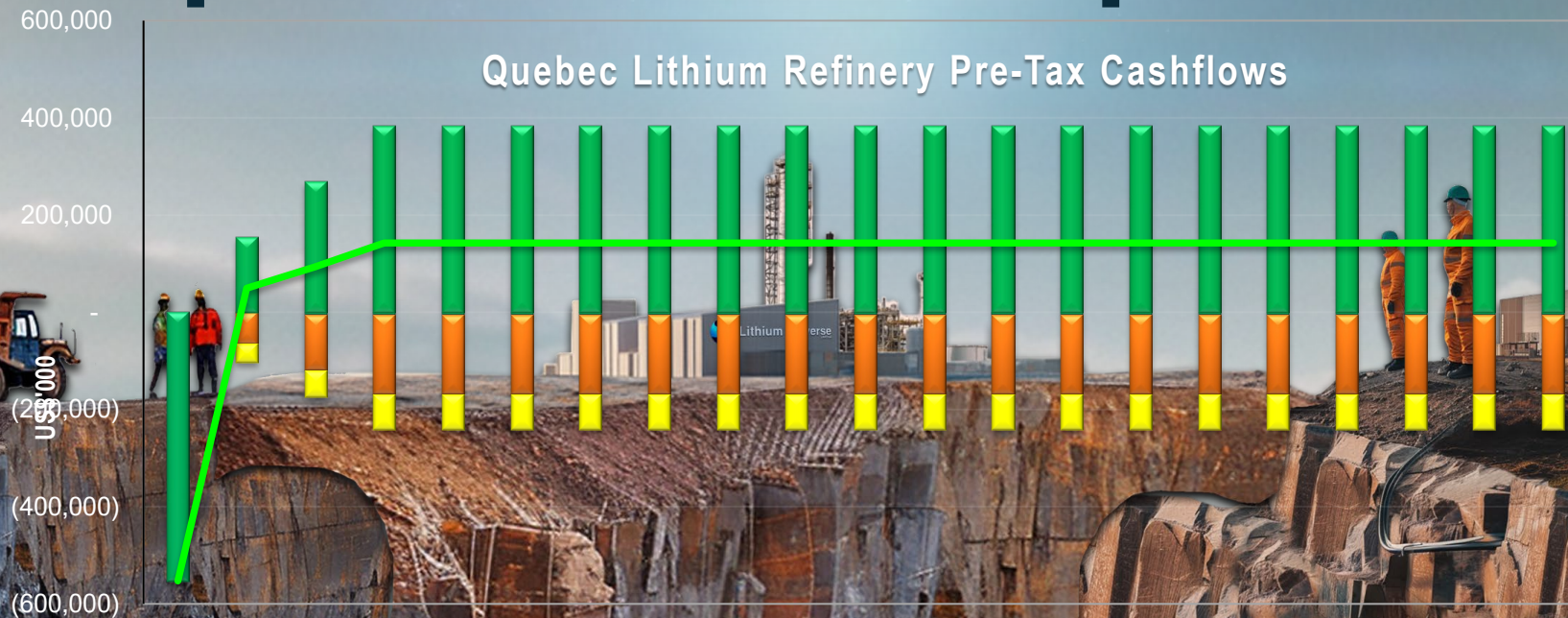
**IRR PAYBACK
21% 3.9 YEARS**





BECANCOUR LITHIUM REFINERY

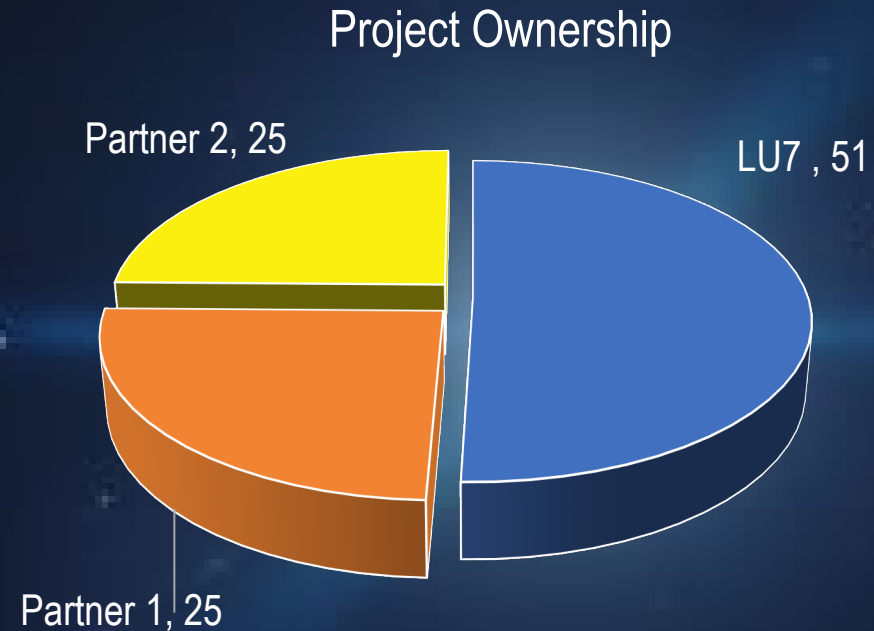
EBITDA **CAPEX**
US\$ 148M **US\$ 549M**





FUNDING STRATEGY

- Sell 49% project to 1-2 strategic partners
- Target OEM with spodumene offtake
- Equity from sale injected to project
- Debt and Equity of 50/50
- Appointment of debt adviser
- Discussions with various banks





THE BIG WHY's

WHY?

- build a plant – low price environment?
