THE BROWNSVILLE LITHIUM REFINERY

PRE-FEASIBILITY STUDY

Lithium Universe LIMITED

SEPTEMBER 2026

HIGHLIGHTS

The Lithium Universe Strategy

- Positive and robust Brownsville Lithium Refinery Pre-Feasibility Study, demonstrating strong economics, even under conservative lithium pricing assumptions
- Closing the North American Lithium Conversion Gap by establishing domestic lithium chemical production capacity
- Positioned to benefit from growing North American EV and ESS demand, supported by increasing regional lithium resource development
- Leveraging proven Jiangsu lithium conversion technology and operating experience to reduce technical and execution risk

The Financial Feasibility Modelling

- Economically viable with a pre-tax $NPV_{8\%}$ of approximately US$787 million
- Pre-tax IRR of approximately 21.0% and payback period of 3.9 years
- Based on long-term pricing assumptions of US$1,170/t SC6 spodumene concentrate and US$20,970/t battery-grade lithium carbonate
- Current lithium carbonate spot prices are above the study price assumptions
- Operating cost estimated at approximately US$3,566/t lithium carbonate (ex spod)
- Gross margin of approximately 42% or US$8,822/t lithium carbonate
- Capital cost estimate of approximately US$607 million
- Includes a substantial US$130 million contingency allowance, reflecting current construction and geopolitical market volatility
- Annual revenue of approximately US$383 million
- Annual EBITDA of approximately US$161 million
- Lower operating costs than the Bécancour DFS driven by lower labour costs, soda ash, natural gas pricing, and discounted spodumene supply from Nigeria

The Design

- LU7 offers a practical solution to lithium refinery start-up challenges by adopting proven technology rather than developing untested processes
- Based on the successful Jiangsu Lithium Carbonate Refinery design and operating model
- Modelled on producing up to 18,270 tonnes per annum of battery-grade lithium carbonate
- Modular, manageable refinery scale designed to minimise operating complexity
- Initial focus on lithium carbonate production, the preferred lithium chemical for LFP battery growth markets
- Design assumptions based on real operating experience and commercial refinery performance

The Location

- Brownsville, Texas strategically positioned as a trans-Atlantic lithium conversion hub
- Direct access to spodumene feedstock from Africa, Brazil and North America
- Proximity to rapidly growing North American EV, battery and ESS markets
- Deep-water port access allows efficient receipt of large-scale spodumene shipments
- Lower labour costs, favourable business environment and established industrial infrastructure
- Potential access to U.S. federal and Texas state incentives supporting critical minerals processing

Next Steps

- Commence Definitive Feasibility Study (DFS) and detailed engineering activities
- Secure the proposed refinery site through long-term lease arrangements with the Port of Brownsville
- Advance permitting, environmental and site investigation programs
- Finalise long-term spodumene supply arrangements
- Progress strategic financing and project partnership discussions

Photo: Illustrative Proposed Brownsville Lithium Refinery, Port of Brownsville, Texas, USA

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CONTENTS

CAUTIONARY STATEMENTS

Information Required by Listing Rules

The Brownsville Lithium Refinery Pre-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 update 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 Pre-Feasibility Study is based on the material assumptions outlined including that it has been completed to a Class 3 level with a nominal level of accuracy of -30% and +30%, that the financial forecasts rely upon the purchase of third party spodumene concentrate as the feedstock for the plant. The Pre-Feasibility Study 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 Pre-Feasibility Study (PFS) is based on the material assumptions outlined below. These include assumptions about the availability of funding and site location. While Lithium Universe considers all 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 Pre-Feasibility Study will be achieved. To achieve the range of outcomes indicated in the Pre-Feasibility Study, funding of in the order of US$620-650 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 Pre-Feasibility Study.

EXECUTIVE SUMMARY

Lithium Universe Limited ("Lithium Universe" or the "Company," ASX: "LU7") is pleased to announce the results of its Pre-Feasibility Study (PFS) for the Brownsville Lithium Carbonate Refinery in Texas, USA.

Rapid growth in North American lithium demand highlights the need for domestic lithium conversion capacity such as the proposed Brownsville Lithium Refinery. The project would reduce reliance on imported lithium chemicals, strengthen supply chain security, and support the localisation goals of the North American EV and battery industries. Brownsville's location near emerging Gulf Coast battery and EV manufacturing hubs further enhances its strategic importance. The proximity to Tesla's lithium hydroxide refinery in Corpus Christi highlights Texas' emergence as a key North American lithium processing hub. Brownsville benefits from deep-water port access, established chemical infrastructure, competitive operating costs, and access to growing ESS and EV markets, making it an attractive location for lithium conversion capacity and supporting North America's long-term battery material security.

LU7 continues to position itself as one of the very few companies capable of deploying multiple lithium-refining trains using a proven, repeatable "copy-and-paste" engineering model first established through the Bécancour Definitive Feasibility Study (DFS). A proven lithium carbonate refinery in Texas could benefit from significant US federal and state support aimed at strengthening domestic critical minerals supply chains. Potential incentives include DOE grants and loans, Inflation Reduction Act tax benefits, DoD critical minerals funding, and Texas-based incentives such as tax abatements, infrastructure support, and workforce grants. A commercial-scale refinery producing battery-grade lithium carbonate in the US would strongly align with national objectives to localise battery supply chains and reduce reliance on Chinese lithium conversion capacity.

The Pre-Feasibility Study confirms the viability of a strong lithium conversion project, even within a below-average pricing environment. The Company's planned vision is to build a reliable, low-risk lithium conversion refinery with an annual capacity of up to 18,270 tonnes of battery-grade lithium carbonate, utilising proven expertise from the successful Jiangsu processing model. The facility will produce environmentally responsible battery-grade lithium carbonate for domestic and international markets. The Company aims to establish a North American-based lithium chemicals business, purchasing spodumene feedstock from both domestic suppliers and international markets, including Africa and Brazil, and converting this material into a high-purity battery-grade lithium carbonate product. This aligns with the Company's broader vision of contributing to the North American lithium supply chain and helping close the region's lithium conversion gap.

The project economics remain highly attractive, even under conservative pricing assumptions. The refinery is economically viable with a pre-tax Net Present Value (NPV) of approximately US$787 million, using an 8% discount rate, and a pre-tax Internal Rate of Return (IRR) of 21.0%. The full-rate payback period is estimated at 3.9 years. The financial model is based on conservative long-term price assumptions of US$1,170 per tonne for spodumene concentrate (SC6), reflecting the proposed Nigeria offtake arrangement (subject to commisioning), and US$20,970 per tonne for battery-grade lithium carbonate. LU7's Directors believe there is a reasonable basis for using the assumed lithium carbonate price of US$20,970 per tonne in the study.

Key operating assumptions include 86% plant availability and 88% lithium recovery (as per Jiangsu design). At full production capacity, the project is expected to generate approximately US$383 million in annual revenue, with total operating costs of approximately US$222 million per annum, resulting in an annual EBITDA of approximately US$161 million. The estimated operating cost of production is US$3,566 per tonne and US$12,148 per tonne, including spodumene, of lithium carbonate, generating a gross margin of approximately 42% or US$8,822 per tonne.

The total capital cost for the project is estimated at US$607 million, including a substantial contingency allowance of approximately US$130 million to reflect current market volatility and project execution risks. The higher contingency provides additional confidence in the robustness of the capital estimate and reflects lessons learned from other recent non LU7 large-scale industrial developments.

The Brownsville Pre-Feasibility Study demonstrates stronger economics than the completed Bécancour DFS while maintaining the same production capacity of 18,270 tpa of battery-grade lithium carbonate using the proven Jiangsu flowsheet. Pre-tax NPV increased by approximately 10% to US$787 million, compared with US$718 million for Bécancour. Annual EBITDA improved to US$161 million from US$148 million, while gross margins increased from 39% to 42%. Operating costs were reduced by approximately US$365/t to US$3,566/t (excluding spod) or US$12,148/t lithium carbonate (including spodumene).

The improved Brownsville economics are primarily driven by lower labour, soda ash, natural gas, maintenance and logistics costs in Texas, together with discounted spodumene feedstock secured through the proposed Nigeria offtake arrangement. Shorter shipping distances from West Africa to Brownsville further enhance operating margins, while the elimination of cold-climate infrastructure reduces long-term operating complexity. Although capital costs increased to US$607 million from US$549 million due to inflation, updated vendor pricing and a larger contingency allowance, the study includes a robust US$130 million contingency compared with US$51 million in the Bécancour DFS. Despite higher electricity costs, Brownsville delivers superior overall project economics and strategic emplacement in potential US EV/ESS manufacturing.

Management Comment:

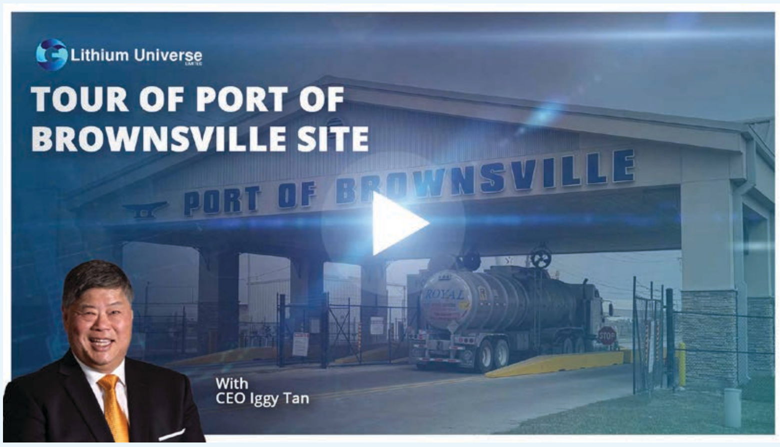
The Brownsville Pre-Feasibility Study demonstrates that Lithium Universe's strategy of replicating the proven Jiangsu lithium refinery model can deliver stronger economics than the previously completed Bécancour Definitive Feasibility Study, while maintaining the same conservative long-term lithium pricing assumptions. Importantly, the study has retained the identical forecast prices of US$1,170/t for SC6 spodumene concentrate and US$20,970/t for battery-grade lithium carbonate used in the Bécancour DFS, allowing investors to make a true "apples-to-apples" comparison between the two projects.

Despite ongoing inflationary pressures and geopolitical uncertainty impacting global construction markets, including recent volatility associated with the Middle East conflict, Brownsville delivers a pre-tax NPV8 of approximately US$787 million compared with US$718 million for Bécancour. Annual EBITDA has increased to approximately US$161 million from US$148 million, reflecting the project's lower operating cost structure and strategic feedstock advantages.

While capital costs have increased in comparison, the Company has deliberately adopted a more conservative approach to project risk management. The Brownsville estimate includes a contingency allowance of approximately US$130 million compared with US$51 million in the Bécancour DFS. This larger contingency recognises current uncertainty in equipment pricing, construction markets, freight costs, and broader macroeconomic conditions, providing a more robust capital framework for future development.

Operating costs are estimated to be approximately US$365 per tonne lower than Bécancour. The primary drivers are Brownsville's lower labour costs, estimated to be around 24% below Québec levels, together with lower natural gas and soda ash costs. These benefits more than offset higher electricity prices and recent increases in sulphuric acid costs driven by global supply disruptions and energy market volatility.

An additional competitive advantage is the Company's binding long-term offtake agreement in Nigeria, which provides spodumene concentrate at a 7.5% discount to market pricing. Combined with Brownsville's logistics advantages and lower operating costs, this strengthens project margins and positions the refinery as a highly competitive future supplier of battery-grade lithium carbonate into the growing North American battery and energy storage markets.



WATCH: CEO Iggy Tans tour of the Port of Brownsville Site (2min)

https://youtu.be/PHlQDV8g8JU

LITHIUM PRICE RECOVERY

During the preparation of the Bécancour Lithium Refinery Definitive Feasibility Study (DFS) in late 2024 and early 2025, the lithium industry was experiencing the lowest point of a significant cyclical downturn. Battery-grade lithium carbonate prices had fallen to approximately US$10,000–11,000 per tonne as a result of global oversupply, elevated inventories, delayed purchasing activity, and production curtailments across both mining and conversion sectors.

Since that period, lithium prices have recovered strongly. Battery-grade lithium carbonate prices in China have risen from approximately 75,000–85,000 CNY per tonne at the 2025 lows to around 177,000–191,000 CNY per tonne currently, equivalent to approximately US$25,000–27,000 per tonne. This represents an increase of more than 100% from the market trough in mid 2025 till June 2026, and reflects a substantially improved pricing environment for lithium producers and downstream converters.

Current spot prices are also trading above the long-term assumptions adopted in the Bécancour DFS. The DFS utilised a long-term battery-grade lithium carbonate price of approximately US$20,970 per tonne (150,000 CNY per tonne). At current market levels, spot prices are approximately 19–28% higher than the DFS assumption, highlighting the leverage of lithium projects to improving market conditions.