- build a plant - others closing theirs?
- can you compete with China?
- lithium carbonate not hydroxide?



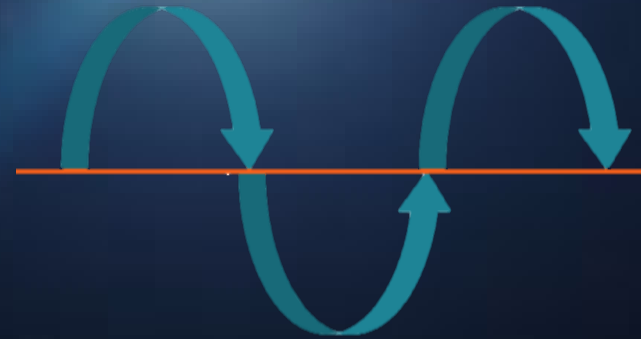
WHY?



COUNTER CYCLICAL STRATEGY

Why build a plant in a depressed-price environment?

- Been through 3-4 lithium cycles
- Prices have and will always recover
- Li demand from EVs and BESS growth strong
- Develop a project ready for price recovery

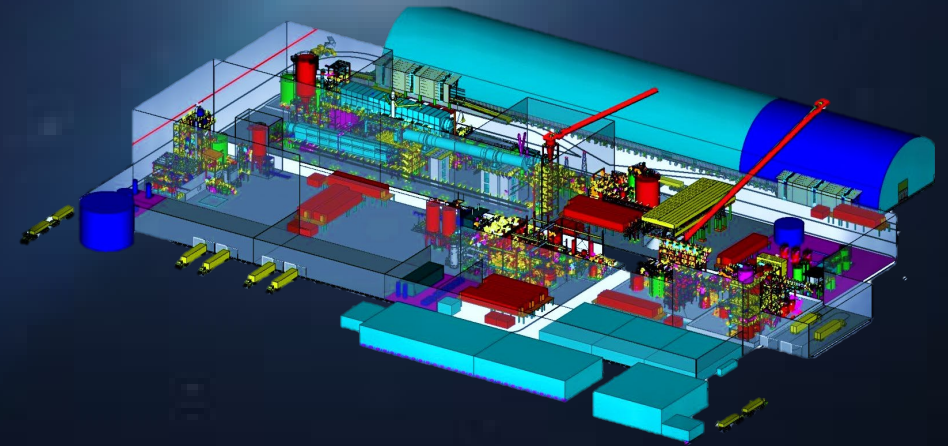




NEW CAPACITY IS REQUIRED

Why build a plant when others are closing theirs?