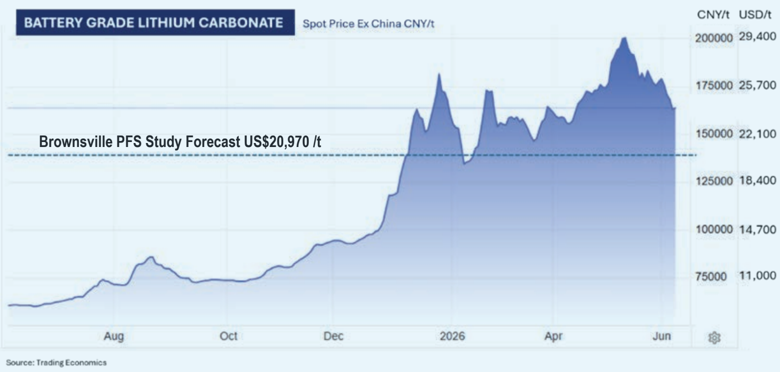


Figure 1 – Recovery of Battery Grade Lithium Carbonate

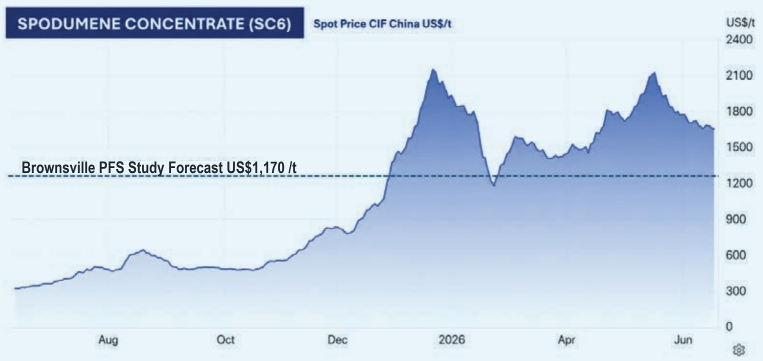


Figure 1B – Recovery of Spodumene SC6 price

In addition, spodumene concentrate prices have staged a strong recovery from the cyclical lows experienced during late 2024 and early 2025. After falling below US$700/t for 6% Li_2O spodumene concentrate (SC6) at the trough of the market downturn, spot prices have more than doubled, with recent assessments generally in the range of US$1,500–1,700/t SC6.

The recovery has been supported by accelerating demand from both electric vehicle and energy storage system (ESS) markets, ongoing inventory restocking throughout the battery supply chain, and tightening supply conditions following the closure or suspension of higher-cost lithium operations during the downturn. Strong ESS demand, particularly in China, North America and Europe, has emerged as a major driver of lithium consumption growth.

With current spot battery-grade lithium carbonate prices at approximately US$24,000 per tonne, and assuming pricing is sustained at these levels, materially above the long-term price assumption of US$20,970 per tonne used in this Pre-Feasibility Study, the Company believes the economic fundamentals of the proposed Brownsville Lithium Refinery have been significantly strengthened. The recent recovery in lithium prices supports the Company's counter-cyclical development strategy of advancing project studies during the market downturn and positioning the project for potential development during a stronger pricing environment. Higher realised lithium carbonate prices have the potential to materially improve operating margins, cash flow generation and overall project economics, while enhancing the attractiveness of the project to potential strategic partners, offtake customers and financing providers, subject to final project design, commercial arrangements and financing structures.

GLOBAL LITHIUM OUTLOOK

According to International Lithium Association (ILiA)[1] the biggest driver for global lithium demand is its use in Li-ion batteries. While outcomes over the next 15 years may vary, global lithium demand is expected to grow from 1.3Mt LCE this year to between 3.6Mt and 5.2Mt LCE by 2040. The EV sector will continue to dominate battery deployment through 2040. In addition to net-zero targets driving fleet electrification, lower total cost of ownership and reduced maintenance requirements will continue to drive interest for consumers over internal combustion engine (ICE) alternatives.

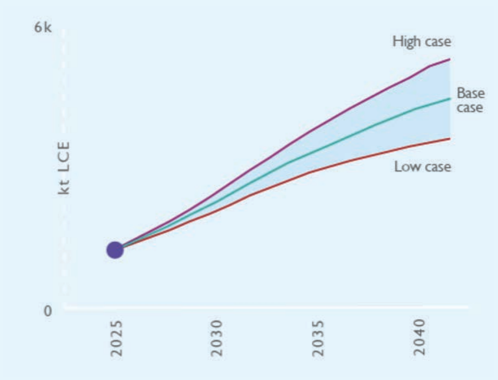


Figure 2 – Global Lithium Demand by 2040
Source: Project Blue

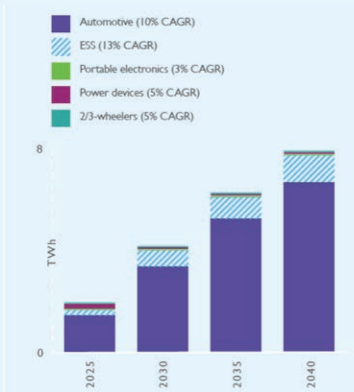


Figure 3 – Battery Demand by Application – 2040

According to ILiA's report[1], in addition to passenger vehicles, demand from the 2/3-wheeler sector (e.g. e-bikes, e-scooters, e-mopeds) is expected to grow significantly to 2040. Much of the growth will be driven by rental and battery swapping platforms in more urban areas, particularly in Asia and Africa. Alternative future demand streams include e-VTOL (urban air transport such as short-range cargo transport and flying taxis) and robotics applications, which are receiving significant attention currently.

Lithium-ion battery storage is a pivotal enabler of renewables projects by providing flexibility for grid balancing, providing additional electricity during peak times and recharging during periods of low demand. The requirement for such applications is increasing globally, where projects are supported by both government and private funding. As a result, battery demand from ESS applications is forecast to experience the strongest growth rate (albeit from a lower base) between 2025-2040[1].

Once the main drivers of battery demand, portable electronics have become less prominent due to the sheer size of batteries and growth rate of battery capacity installed in EVs over the past decade. Nevertheless, portable electronics continue to be an integral battery end use sector as a mainstay in our everyday life. In addition, power devices, which include drones and cable-less power tools, are expected to see marginal but steady increases in use owing to rising defence and global construction spending.

ELECTRIC VEHICLES GLOBAL CAR SALES

According to International Lithium Association (ILiA)[1] the share of combined BEV and PHEV sales as a function of total vehicle sales is forecast to grow from 20% in 2024 to 35% by 2030 and 60% by 2040. Due to larger battery pack sizes, BEVs will be the primary driver for lithium demand out to 2040, although PHEVs will play a strong supporting role for fleet electrification and decarbonisation.

China is expected to retain majority market share in 2040 at 45%, followed by Europe at 16% and North America at 14%, with the rest of world (ROW) at 25%. In Europe, new low-cost EVs from both domestic and global OEMs will further accelerate EV adoption. Emissions targets will remain a focus for OEMs in the European market and will continue to drive the rollout of new EV models across the region. Europe also contains global leaders in EV adoption, with Norway at 72% in 2024, followed by Sweden at 51%.

The US and North American EV market saw little growth in 2024, owing to a shift in eligibility of IRA clean vehicle tax credits and uncertainty surrounding the US election towards the latter half of the year. Nevertheless, it is estimated that growth in EV sales will remain strong in the USA through to the long-term as EV uptake becomes increasingly consumer-driven and less policy-driven. PHEV models represent an excellent opportunity in the US market to increase adoption for consumers less willing or less able to purchase a BEV.

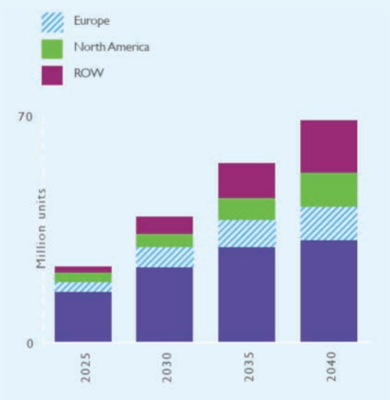


Figure 4 – EV Sales by Region
Source: Project Blue

The ROW represents the largest growth market for EV sales throughout the forecast. Although volumes were comparatively low in 2024, subsidy schemes in many ROW countries and the influx of affordable EV models from China will see sales climb over the next 15 years, raising demand for lithium. Countries such as India, Thailand and Malaysia are expected to be at the forefront of electrification within the ROW.

LITHIUM CARBONATE & LITHIUM HYDROXIDE MIX

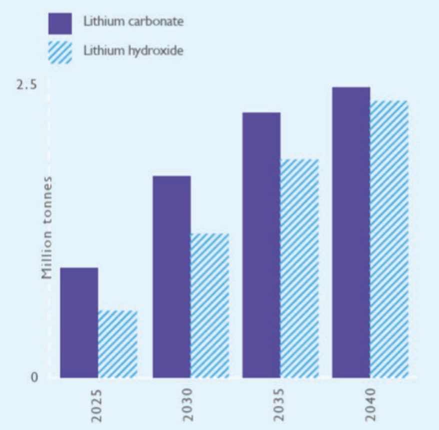


Figure 5 – Lithium Carbonate & Hydroxide Mix
Source: Project Blue

International Lithium Association (ILiA)[1] states that cathode active material production requires significant quantities of lithium carbonate or lithium hydroxide. Whether one form of lithium is chosen over another is dependent on the chosen chemistry. Typically, the production of iron-based chemistries (LFP or LMFP) will require lithium carbonate, whilst lithium hydroxide is often favoured for higher-nickel chemistries (NCM, NCMA or NCA).

The drive to lower cell production costs has led the rapid adoption of LFP batteries for EVs in many applications. Moreover, LFP remains the chemistry of choice for most battery ESS applications, owing to its low cost, long cycle life and high safety rating. Combined, this has led to a monumental surge in lithium carbonate demand over the past few years. It is estimated that demand for iron-based cathode active material will increase 150% between 2025-2030, requiring equivalent increases in lithium carbonate.

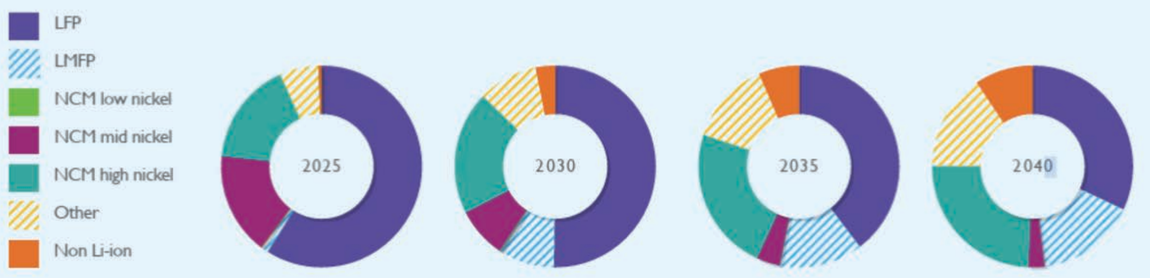


Figure 6 – Global Cathode Market Share (% by Mass)

1. *Lithium 2040: "The element shaping our future", International Lithium Association and Project Blue*
2. *ESS 2040 Energy Storage Systems Outlook, International Lithium Association and Project Blue*

However, in the period 2030-2040, the quest for more energy-dense batteries and longer EV ranges will provide a boost for lithium hydroxide demand. The 2030s are poised to become the decade for greater solid-state battery adoption, assuming production costs become competitive. Such batteries will likely opt for state-of-the-art high-nickel cathode chemistries to maximise energy density and cell-level efficiency.

NORTH AMERICAN MARKET – BROWNSVILLE REFINERY

According to International Lithium Association (ILIA)[1], lithium demand in North America is forecast to grow elevenfold by 2040. The expansion of cathode active material production capacity and other lithium-bearing Li-ion battery components in the region is expected to bring first-use lithium demand to the Americas, rather than importing lithium in the form of consumer products which has been the case to date. Demand volumes are forecast to increase from 30kt LCE in 2025 to 334kt LCE by 2040, with the Li-ion battery industry accounting for 95% of total demand in 2040 compared to 48% in 2025. The USA is the main market within North America, given the size of its automotive industry and population, so the adoption rates in this country will continue to be the dominant demand driver for the lithium-ion battery industry in the Americas to 2040.

As a result, the majority of scheduled cathode active material production capacity in the Americas is in the USA. North American EV sales track the rollout of new models. By 2040, it is expected that approximately 50% of passenger sales in North America will be either a BEV or a PHEV. PHEVs represent a major growth opportunity in North America due to longer driving distances, offering consumers greater choice for vehicle electrification. Although PHEV battery packs are smaller than those found in BEVs, pack sizes continue to increase to maximise driving range across models. Therefore, as EV sales scale, the intensity for required lithium is also expected to increase for each model, offering additional growth opportunity.

Although the EPA announced early in 2025 that it intends to relax emissions targets, OEMs have been targeting electrification for their model lineups for several years. With new and attractive EV offerings being unveiled over the next five years from all major OEMs, consumers themselves, rather than simply policy, are expected to drive the uptake of EVs in North America. North America is also advancing its battery ESS industry to integrate renewables projects whilst enhancing and balancing the grid. As such, both federal and state-level initiatives have been launched to support the growth of the sector, and as a result, battery ESS projects are becoming larger. California and Texas lead the way with installed battery capacity and are forecast to remain key driving states for renewables adoption moving forward.

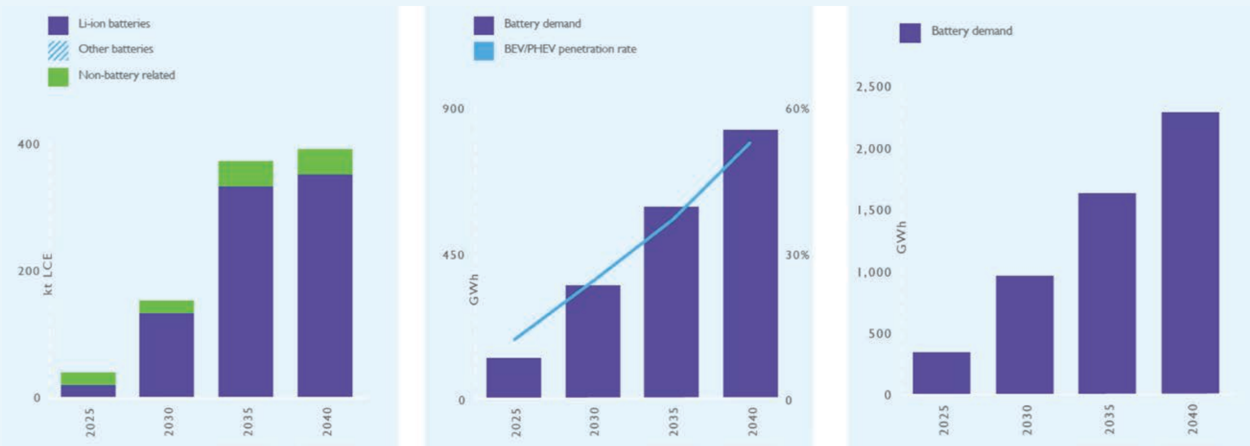


Figure 7 – North American Demand by End Use, BEV/PHEV, ESS Installation

LITHIUM DEMAND IN ESS MARKET

In a follow up report by International Lithium Association (ILIA)[2] on the Energy Storage Systems Outlook, a rapidly expanding ESS market is set to power the next wave of lithium demand.

The battery energy storage system market is set to surge through 2040. The fundamental requirement of any electrical grid is balance: generation must match consumption at every moment. Energy storage systems (ESS) help to decouple the tight dependency between generation and demand, particularly as the world shifts to renewable power generation, giving grid operators a buffer that makes the whole system more flexible, resilient, and cost-effective. This fundamental need, alongside the falling cost of batteries, is accelerating the adoption of ESS. Annual ESS installations are expected to rise sixfold by 2040, from 0.3TWh in 2025 to 1.8TWh, representing a sustained 12.5% annual growth rate over this period. In 2025, ESS applications accounted for around 222kt of lithium demand, which is expected to rise to 835kt by 2040. North America Project Blue forecasts annual ESS installations in North America will nearly triple from 61GWh in 2025 to 167GWh by 2030, with a five-year CAGR of 23%, as core policy drivers for large-scale standalone ESS drive growth.

Lithium carbonate will dominate ESS lithium demand. While some ESS applications will require high energy, power or voltage requirements, most ESS installations will not have size and weight limitations and will therefore continue to be dominated by LFP cells. Applications that require higher performance may use nickel-based cathode active material (CAM), which requires lithium hydroxide as the lithium source. Some manufacturers may also leverage existing nickel-based CAM supply chains and production expertise, although the vast majority will favour LFP for its cost benefits.[2]

According to Project Blue[2], the chemistry pathway is relatively clear: low cost LFP cells (lithium carbonate as feed stock), which have a cost advantage and limited sensitivity to size and weight constraints, and which rely on lithium carbonate, will be the foundation of the transition through to 2030 and beyond. By 2040, annual ESS installations are set to expand sixfold, driving a fourfold increase in lithium demand to more than 800kt LCE from the sector. ESS deployment is evolving across both front-of-the-meter and behind-the-meter models, reflecting regionally distinct use cases, from grid-scale renewable integration to distributed energy resilience, while recycling capabilities are increasingly reinforcing long-term system sustainability. ESS installations are expected to be dominated by LFP battery cells throughout the forecast period, resulting in lithium carbonate accounting for most of the lithium demand through to 2040. Accordingly, the proposed production of battery-grade lithium carbonate at the Brownsville Refinery is well positioned to benefit from this long-term market trend.

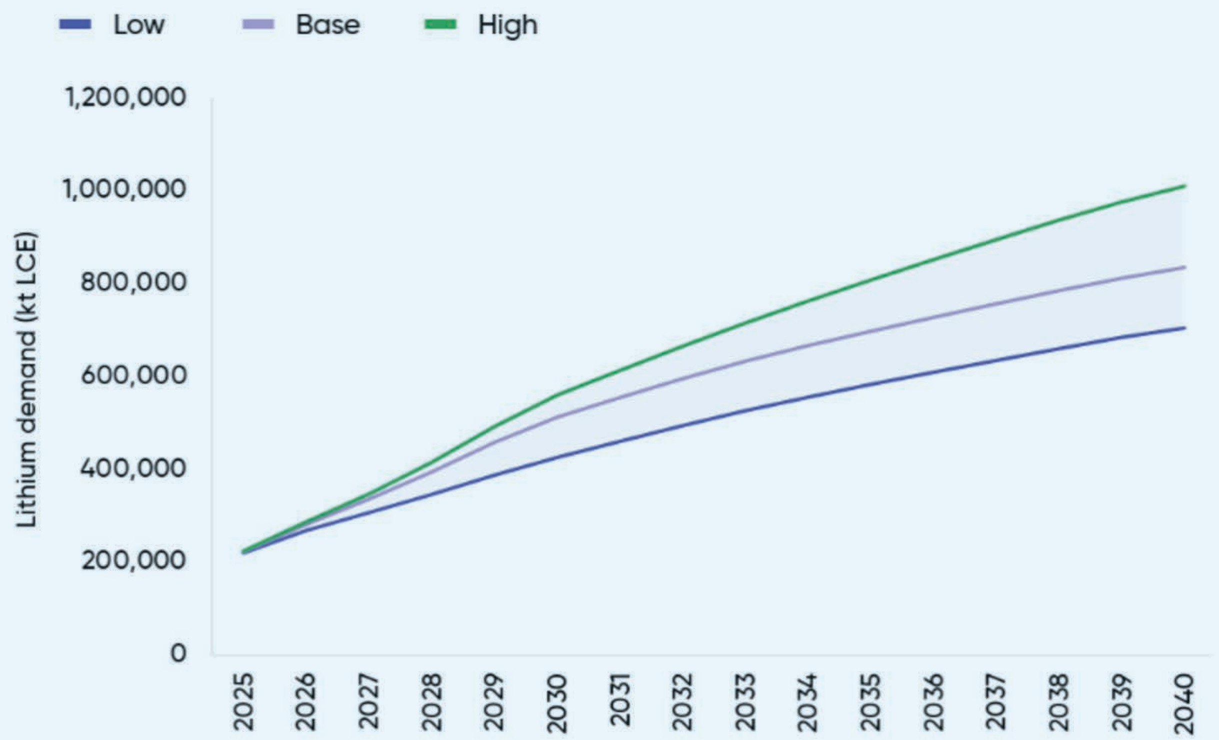


Figure 8 – Potential Global Lithium Demand from ESS

IMPORTANCE OF THE BROWNSVILLE REFINERY: CLOSING THE LITHIUM GAP

The rapid growth in North American lithium demand highlights the strategic importance of establishing domestic lithium conversion capacity such as the proposed Brownsville Lithium Refinery. While North America possesses significant lithium resources and is rapidly expanding electric vehicle (EV), battery and energy storage manufacturing capacity, the region continues to face a substantial lithium conversion gap. Much of the lithium chemicals required by North American battery manufacturers are still imported from Asia, particularly China, where the majority of global lithium refining capacity is concentrated.

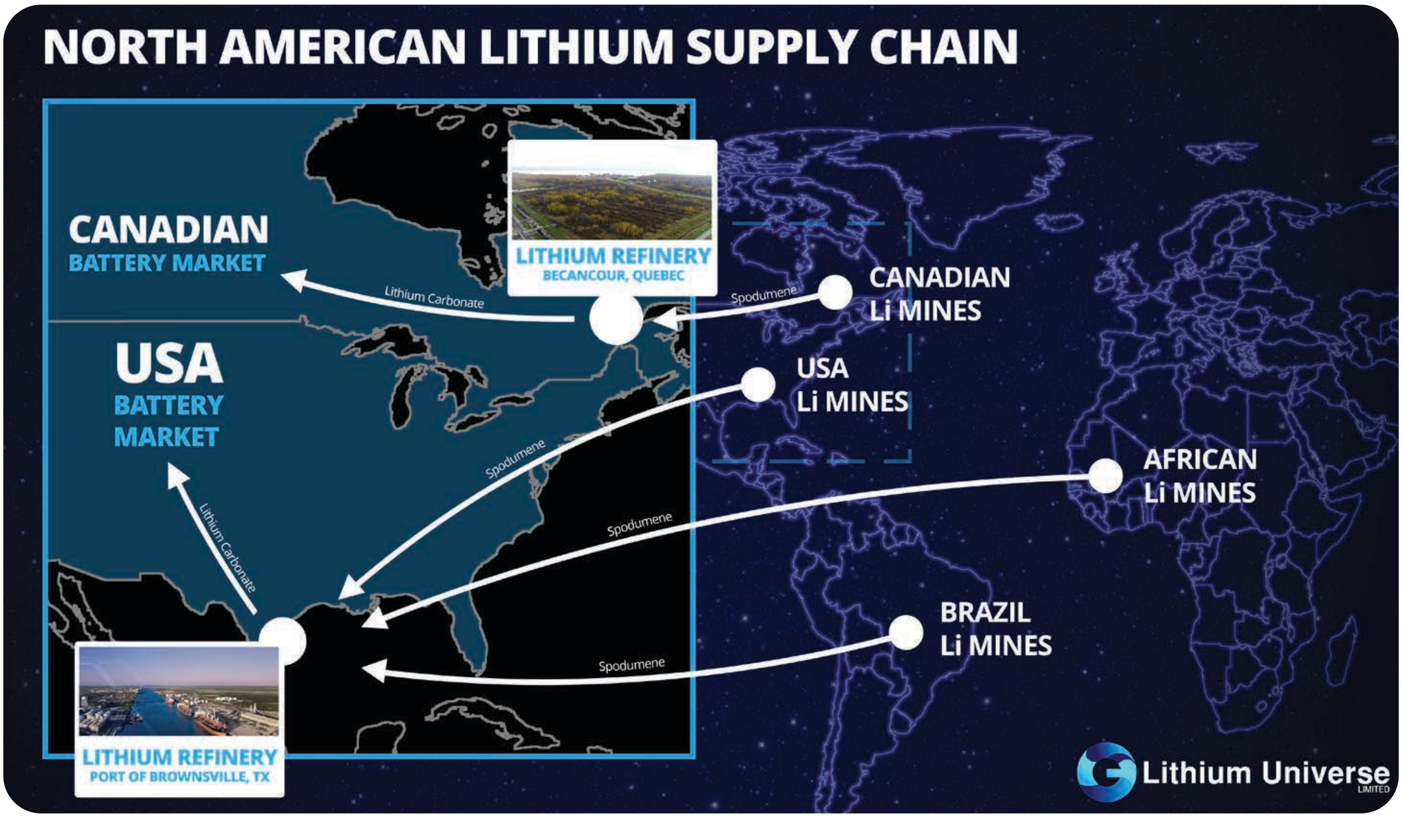


Figure 9 – Brownsville is the ideal processing site for African, Brazilian, North American Spodumene

The Brownsville Lithium Refinery is designed to help close this conversion gap by converting spodumene concentrate into battery-grade lithium carbonate within the United States. By establishing additional domestic refining capacity, the project has the potential to strengthen supply chain security, reduce dependence on overseas converters, support localisation objectives, and provide a reliable source of battery materials for the rapidly expanding North American battery sector.

Brownsville is strategically positioned to support this objective. Located at a deep-water port with established chemical and industrial infrastructure, the site offers access to global raw material supply chains while serving emerging battery and EV manufacturing hubs across Texas and the Gulf Coast region. Of particular significance is the proximity to the Tesla lithium refinery in Corpus Christi, highlighting Texas' emergence as a major North American lithium processing corridor.

Currently, more than 90% of global LFP battery manufacturing capacity is in China. However, North America is rapidly investing in battery gigafactories, energy storage systems and EV production facilities. As demand for lithium chemicals continues to grow, additional conversion capacity will be required to bridge the gap between lithium raw material supply and battery manufacturing demand. The development of the Brownsville Lithium Refinery represents an opportunity to help close this critical conversion gap, support long-term battery materials security, and contribute to the development of a resilient and integrated North American lithium supply chain.

OTHER POTENTIAL LITHIUM CONVERSION REFINERIES

Spodumene concentrate must be converted into battery-grade lithium carbonate or lithium hydroxide before it can be used in the production of cathode materials for lithium-ion batteries. North America currently has very limited operating hard-rock lithium conversion capacity, with most global conversion capacity still dominated by China. The Company estimates that only around 100,000–150,000 tpa of lithium chemical conversion capacity from hard-rock feedstocks is currently planned or under construction in North America by 2028.

Tesla is currently commissioning its lithium hydroxide refinery near Corpus Christi, Texas, approximately 250 km north-northeast of Brownsville. The refinery is expected to become one of the first large-scale battery-grade lithium chemical conversion facilities in the United States and is designed to process spodumene concentrate into lithium hydroxide for Tesla's EV battery supply chain. Tesla is utilising an alkaline pressure leach process, which has yet to demonstrate long-term commercial operating performance at commercial scale for hard-rock spodumene conversion.

Photo: Tesla's Lithium refinery in Corpus Christi, Texas

Nemaska Lithium is also completing its lithium hydroxide conversion facility in Bécancour, Québec, located less than 10 km from Lithium Universe's proposed lithium carbonate refinery site within the rapidly emerging Bécancour Battery Hub. The Nemaska facility is expected to be the first operational hard-rock lithium conversion plant in Canada and utilises the conventional sulphuric acid leach process, which is the established and dominant commercial technology used globally for spodumene conversion.