- Higher costs operations being closed
- Operations not performing, shutting down
- New efficient capacity is required for the growth
- World needs non-Chinese conversion
- Build “off the shelf” conversion that works

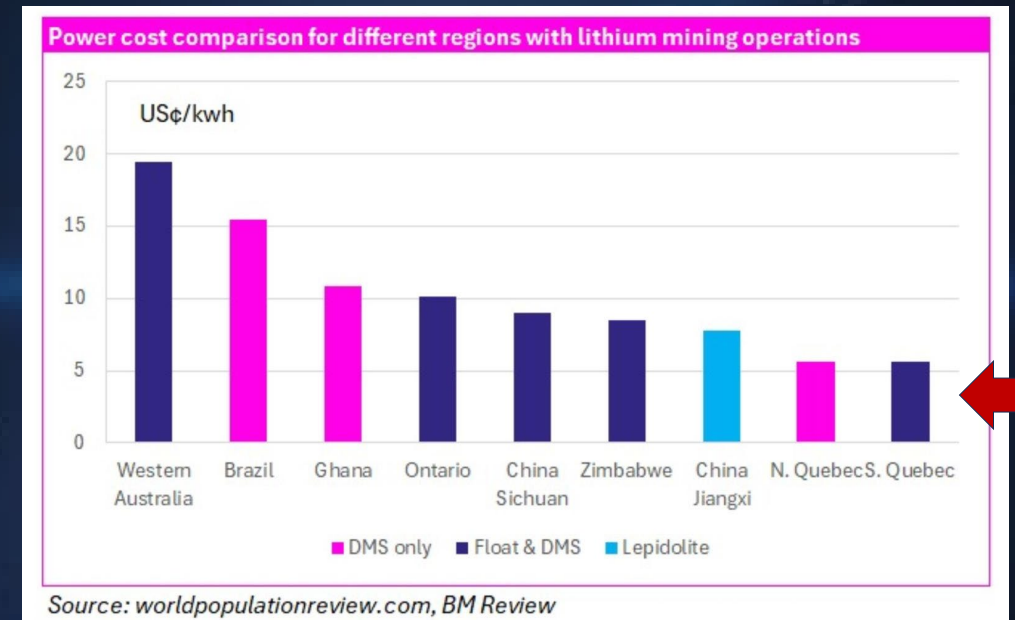




QUEBEC LITHIUM CONVERSION

Why can you compete with China?

- Access to Cheap Green Power
- Nearby feedstock - Canada, Brazil and Africa
- Decrease in transport costs of spodumene
- End market North America



LU7 LITHIUM STRATEGY



RECOVERY NOT IF BUT WHEN



DOUBLE WHAMMY

- Impact of supply reduction under-estimated
- Dramatic reduction 17%, 21% next year
- Demand is severely under-estimated
- Focus on EV's only, BESS dark horse
- 1.8 TWh of batteries - 600 GWh solar plants



PRICES WILL RECOVER QUICKER THAN EXPECTED

LITHIUM CARBONATE

Lithium feedstock of choice

- LFP batteries technology got better
- Range and performance improved
- Much safer and cheaper
- Li Carb feed for LFP lithium batteries
- Majority of EVs have switched to LFP batteries
- BESS batteries are all LFP batteries
- LFP 67% of EVs, 87% of BESS

LU7 LITHIUM STRATEGY





PROJECT ADVANCEMENTS

- Application 22.5 MW electricity, Hydro Quebec
- Environmental survey – no showstoppers
- Co-operation with W8banaki First Nation
- Previous farm land
- Permitting should be straight forward