- Elevra Lithium — proposed Carolina Lithium integrated mine and lithium hydroxide refinery project in North Carolina; also advancing the Tennessee Lithium hydroxide conversion facility.
- Lithium Americas — developing the Thacker Pass lithium project in Nevada, with future downstream lithium chemical conversion facilities under consideration in the United States.
- Standard Lithium and Equinor — developing the South West Arkansas lithium project targeting battery-grade lithium carbonate production in Arkansas.
- Frontier Lithium and Mitsubishi Corporation — proposed integrated lithium mine and lithium conversion refinery project in Ontario, Canada.
- Century Lithium — proposed lithium carbonate production facility associated with the Angel Island Project in Nevada.
- Lithion Technologies — lithium-ion battery recycling and critical materials recovery facility in Québec, rather than a primary lithium conversion refinery.
- POSCO Future M and General Motors — developing battery materials and precursor cathode active material (pCAM/CAM) supply chain projects in North America, including Québec.

These projects highlight the growing strategic push by North American governments and automakers to establish a localised lithium battery supply chain and reduce dependence on Chinese conversion capacity.

ALIGNMENT WITH U.S. CRITICAL MINERALS AND ENERGY SECURITY POLICIES

A proven lithium carbonate refinery located in Texas could be well positioned to benefit from a range of potential United States federal and state government support mechanisms aimed at strengthening domestic critical minerals supply chains. These may include Department of Energy (DOE) grants and low-interest loans under programs supporting battery materials and critical minerals processing, tax incentives available under the Inflation Reduction Act (IRA), accelerated depreciation benefits, and potential eligibility for Department of Defense (DoD) critical minerals funding under national security initiatives. Additional support could include state-level incentives from Texas such as property tax abatements, infrastructure assistance, workforce training grants, sales tax exemptions on manufacturing equipment, and industrial development support through local authorities and port infrastructure programs. A commercial-scale refinery using proven sulphuric acid leach technology and producing battery-grade lithium carbonate within the United States would align strongly with current US policy objectives focused on reshoring battery supply chains, reducing dependence on Chinese lithium conversion capacity, and securing long-term domestic supply for the rapidly growing electric vehicle and energy storage sectors.

LITHIUM CONVERSION TECHNOLOGY RISKS

Lithium Universe is positioning its proposed lithium conversion projects to avoid many of the costly startup failures experienced by western lithium refining operations over the past decade. The lithium conversion industry remains relatively young outside China, and numerous projects have suffered from design flaws, inexperienced engineering oversight, unproven technology, and poor transfer of processing know-how from Chinese operations into western continuous processing systems.

Several high-profile failures demonstrate these challenges. The North American Lithium project in Canada invested heavily in developing lithium carbonate production but ultimately collapsed into bankruptcy shortly after startup, highlighting the risks associated with lithium refining projects. Similarly, Nemaska Lithium attempted to commercialise a new electrolysis-based lithium process but experienced challenges during commissioning, demonstrating the dangers of relying on unproven technology. In Western Australia, both the Tianqi Kwinana and Albemarle Corporation Kemerton lithium hydroxide projects encountered severe operational and commissioning difficulties. Tianqi's Kwinana plant suffered major delays, significant capital cost overruns, and continues to operate well below nameplate capacity. Albemarle's Kemerton refinery also experienced extended commissioning delays, operational challenges, substantial financial write-downs, and has now been placed into care and maintenance.

Common problems across these projects included engineering groups lacking direct lithium conversion experience, modifications to proven Chinese batch processing systems, inadequate operational oversight, and costly implementation mistakes during scale-up. These failures demonstrate that lithium conversion is highly specialised and technically challenging.

LU7's strategy is not to reinvent lithium conversion technology, but rather to replicate and adapt a proven lithium carbonate processing flowsheet that has already been successfully demonstrated at commercial scale. The Company's management team was directly involved in the development, construction and operation of the Jiangsu Lithium Carbonate Plant in China. By leveraging the proven design, operational experience, supplier network, and process expertise developed through the successful Jiangsu lithium carbonate refinery, LU7 intends to adopt a "copy-and-paste" approach for the proposed Brownsville Lithium Refinery. This strategy is expected to substantially reduce technical, construction, commissioning, and operational risks, while improving the likelihood of achieving a successful and timely project start-up.

The Company believes that adopting a proven sulphuric acid leach process, rather than pursuing unproven technologies, offers the most practical pathway to commercial production. This "copy-and-paste" strategy leverages established engineering designs, known operating parameters and experienced lithium processing expertise to improve project certainty, accelerate development timelines and enhance the likelihood of a successful startup and long-term operational performance.

Alkaline Pressure Leach Process Plants

Several new lithium conversion refineries have recently been announced using the alkaline pressure leach (APL) process, including proposed facilities associated with Tesla, Inc. in Texas and the Keliber Oy project in Finland. Lithium Universe regards this technology as relatively unproven at commercial scale and potentially highly susceptible to scaling and operational blockages.

A similar process was previously attempted at Greenbushes in the mid-1990s through the development of a lithium conversion plant. LU7 CEO Iggy Tan was involved in commissioning that facility and observed firsthand the severe scaling, fouling, and operational difficulties encountered during operation. The Company believes the alkaline pressure leach process is significantly more difficult to control than conventional sulphuric acid leach flowsheets used for lithium carbonate or lithium hydroxide production. The challenges largely relate to complex process chemistry, scaling within autoclaves and piping systems, and difficulties maintaining stable continuous operation over long periods. These issues can lead to lower recoveries, reduced plant availability, increased maintenance requirements, and costly operational interruptions.

BROWNSVILLE WILL USE A CONVENTIONAL PROCESS FROM 1950's

The production of lithium carbonate from spodumene ore through processes like calcination and sulphation has a history dating back to the mid-20th century. Spodumene, a lithium-bearing mineral, became an important source of lithium as demand for the metal increased, particularly during the post-World War II industrial boom. This period saw rising interest in lithium for applications in grease production, ceramics, glass, and later for its use in batteries. In the 1950s and 1960s, advancements were made to extract lithium more efficiently from spodumene, which was more abundant compared to other lithium sources like brines.

The core of the traditional method involved thermal treatment or "calcination" of spodumene ore. Spodumene exists naturally in an alpha phase, which is chemically stable and less reactive. To make it amenable to chemical processing, it is heated to temperatures above 1,000°C, transforming it into the beta phase. This high-temperature calcination is crucial, as beta-spodumene is far more reactive and can then undergo further chemical treatment. Once calcined, the spodumene is subjected to sulphation roasting, a process that involves treating it with concentrated sulfuric acid at elevated temperatures. This step breaks down the mineral matrix, allowing lithium to be converted into lithium sulphate, which is soluble in water. The next step in the production process involves leaching the roasted ore with water to dissolve the lithium sulphate. Following this, a precipitation reaction is carried out using sodium carbonate (soda ash) to recover lithium in the form of lithium carbonate. This process works because lithium carbonate has low solubility in water, causing it to precipitate out of solution. The lithium carbonate produced is then filtered, washed, and dried to obtain a high-purity product suitable for industrial applications.

While the fundamental principles of this method have remained consistent, the technology has seen incremental improvements over the decades to increase efficiency and reduce environmental impact. Initially, the process was highly labour-intensive, energy-consuming, and involved handling large amounts of corrosive chemicals. However, by the late 20th century, technological advancements (at Jiangsu) led to more automated systems, improved heat recovery methods, and better controls over emissions. Modern refinements also include optimising the roasting conditions and the use of additives to reduce energy consumption and enhance lithium yield. At Jiangsu, better impurity removal and a purification plant at the end of the plant was added to guarantee battery grade specs.

Today, despite the emergence of alternative lithium sources like brines and direct lithium extraction technologies, calcination and sulphation of spodumene remain critical, especially in regions where hard rock resources are predominant. The method continues to be an essential part of the global lithium supply chain, particularly in Australia and parts of USA, where significant spodumene deposits are mined and processed.

Photo: Galaxy's Jiangsu Lithium Carbonate Refinery, Jiangsu Province, China

USE OF PROVEN JIANGSU TECHNOLOGY

The Brownsville Lithium Refinery Study, like the Bécancour Refinery, is being developed as a direct replica of the proven Jiangsu Lithium Carbonate Plant. This strategy is designed to minimise the technology and operational risks currently being experienced by many new lithium conversion projects around the world.

In 2012, under the leadership of Iggy Tan and Dr. Jingyuan Liu, Hatch Ltd. engineered and constructed the 17,000 tpa Jiangsu Lithium Carbonate Plant for Galaxy Resources Limited. At the time, Jiangsu was the largest continuous-process lithium refinery of its kind globally and was built to strict Australian and international engineering standards.

The plant successfully exceeded its original design capacity and established new benchmarks in lithium process control, plant design, operational reliability, and battery-grade product quality. Many of the innovations and operating philosophies developed at Jiangsu were later adopted by Chinese lithium converters and continue to influence refinery developments worldwide today. With an initial production capacity of 17,000 tonnes per annum of battery-grade lithium carbonate, the Jiangsu refinery was constructed during a period when the total Chinese lithium carbonate equivalent (LCE) market was approximately 35,000 tpa. This positioned the facility as one of the most significant lithium conversion operations globally and demonstrated the scalability and robustness of the conventional sulphuric acid leach flowsheet.

By replicating the proven Jiangsu design, Lithium Universe aims to leverage an established and commercially demonstrated process route, rather than adopting unproven technologies that have contributed to commissioning delays and operational challenges at several recent lithium conversion projects internationally.

The Jiangsu facility quickly became a benchmark for lithium refineries globally, establishing new standards in production scale, operational reliability, and process technology. Hatch Ltd. acted as the Engineering, Procurement and Construction Management (EPCM) contractor for the project, delivering what was then regarded as one of the most advanced lithium conversion plants in the world.

Over more than a decade of successful operation, the refinery has undergone continuous optimisation and incremental process improvements to further enhance efficiency, product quality, and operational stability. These proven improvements and operational learnings have been incorporated into the design philosophy for the Brownsville Refinery, providing Lithium Universe with a commercially established and technically proven process route. Today, the Jiangsu operation is producing approximately 20,000 tonnes per annum of high-purity battery-grade lithium carbonate and is recognised for producing some of the highest quality lithium carbonate products in the market.

The refinery utilises an advanced Allen-Bradley distributed control system capable of managing more than 6,000 control inputs across the operation. This sophisticated automation platform enables real-time plant monitoring, historical trend analysis, and advanced process optimisation, ensuring the refinery consistently operates at high efficiency and reliability.

A fully integrated laboratory supports both process control and final product certification, ensuring that battery-grade lithium carbonate specifications are consistently achieved. The refinery also applies Statistical Process Control (SPC) methodologies throughout production, enabling tight control of product quality and minimising variability. This disciplined operating approach has helped establish the Jiangsu refinery as a global reference point for consistency, reliability, and excellence in lithium chemical production.

SOLVING THE TECHNOLOGY RISK

Lithium Universe Limited has focused on addressing two of the major challenges that have impacted many recent lithium refinery developments globally: the shortage of experienced operational expertise and the lack of proven continuous-process lithium refining technology in Western markets. The Company's strategy is based on leveraging the proven success of the Jiangsu Lithium Carbonate Refinery and assembling a team of industry specialists who were directly involved in the design, construction, commissioning, and operation of the original Jiangsu facility for Galaxy Resources Limited.

Hatch Ltd., the EPCM contractor responsible for delivering the Jiangsu refinery, has again been selected as the engineering partner for the Brownsville project. This approach provides continuity of technical knowledge and access to one of the few lithium conversion teams globally with demonstrated large-scale operating experience.

To minimise technology and execution risk, Lithium Universe would intend to replicate the successful Jiangsu refinery strategy by utilising substantially the same process flowsheet, equipment philosophy, and supplier network. By adopting proven equipment designs and established process parameters, the amount of engineering work required for the Preliminary Feasibility Study and Definitive Feasibility Study can be significantly reduced. In addition, leveraging the same supplier ecosystem would allow the Company to benefit from prior manufacturing, installation, and operational experience, reducing both capital costs and engineering timelines. Importantly, all operational improvements and lessons learned from more than a decade of Jiangsu operations have been incorporated into the Brownsville refinery design and study.

The proposed Brownsville Lithium Refinery study is designed to produce up to 18,270 tonnes per annum of battery-grade lithium carbonate using spodumene concentrate sourced from global suppliers. While the original concept targeted production of approximately 17,000 tpa, updated recovery assumptions, process optimisation, and design refinements have increased the targeted output to 18,270 tpa.

The refinery is designed to incorporate a dedicated purification circuit designed to consistently produce high-purity battery-grade lithium carbonate suitable for lithium-ion battery applications. Lithium Universe's decision to focus on lithium carbonate rather than lithium hydroxide aligns with the Company's operational expertise and the rapidly growing demand for Lithium Iron Phosphate (LFP) battery chemistries, which are widely recognised for their safety, stability, long cycle life, and suitability for electric vehicles and energy storage systems.

Figure 10: Galaxy Jiangsu Lithium Carbonate Plant

LONG TERM SPODUMENE AND LITHIUM CARBONATE PRICE ASSUMPTIONS

Over the past three to four months, battery-grade lithium carbonate prices have recovered strongly, rising from approximately US$11,000 per tonne to a recent spot price of around US$24,000 per tonne (see Figure 1). This sharp rebound reflects the faster-than-expected market recovery anticipated by the Company in early 2025. The improving pricing environment has been driven by tightening lithium supply conditions, converter restocking activity, stronger electric vehicle and battery energy storage demand, and growing market recognition that the lithium sector has moved beyond the cyclical downturn experienced over the past two years. The speed and magnitude of the recovery have materially improved confidence in long-term lithium project economics across the industry.

Lithium Universe has adopted a conservative methodology for its long-term lithium pricing assumptions, using forecast prices of US$1,170 per tonne for spodumene concentrate (SC6 delivered Brownsville Port) and US$20,970 per tonne for battery-grade lithium carbonate. These assumptions are derived from a range of independent market forecasts, including commodity research from banking analysts, industry reporting agencies, company disclosures, and technical studies.

Table 1: Company sourced comparative analysis of long-term pricing forecast

Company	Published Report	SC6	LCE
Avalon Advanced Materials[1]	Preliminary Economic Assessment	$1,000	$26,000
Fastmarkets	10 Year Forecast	$1,812	$22,700
Goldman Sachs[2]	Lithium Price Forecast	$1,150	$15,500
Sibanye Stillwater (NYSE: SBSW)[3]	Technical Report Summary	$1,042	$15,195
Alkemy Capital (LSE: ALK)[4]	Feasibility Study	$1,500	$25,000
Sayona Mining Ltd (ASX: SYA)[5]	Standalone Refinery	$1,167	$25,585
Rocktech Lithium (TSX: RCK)[6]	Bankable Project Study	$1,532	$25,038
Piedmont Lithium (ASX: PLL)[7]	Preliminary Economic Assessment - LHP2	$1,200	$22,000
Liontown Resources (ASX: LTR)[8]	Downstream Scoping	$1,289	$29,401
Piedmont Lithium (ASX: PLL)[9]	Preliminary Economic Assessment - Carolina	$651	$12,910
	Average	*$1,234*	*$21,933*
Lithium Universe	**Pre- Feasibility Study**	**$1,170**	**$20,970**

[1] Avalon Advanced Materials, titled "Avalon Completes PEA: Post-Tax C$4.1 Billion NPV (8%) and 48% IRR at its Thunder Bay Lithium Processing Facility, ON", dated 03 September 2024.
[2] MSN, titled "Here's the latest lithium price forecast through to 2027", dated 04 March 2024.
[3] Sibanye Stillwater Limited, titled "Keliber Lithium Project, Finland - Technical Report Summary", dated 13 December 2023.
[4] Alkemy Capital Investments PLC, titled "Completion of Feasibility Study for Australia's first independent Lithium Sulphate processing facility in Port Hedland", dated 23 August 2023.
[5] Sayona Mining Limited, titled "Standalone lithium carbonate plant NPV of A$3.2B at NAL produces a combined NAL NPV of A$5.4B", dated 21 June 2023.
[6] Rock Tech Lithium Inc., titled "Rock Tech Lithium completes Bankable Project Study for its Guben Converter Project", dated 04 November 2022
[7] Piedmont Lithium Limited, titled "Piedmont completes preliminary economic assessment for second U.S. lithium hydroxide plant", dated 09 March 2022.
[8] Liontown Resources Limited, titled "Updated Downstream Scoping Study Highlights Next Growth Horizon for Kathleen Valley Project", dated 11 November 2021.
[9] Piedmont Lithium Limited, titled "Chemical plant PFS demonstrates exceptional economics and optionality of USA location", dated 26 May 2020.

Table 1 presents a comparative summary of the long-term pricing forecasts reviewed by the Company. Based on this analysis, the average industry forecast for SC6 spodumene concentrate is approximately US$1,234 per tonne, while battery-grade lithium carbonate equivalent (LCE) prices average approximately US$21,933 per tonne. To maintain a prudent and conservative outlook, particularly given current lithium market volatility, Lithium Universe has applied pricing assumptions approximately 5% below the broader market consensus. The Company has also deliberately elected to retain the lower forecast pricing assumptions within the financial model to enable a direct “apples with apples” comparison against the previous Bécancour Definitive Feasibility Study (DFS). This approach allows investors and stakeholders to compare the relative merits of the Brownsville and Bécancour refinery developments on a consistent pricing basis, without the distortion of higher prevailing lithium spot prices.

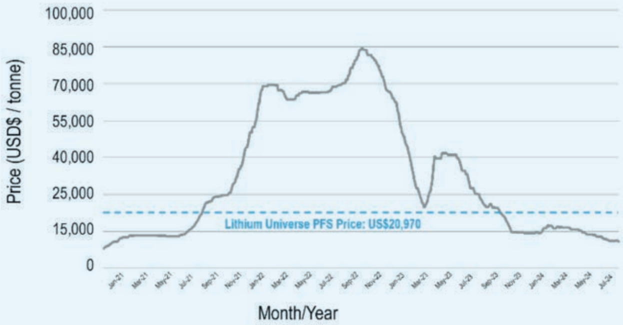


Figure 11: Spodumene SC6 historical prices vs LU7 Forecast

Figure 12: BG Lithium Carbonate historical prices vs LU7 Forecast

Figures 11 and 12 illustrate the long-term price assumptions used by LU7 compared to historical pricing over the past 4-5 years, showing highly conservative assumptions used in the financial model. This cautious outlook suggests significant potential for upside as market conditions improves.

PORT OF BROWNSVILLE SITE

Lithium Universe Limited (ASX: LU7) has selected the Port of Brownsville Business Park in Texas as the preferred location for a potential second lithium refinery following a comprehensive assessment of potential North American development sites. Detailed site investigations have confirmed that the proposed 35-acre parcel located on Chemical Road within the Port of Brownsville industrial precinct is sufficiently large enough to accommodate two full lithium carbonate refinery trains. This provides significant flexibility for future expansion as North American demand for battery materials continues to grow. The site benefits from flat topography, industrial zoning and a large rectangular footprint, enabling efficient plant layout and construction with minimal earthworks.

The Brownsville location offers substantial infrastructure advantages. Existing power transmission lines, natural gas supply, roadway access and utility corridors are already available, reducing both development risk and capital expenditure requirements. Importantly, the site is located adjacent to deep-water port facilities capable of receiving large shipments of spodumene concentrate, with vessel capacities of up to 30,000 tonnes. This provides an efficient and cost-effective logistics solution for imported feedstock from global suppliers, including LU7's proposed long-term spodumene supply partner in Nigeria.

Situated within one of North America's most strategically positioned industrial ports, the refinery would benefit from direct access to maritime, rail and highway transportation networks, as well as immediate connectivity to the U.S.–Mexico border. The Port of Brownsville is currently undergoing major infrastructure upgrades, including the deepening of the Brazos Island Harbor Channel from 42 feet to 52 feet, allowing larger vessels and heavier cargoes to access the port. These improvements will further strengthen Brownsville's position as a major logistics hub for bulk commodities, industrial products and critical minerals processing. The broader industrial region offers a well-established base of chemical, energy and heavy industrial operations.

Figure 13: Location of LU7 Proposed Brownsville Lithium Refinery in Texas, USA

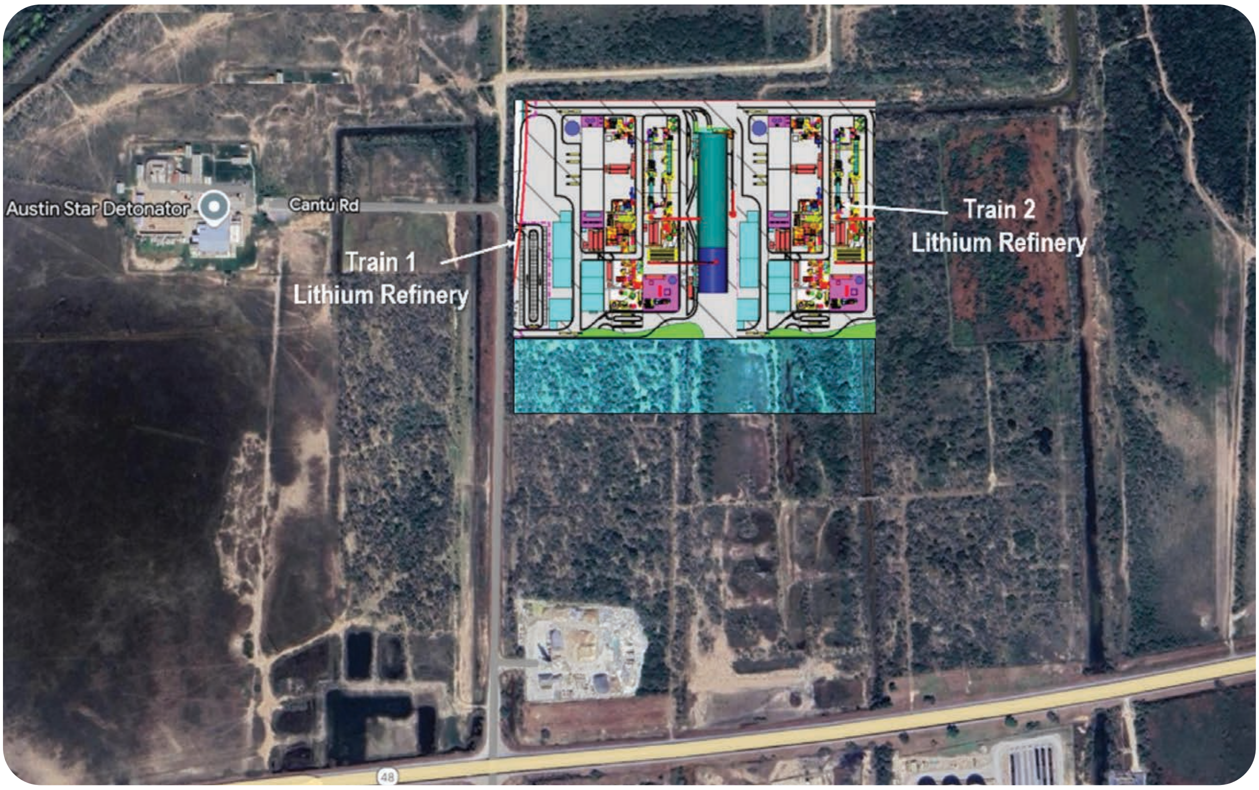


Figure 14: Potential site location of LU7 Proposed Brownsville Lithium Refinery Site with Two Trains

The surrounding infrastructure includes high-capacity electricity supply, natural gas distribution, process water, storage terminals, pipeline networks and rail connections. Rail infrastructure also provides opportunities for efficient delivery of key reagents such as soda ash from Wyoming and sulphuric acid from suppliers located throughout the Gulf Coast and northern Mexico. From an operating cost perspective, Brownsville offers several structural advantages compared with LU7's Bécancour refinery project. Labour costs in Texas are estimated to be approximately 24% lower than those in Québec, while access to Gulf Coast chemical producers is expected to reduce the cost of major consumables such as sulphuric acid and soda ash. Texas also benefits from some of the lowest industrial natural gas prices in North America. In addition, direct ocean freight routes from Nigeria to Brownsville are expected to lower spodumene transportation costs compared with shipping into the climate-sensitive St. Lawrence Seaway. The warmer operating environment further reduces construction complexity, winterisation requirements and ongoing maintenance costs. These advantages are partially offset by Québec's exceptionally low-cost hydroelectric power; however, Brownsville remains highly competitive on an overall operating cost basis.

The site also benefits from a favourable business environment supported by Foreign Trade Zone status, potential tax incentives and access to various federal and state programs aimed at strengthening domestic critical minerals supply chains. Potential support mechanisms may include U.S. Department of Energy funding programs, Inflation Reduction Act incentives, Department of Defense critical minerals initiatives and state-level economic development assistance.

Brownsville would also provide access to a large and growing workforce. The city has a population exceeding 190,000 people, while the wider metropolitan region supports a labour pool of more than 420,000. Educational institutions including Texas Southmost College and the University of Texas Rio Grande Valley provide technical and vocational training programs that can support refinery construction and operations. Combined with relatively low labour and land costs compared with many competing U.S. industrial centres, the region offers an attractive environment for long-term industrial investment.

Unlike the Bécancour project, which required extensive cold-weather engineering provisions such as building cladding, heat tracing, winterisation systems and enhanced HVAC infrastructure, the Brownsville refinery would be designed specifically for Gulf Coast conditions. Engineering will focus on hurricane resilience through structural reinforcement, elevated electrical infrastructure, improved drainage systems and flood mitigation measures. Overall, the Port of Brownsville offers a unique combination of strategic logistics, established industrial infrastructure, lower operating costs, workforce availability and expansion potential. These advantages position the proposed Brownsville Lithium Refinery as a highly competitive project capable of supplying battery-grade lithium carbonate to the rapidly growing North American electric vehicle and energy storage markets.