THE LITHIUM REFINERY





PROJECT MOU'S

- Exclusive supply alumina silicate to Lafarge
- Canada's largest cement producer
- Supply of sodium sulphate to Africa
- MOU with Polytechnique for training



POLYTECHNIQUE
MONTREAL

TECHNOLOGICAL
UNIVERSITY



THE LITHIUM REFINERY



LITHIUM DREAM TEAM

Proven Lithium Track Record

PROVEN TECHNOLOGY

Derisking Lithium Conversion Technology

BÉCANCOUR LITHIUM REFINERY

Competitive & Closing the Conversion Gap



INVESTOR HIGHLIGHTS



CAUTIONARY STATEMENTS

Information Required by Listing Rules

The Becancour Lithium Refinery Definitive Feasibility Study (PFS) does not rely upon estimated ore reserves / and or mineral resources. The spodumene concentrate feedstock for the proposed refinery has been assumed to have been purchased directly from spodumene miners currently producing spodumene concentrates or marketing agents or traders currently purchasing spodumene concentrate and selling to the downstream processors. Accordingly, the JORC Code is not relevant to this study nor are Listing Rules 5.16 and 5.17 to the extent to which they relate to matters concerning JORC.

Forward Looking Statements

This release contains “forward-looking information” that is based on the Company’s expectations, estimates and projections as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to studies, the Company’s business strategy, plan, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations. Generally, this forward looking information can be identified by the use of forward-looking terminology such as ‘outlook’, ‘anticipate’, ‘project’, ‘target’, ‘likely’, ‘believe’, ‘estimate’, ‘expect’, ‘intend’, ‘may’, ‘would’, ‘could’, ‘should’, ‘scheduled’, ‘will’, ‘plan’, ‘forecast’, ‘evolve’ and similar expressions. Persons reading this news release are cautioned that such statements are only predictions, and that the Company’s actual future results or performance may be materially different. Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the Company’s actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking information. Forward-looking information is developed based on assumptions about such risks, uncertainties and other factors set out herein, including but not limited to general business, economic, competitive, political and social uncertainties; the actual results of current development activities; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; future prices of metals; failure of plant, equipment or processes to operate as anticipated; accident, labour disputes and other risks of the chemical industry; and delays in obtaining governmental approvals or financing or in the completion of development or construction activities. This list is not exhaustive of the factors that may affect our forward-looking information. These and other factors should be considered carefully, and readers should not place undue reliance on such forward-looking information. Neither the Company, nor any other person, gives any representation, warranty, assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statement will actually occur. Except as required by law, and only to the extent so required, none of the Company, its subsidiaries or its or their directors, officers, employees, advisors or agents or any other person shall in any way be liable to any person or body for any loss, claim, demand, damages, costs or expenses of whatever nature arising in any way out of, or in connection with, the information contained in this document. The Company disclaims any intent or obligations to or revise any forward-looking statements whether as a result of new information, estimates, or options, future events or results or otherwise, unless required to do so by law.

Cautionary Statement

The DFS is based on the material assumptions outlined including that it has been completed in accordance with AACE Principles to a Class 5 level with a nominal level of accuracy of $\pm 35\%$, that the financial forecasts rely upon the purchase of third party spodumene concentrate as the feedstock for the plant. The DFS referred to in this announcement has been undertaken to assess the potential technical feasibility and economic viability of constructing and operating facilities capable of producing battery grade lithium carbonate for use in lithium-ion batteries from those units of operations and provide baseline financial metrics to consider future investment decisions.

The Definitive Feasibility Study (PFS) is based on the material assumptions. These include assumptions about the availability of funding. While Lithium Universe considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the DFS will be achieved. To achieve the range of outcomes indicated in the DFS, funding of in the order of US\$600 million will likely be required. Investors should note that there is no certainty that Lithium Universe will be able to raise that amount of funding when needed. It is also likely that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Lithium Universe’s existing shares. It is also possible that Lithium Universe could pursue other ‘value realisation’ strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce the Company’s proportionate ownership of the project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the DFS