Figure 15: Site visit to Port of Brownsville, Texas

BROWNSVILLE SPODUMENE FEEDSTOCK FROM NIGERIA

Lithium Universe signed a binding 10-year (rolling 5 years thereafter) Definitive Offtake Agreement (DOA) with Norah Mining Limited (NML) for the long-term supply of spodumene concentrate from NML in Nigeria. Under the DOA, NML will supply up to 80,000 tonnes per annum of spodumene concentrate grading 6.0% Li_2O, commencing in late 2026. If LU7's downstream project is not ready to receive spodumene at the relevant time, LU7 intends to trade the material on the open market. NML has fully funded, and is currently constructing, a spodumene concentrator in north-west Nigeria, with completion expected in the second half of 2026. The agreement will provide strategic feedstock requirements for LU7's Brownsville Lithium Refinery in Texas. This strategic partnership secures a major portion of the refinery's long-term raw material needs and strengthens LU7's position as an emerging North American lithium refiner. If LU7's downstream project is not ready to receive spodumene at the relevant time, LU7 intends to trade the material on the open market. This is expected to represent an attractive commercial opportunity, given strong market interest and the recent recovery in lithium carbonate prices.

Feedstock from the Norah Lithium Project is intended to underpin potential operations at the Brownsville Refinery, supporting LU7's broader strategy of establishing an integrated lithium supply chain across Canada and the United States. The DOA also underscores the growing significance of Nigeria's emerging lithium industry, where modern mining practices and processing facilities are progressively replacing artisanal operations. The DOA demonstrates LU7's proactive approach to securing upstream partnerships ahead of construction, providing a stable and diversified supply of high-quality spodumene concentrate. Together, NML's resource potential and the DOA supply framework lay the foundation for a sustainable and scalable North American lithium supply platform. Importantly, this arrangement does not constitute a tolling agreement with NML. LU7 will purchase the spodumene feedstock outright, retain full ownership of the resulting lithium carbonate, and hold the exclusive right to market and sell the product, including through open-market channels.

BROWNSVILLE LITHIUM REFINERY DESIGN

The design of the Brownsville Lithium Carbonate Plant will be modelled after the proven Jiangsu facility, with targeted operational enhancements. The Jiangsu plant has historically processed various third party spodumene feedstock including Mt Cattlin and Greenbushes ore among others, and grades ranging from 5% to 6% Li2O. The primary objective of this engineering study is to develop a comprehensive design and cost estimation for a standalone battery-grade lithium carbonate plant with an annual capacity of up to 18,270 tonnes per annum (tpa). The product will be battery grade specification with better than 99.5% Li_2CO_3. The specification is shown in Table 3 below.

The Brownsville Lithium Refinery is being designed to process spodumene concentrate sourced from global suppliers. The plant is designed to consume approximately 140,000 tonnes per annum (tpa) of spodumene concentrate at a nominal grade of 6.0% Li_2O, while maintaining the flexibility to process feedstocks with grades as low as 5.0% Li_2O. This capability is important given that commercially available spodumene concentrates typically average around 5.5% Li_2O.

The refinery design is based on the proven operating flowsheet of the successful Jiangsu Lithium Carbonate Plant in China, reducing technical risk by leveraging established lithium conversion technology and operating experience.

To support project development, Hatch has been selected as the engineering partner. Hatch was responsible for the engineering and construction of the Jiangsu lithium carbonate plant and brings extensive lithium refinery design and execution experience to the project. The final battery-grade lithium carbonate product is expected to be packaged in bulk bags and transported in sea containers for distribution to customers throughout North America, supporting the growing demand from the electric vehicle and energy storage sectors.

Figure 16: Graphic Representation of the Lithium Universe Brownsville Lithium Refinery

Table 2: Brownsville Lithium Refinery Key Design Criteria

Inputs	Approx Volume (t/year)
Estimated Production Battery Grade Lithium Carbonate	**18,270 (6% Feed)**
Assumed Spodumene Feedstock at 5.5% to 6% Li_2O	**140,000**
Steady State Recovery	**88%**
Steady State Availability (inc annual shutdowns)	**86%**
Ramp up to full rate	**3 years**

Table 3: Specification for Battery Grade Lithium Carbonate

Elements	LC Content	SO_4^{2-}	Cl^-	Ca	Na	K	Al	Zn	Ni	Fe	Mn	Mg	Cu	B
LC CN Standard YS/T582-2013	≥99.5	800	30	50	250	10	10	3	10	10	3	80	3	NS

BROWNSVILLE FLOW SHEET

The process flow sheet is based on the proven reference lithium carbonate plant and incorporates industry-standard technology that has been successfully demonstrated at commercial scale. The refinery is designed to process approximately 140,000 tonnes per annum of spodumene concentrate and produce 18,270 tonnes per annum of battery-grade lithium carbonate suitable for use in electric vehicle batteries and energy storage systems.

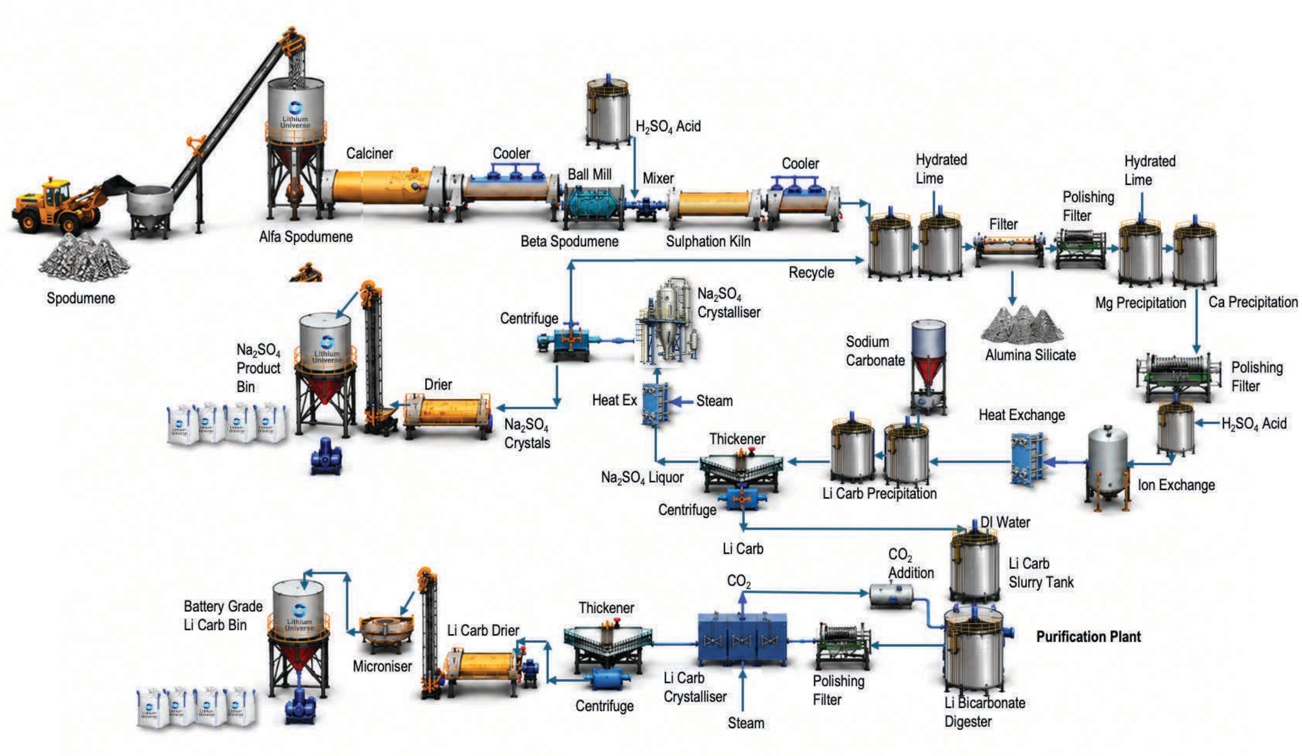


Figure 17: Lithium Universe Brownsville Process Flow Sheet

The spodumene concentrate is first received, stored and prepared for processing before being fed to the thermal conversion circuit. The concentrate is calcined at approximately 1,080°C in a direct-fired rotary kiln equipped with cyclone pre-heaters to maximise thermal efficiency and reduce fuel consumption. During this stage, the naturally occurring alpha spodumene crystal structure is transformed into the more reactive beta spodumene phase, which is essential for efficient lithium extraction in downstream processing. Calciner off-gases pass through a cyclone system followed by an electrostatic precipitator to remove particulate matter and ensure compliance with applicable environmental emissions standards. The hot calcined material is discharged to an indirect cooling system where heat is recovered and managed before the material is dry-milled to a particle size of less than 300 microns.

The finely ground beta spodumene is stored in a surge bin to provide process stability and consistent feed to the subsequent sulphation circuit. From the surge bin, the beta spodumene is mixed with concentrated sulphuric acid and fed to an indirectly heated sulphation kiln operating at approximately 250°C. In this step, the lithium contained within the spodumene is converted into water-soluble lithium sulphate. Off-gases generated from the sulphation process are treated through a wet scrubbing system to remove acid vapours and particulate emissions before discharge. Following sulphation, the roasted material is cooled and transferred to the leach circuit where lithium sulphate is dissolved into solution. The resulting slurry then undergoes impurity removal and solid-liquid separation.

Combined leached residues and precipitated impurities are thickened before being filtered using a continuous belt filter. The filtered alumina silicate residue represents a significant by-product stream and is expected to be marketed to the cement industry as a supplementary cementitious material and cement additive, reducing waste generation and supporting circular economy objectives. The filtrate, containing dissolved lithium sulphate, is combined with thickener overflow liquor and subjected to further purification through a polishing sand filter and ion exchange system. These purification stages remove residual calcium, magnesium, iron and other multivalent cations that could otherwise impact final product quality. The purified lithium-bearing solution is then transferred to the lithium carbonate production area.

Within the lithium carbonate circuit, the solution is heated and reacted with a hot sodium carbonate solution in a single crystalliser operating at approximately 95°C. Lithium carbonate crystals precipitate from solution and are recovered as a coarse crystalline product. The crystalliser discharge is thickened to increase solids concentration before the slurry is processed through a centrifuge circuit where the lithium carbonate crystals are separated from the mother liquor and washed.

To achieve battery-grade specifications, the crude lithium carbonate undergoes an additional purification stage using a carbonation process. The crude product is first re-slurried in demineralised water and contacted with carbon dioxide gas to form soluble lithium bicarbonate. This selective dissolution step leaves many impurities behind in the solid phase. The resulting lithium bicarbonate solution is filtered to remove residual contaminants before being heated using direct steam injection. As the temperature increases, the lithium bicarbonate decomposes and high-purity lithium carbonate re-crystallises from solution. Carbon dioxide gas released during this process is captured and recycled back to the front end of the purification circuit, reducing reagent consumption and improving overall process efficiency.

The purified battery-grade lithium carbonate crystals are recovered by centrifugation and subsequently dried in an indirect-fired rotary dryer operating at approximately 120°C. The dried product is then processed through an air micronisation system where the particle size is reduced to less than 6 microns to meet battery industry specifications. The fine lithium carbonate powder is pneumatically conveyed to product storage silos before being packaged into bulk bags for shipment to customers throughout North America and international battery supply chains.

A significant secondary product stream is generated through the recovery of sodium sulphate from process liquors. Sodium sulphate is crystallised using vacuum evaporative crystallisation technology, producing high-purity anhydrous sodium sulphate crystals. The product is subsequently dried, screened, packaged and marketed to textile, detergent and glass manufacturers. Recovery and sale of this by-product not only generate an additional revenue stream but also minimises waste disposal requirements and improves the overall environmental performance and sustainability of the refinery. The process has been designed to maximise lithium recovery, minimise reagent consumption, recycle process streams wherever practical and produce a premium battery-grade lithium carbonate product that meets the stringent quality requirements of the global lithium-ion battery industry.

PATENT APPLICATION PROCESS

The design of the Brownsville Lithium Refinery is intended to integrate cutting edge advancements and innovations that surpass existing technologies. The company has submitted three provisional patent applications to protect these novel lithium processing methods.

- ***Impurity Removal Section:*** *Developing a method to eliminate the need for filtration pre-coat materials. This will facilitate the removal of fine impurity residues without lithium loss and also enable the use of smaller filtration equipment.*
- ***Purification Section:*** *Optimising target process conditions to reduce steam consumption and enhance lithium recovery.*
- ***Sodium Sulphate Section:*** *Reducing the sulphate content in recycled liquor returned to the leaching process, thereby improving both lithium recovery rates and leach throughout.*

These innovations have been independently developed by Lithium Universe, leveraging its in-house expertise. To safeguard these advancements, the company is collaborating with its patent lawyers to draft three patents, collectively known as the Brownsville Patents.

PLANT LAYOUT

An overall site layout plan was developed where the main facilities and major pieces of equipment are identified, i.e. the spodumene feed stockpile, kilns, driers, cooler, ball mill, belt filters, process tanks and bins, reagent tanks and bins, thickeners, non-process buildings, amenities, laboratory and office, lithium product storage, sodium sulphate storage, main substation, air compressor building and maintenance and stores. The layout defines the roads required for delivery of raw materials and shipment of products and co-products. The main piping racks for the reticulation of utilities, reagents, process piping and electrical cable trays have been defined on the layout. All gas fired equipment such as kilns and driers are located outside of buildings to reduce risks associated with use of natural gas.

The plant layout incorporates new plant areas such as the boiler plant and process effluent treatment facilities. Optimisation efforts on the optimal location and number of plant switch rooms have been completed. Additionally, enhancements in spodumene and residue storage have been optimised with a focus on improving materials handling and increasing capacity. The layout design on-site is being carefully developed with consideration of environmental constraints to ensure compliance with regulations and sustainability standards. These developments are aimed at improving the overall efficiency and effectiveness of the project.

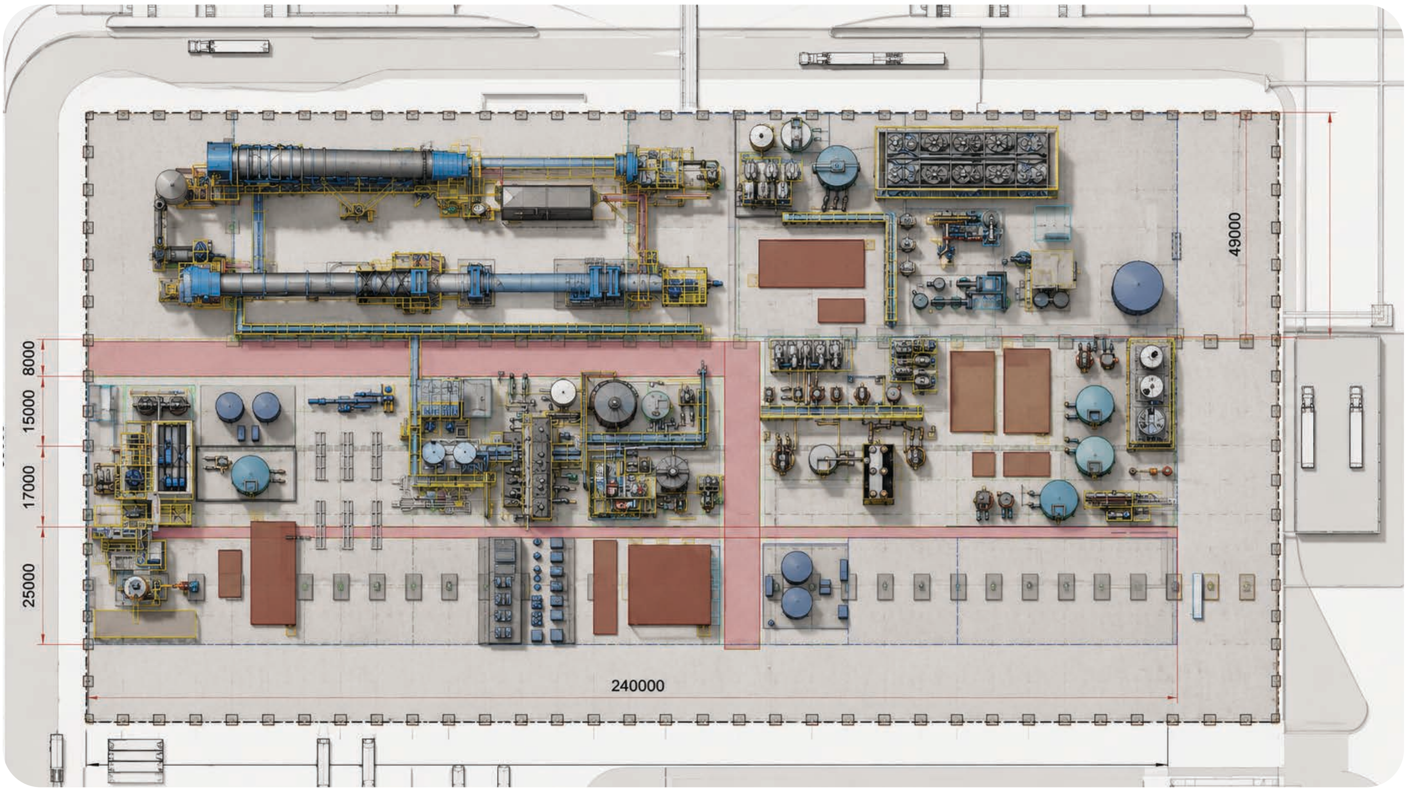


Figure 18: Lithium Universe Proposed Brownsville Refinery Plant Internal Layout

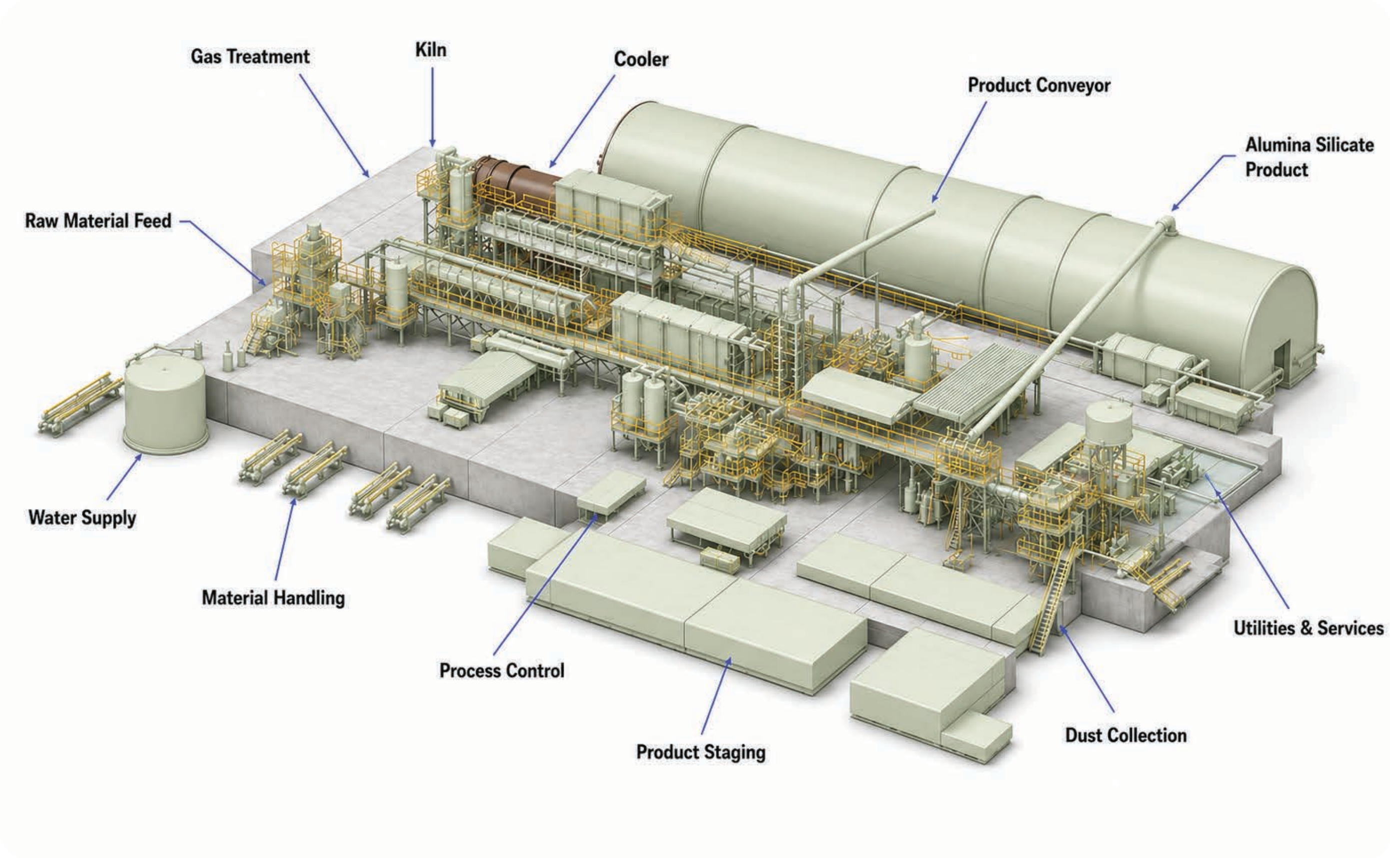


Figure 19: Lithium Universe Proposed Brownsville Refinery Plant External Layout

PROCESS REAGENTS AND BY-PRODUCT PRODUCTION

The chemical handling systems at the production facility have been designed to manage a variety of substances essential to the operation. These include sodium carbonate, flocculant, sulphuric acid, and sodium hydroxide, each playing a distinct role in the process. Following the management of these chemicals, the facility is anticipated to produce notable secondary products such as sodium sulphate and alumina silicate. Sodium sulphate, with its diverse industrial uses, is primarily sold to the textile and detergent industries in Africa, while alumina silicate, an effective cement additive, is aimed at enhancing the strength and sustainability of cement production in Mexico.

Process Reagents

The sodium carbonate system design includes a storage bin, feeding and weighing systems, a make-up tank, a distribution pump, and a media filter. Sodium carbonate is planned to be delivered by truck, pneumatically discharged into the storage tank, mixed with hot water in the make-up tank, and then distributed throughout the plant. It is used mainly for calcium precipitation and in the lithium carbonate crystalliser, with piping included in the 3D model and piping Material take-offs (MTOs). The flocculant system features a make-up tank and distribution pump. Flocculant would be delivered in bags, mixed with water, and then pumped to the thickener. This system's piping is also incorporated into the 3D model and piping MTOs. Sulphuric acid is to be transported by truck, stored in a bunded tank, and distributed through two duty/standby pumps. It is used primarily for the beta spodumene in the pug mixer. Sodium hydroxide is delivered to the site, stored in a bunded tank, and distributed via two duty/standby pumps. It is used for precipitating impurities and pH control, with its piping detailed in the 3D model and piping MTOs.

Photo: Impurity Removal Section – Proposed Brownsville Lithium Refinery (Illustrative)

Photo: Lithium Carbonate Precipitation Section – Proposed Brownsville Lithium Refinery (Illustrative)

Photo: Lithium Carbonate Purification Section – Proposed Brownsville Lithium Refinery (Illustrative)

Photo: Micronizing and Packaging Section – Proposed Brownsville Lithium Refinery (Illustrative)

Table 4: Raw material supply specifications and volume

Inputs	Approx Volume (t/year)
Spodumene concentrate (6%)	**140,000**
H_2SO_4 (93 %w/w)	**55,000**
$CaCO_3$ (98.2 %w/w)	**14,800**
Na_2CO_3 (58% dense, active at 99.8 %w/w)	**39,800**
NaOH (50 %w/w)	**3,600**
H_2O_2 (50 %w/w)	**2,010**
HCl (31 %w/w)	**3,930**
Diatomaceous Earth (100 % w/w)	**880**

Sodium Sulphate by-product

As a valuable by-product of the lithium conversion process, and included in the financial model, the Brownsville Refinery is expected to produce approximately 54,000 tonnes per annum of anhydrous sodium sulphate (Na_2SO_4). Sodium sulphate is a widely used industrial chemical with established global markets, particularly in the detergent, textile and glass manufacturing sectors. It is extensively utilised as a filler in powdered laundry detergents and as a processing aid in textile dyeing applications.

Lithium Universe intends to market the sodium sulphate by-product into established export markets, particularly within Africa, where demand from detergent and textile manufacturers remains strong. The Company has a Memorandum of Understanding with an international sodium sulphate distributor to facilitate product marketing and distribution into these markets. Brownsville's strategic location on the Gulf Coast provides efficient shipping access to African markets and is expected to offer freight advantages compared with traditional Asian supply sources. The sale of sodium sulphate is expected to eliminate disposal requirements associated with the by-product while generating an additional revenue stream for the project. This contributes to improved overall project economics and supports the efficient utilisation of all process outputs from the refinery.

Alumina Silicate Cement Product

The lithium conversion process is expected to generate approximately 130,000 tonnes per annum of alumina silicate by-product. This material consists primarily of silica (SiO_2), aluminium oxide (Al_2O_3) and ferric oxide (Fe_2O_3), with a fine particle size and high specific surface area that enhances its pozzolanic reactivity and suitability as a supplementary cementitious material (SCM).

Alumina silicate product has potential application as a cement additive and partial clinker replacement in blended cement formulations. Recent developments in cement standards, including ASTM C595 in the United States, have expanded the use of supplementary cementitious materials and low-carbon blended cements incorporating aluminosilicate-rich materials. These standards support increasing clinker substitution levels to reduce both production costs and greenhouse gas emissions while maintaining concrete performance.

The Jiangsu Lithium Carbonate Refinery successfully marketed its alumina silicate by-product to local cement manufacturers, demonstrating a proven commercial outlet for this material. When incorporated into cement systems, alumina silicate reacts with calcium hydroxide generated during cement hydration to form additional calcium silicate hydrate (C-S-H) gel, improving strength, reducing permeability, enhancing durability and lowering heat generation during curing. These characteristics can help minimise thermal cracking in large concrete structures while improving long-term performance.

Lithium Universe will seek to develop commercial sales opportunities for any alumina silicate by-product with cement and concrete manufacturers across Texas and Mexico. The Company has already commenced discussions with Amrize Canada Inc., the offtake partner for the alumina silicate to be generated from the Bécancour Lithium Refinery, which also operates cement manufacturing facilities near the U.S.–Mexico border. These discussions provide valuable insight into potential market applications and regional demand for supplementary cementitious materials.

The growing adoption of low-carbon blended cements and recent industry acceptance of increased supplementary cementitious material (SCM) additions present an attractive commercial opportunity for alumina silicate products. As a reactive aluminosilicate material, the product has the potential to partially replace clinker in cement manufacturing, helping reduce production costs, lower carbon emissions, and improve concrete performance. The sale of alumina silicate could provide Lithium Universe with an additional revenue stream while supporting the cement industry's transition toward more sustainable construction materials.

METALLURGICAL TESTWORK

The objective of establishing a downstream standalone lithium refinery is to design it with the robust capability to process spodumene feedstock from any part of the world. Samples from Australia, Brazil, and Africa, featuring various lithium grades, were sourced and underwent process testing at Linyi University, one of the world's leading lithium research institutes. It is critical that the proposed refinery has the capability to efficiently process spodumene feedstock from diverse sources worldwide. This adaptability ensures that the lithium production operation remains robust and flexible, offering optionality in spodumene feedstock while the local supply chain continues to develop. This strategic approach positions the Brownsville Lithium Refinery Study to navigate fluctuations in the global spodumene market, maintaining operational continuity and stability.

All completed batches of lithium carbonate tested at the Linyi have successfully aligned with battery-grade specifications. Furthermore, all streams involved in the testing process have been fully analysed, ensuring a comprehensive understanding of the lithium extraction processes. In general, more and more spodumene concentrates worldwide are becoming finer in particle sizing and more diverse in gangue materials. This is due to the increased use of flotation techniques in the concentrator plants, often employed to improve overall recovery and grade. The Brownsville Lithium Refinery would need to be able to handle these finer spodumene ore types. Test work indicates that the Brownsville Lithium Refinery design has the ability to handle most types of spodumene concentrate. The design has cyclone preheaters at the feed to the calcination kiln which will allow the process to handle these finer ore types. Cyclone preheating, like Jiangsu, will improve the calcination of fine spodumene feed, enhancing the efficiency of the extraction process.

In addition to the spodumene samples displaying different particle sizing, the samples also presented varying levels of key impurities including magnesium, potassium, calcium, and iron. The Jiangsu plant was the first plant to implement ion exchange technology for the removal of calcium impurities, a groundbreaking achievement that has set new standards in lithium purification. Additionally, the utilisation of a CO_2 purification circuit has resulted in remarkably low levels of sodium and sulphate impurities, well below industry cutoff thresholds. Metallurgical studies so far, have demonstrated that the Brownsville process is highly robust, capable of handling various spodumene ore types from around the world.

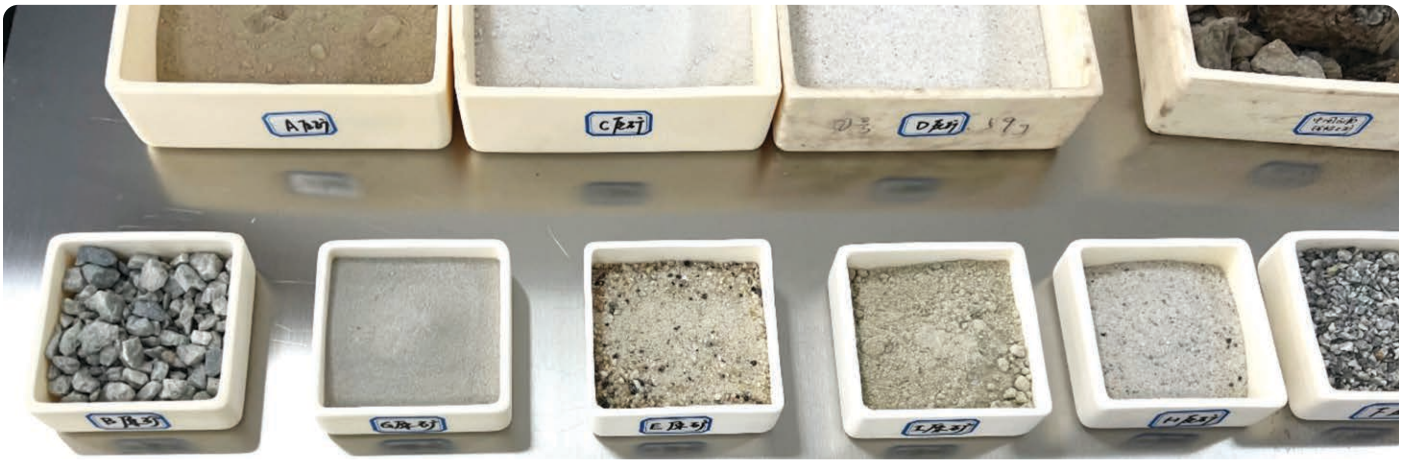


Figure 20: Various Spodumene Concentrates from around the world showing various particle sizing and grades

Figure 21: Lithium Universe is using world-class lithium test facilities for all test work

The primary concern in battery-grade lithium carbonate is sodium and sulphate, with a specification of less than 250 ppm and 800 ppm respectively. The Brownsville design process demonstrates its capability to yield an even higher quality product, boasting sodium levels below 100 ppm. Additionally, calcium content is notably low, below 13 ppm compared to the 50 ppm specification. Another significant advantage of lithium carbonate derived from hard rock sources over brine-based alternatives is its remarkably low chloride levels, measuring less than 2 ppm as opposed to the 200 ppm found in brine grades.

Table 5: Four completed test program results in comparison to industry standard

Elements	LC Content	Na	Mg	Ca	K	Fe	Zn	Cu	Pb	Si	Al	Mn	Ni	SO_4^{2-}	Cl^-	B
Unit	%	ppm														
Concentrate Sample 1	99.7	70	2	13	1	ND	2	ND	ND	2	2	1	ND	170	1	1
Concentrate Sample 2	99.7	34	1	6	2	3	1	ND	ND	7	2	ND	ND	214	2	1
Concentrate Sample 3	99.6	8	1	7	1	ND	ND	ND	ND	ND	1	1	ND	174	6	2
Concentrate Sample 4	99.6	26	1	13	1	ND	ND	ND	ND	6	ND	ND	ND	145	4	ND
LC CN Standard YS/T582-2013	≥99.5	≤ 250	≤80	≤50	≤10	≤10	≤3	≤3	≤3	≤30	≤10	≤3	≤10	≤800	≤30	NS
Brine LC CN Standard GB/T2385-2022, Type I	≥99.5	≤300	≤50	≤50	≤20	≤10	NS	≤50	NS	≤20	NS	≤10	NS	≤100	≤200	≤50

See JORC Code at the end of the announcement

CAPITAL COST ESTIMATE BASED ON PREVIOUS BECANCOUR WORK

The capital expenditure (CAPEX) estimate for a proposed refinery has been developed using the Definitive Feasibility Study (DFS) capital cost framework previously prepared for the Company's Bécancour Lithium Refinery project. The estimate is fundamentally based on the proven Jiangsu lithium refinery design and has been adjusted to reflect escalation in engineering, construction, equipment, labour, and materials pricing since completion of the Bécancour study, together with site-specific adjustments relevant to the proposed Brownsville project location.

Hatch was previously engaged to design the Bécancour Lithium Refinery and utilised experience from multiple lithium refinery reference designs, including the Jiangsu lithium conversion facility, combined with Hatch's internal engineering expertise, public domain information, and extensive global metallurgical plant experience. The engineering work included the preparation of process mass balances, process flow diagrams (PFDs), and single-line electrical diagrams, with key process equipment packages issued to both existing Jiangsu suppliers and international vendors for budget pricing and quotations.

Hatch prepared a comprehensive capital cost estimate during Q2 2024 based on ongoing engineering studies, benchmarking against comparable lithium conversion projects in North America, and reference project data from operating lithium refineries. The estimate was prepared to achieve an expected accuracy range of approximately -15% to +20% and includes allowances for project indirect costs and contingency provisions. The estimate incorporates direct and indirect costs associated with site development, process infrastructure, utilities, and plant construction. Site development allowances include clearing, earthworks, drainage, building platforms, roadworks, fencing, and general civil infrastructure based on preliminary site layouts and conceptual engineering designs. Building costs were categorised into process buildings, non-process facilities, and bulk storage structures, with pricing derived from reference refinery designs and adjusted for current regional construction conditions.

Process equipment pricing was developed from process flow diagrams and electrical single-line diagrams, with major equipment quotations sourced from Jiangsu reference suppliers and other international vendors. Remaining equipment costs were estimated using industry databases and benchmark refinery information. Quantities for structural steel, piping, tanks, bins, cable trays, electrical cabling, and associated bulk materials were derived from reference plant data and adjusted for current North American construction pricing.

Installation and construction costs were estimated using labour productivity models, construction databases, estimated labour hours, and current regional contractor pricing. Additional costs for off-site infrastructure, utility connections, temporary facilities, freight, vendor support, commissioning spares, first fills, accommodation, travel, EPCM services, and owner's costs were also incorporated into the estimate. Contingency allowances were derived from quantitative risk assessment methodologies applied during the Bécancour DFS process.

The CAPEX estimate incorporates several procurement pricing methodologies depending on the maturity of engineering definition and supplier engagement. Fixed-price quotations were obtained from selected suppliers using detailed commercial documentation and "Issued for Tender" technical packages. Request for Quotation (RFQ) pricing was based on comprehensive commercial terms and technical information derived from prior reference projects, while budget pricing was obtained from preliminary or conceptual engineering data where detailed tender documentation had not yet been completed.

The main fixed-price equipment packages collectively represent approximately 37% of the total estimated equipment cost base.

Table 6: Fixed Price Packages

PM001	Kilns & Coolers	SCT-Daming (China)
PM002	Na_2SO_4 Crystallisers	GEA (China)
PM003	Belt Filters	Takraf (India)
PM005	Centrifuges	Andritz (Germany)
PM007	Burners	Fives Pillard (China)
PM011	Ball Mill	Shenye (China)
PM032	Pneumatic Conv	Nanjing Xiangrui (China)
PM038	Electric Boilers	Thermotech Combustn. (USA)
PM039	Fluid Bed Dryers	GEA (China)
PE001	Switchrooms	Voltam (Canada)
PE004	HV Switchboards	Schneider (Mexico)
PE005	LV MCC's	Schneider (Canada)
PE008	Dist'n Transformers	Techno Contact (Canada)
PE009	Power Transformers	WEG (Mexico)

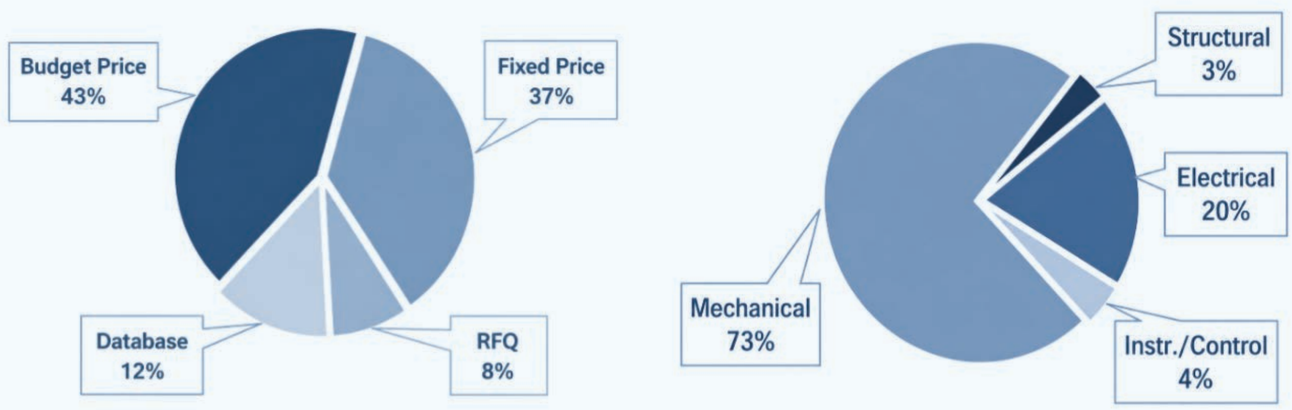


Figure 22 – Pricing equipment supply packages

Mechanical

The mechanical equipment list for a proposed refinery has been developed using the Jiangsu reference plant and subsequent refinements incorporated following the original plant construction and operating experience. The reference facility is considered an appropriate and reliable basis for mechanical quantity take-offs, equipment sizing, and overall process plant design development. The estimate incorporates allowances for additional equipment and upgraded systems considered necessary for a modern North American lithium refinery configuration. These include provisions for Zero Liquid Discharge (ZLD) systems, process water treatment facilities, demineralized water systems, enhanced boiler room infrastructure, spodumene feed handling and conveyor systems, enclosed stockpile shelters, sodium sulphate loading facilities, fluid bed and flash drying systems, pneumatic conveying systems, compressed air infrastructure, sulfuric acid storage facilities, and HVAC systems.

Where equipment sizing was not directly available from the reference refinery, estimates were developed using comparable operating duties and similar process services from other lithium and metallurgical processing operations. Supply pricing has been based on current market quotations, supplier budget pricing, and benchmark equipment databases compiled during this study. Installation costs were estimated using standard unit installation hours per equipment item, multiplied by current regional labour productivity factors and labour cost assumptions.

Cold Climate Related Infrastructure

The current design basis retains a number of contingency allowances originally developed for the Bécancour Lithium Refinery, including cold-climate infrastructure such as insulated building cladding, extensive HVAC systems, heat tracing, and winterisation measures. Given Brownsville's warm Gulf Coast climate, many of these requirements are expected to be reduced, simplified, or potentially eliminated during future engineering optimisation phases. However, at this early stage of project design and development, these items have been retained within the capital cost estimate as a conservative contingency allowance. This approach provides additional confidence in the robustness of the estimate while preserving potential upside during subsequent engineering and development studies. The value of cold-climate-related infrastructure currently retained in the estimate is approximately US$18 million, representing a potential future capital cost reduction opportunity for the Brownsville project.

Table 7: Potential Cold Climate Reductions

Climate Capex that can be reduced but left in as contingency	USD Q3 2024 Becancour DFS
Spodumene Storage HVAC	2,081,079
Process Building HVAC	7,615,188
Building & Walls Reduction	6,354,372
Direct Reduction	**16,050,639**
Inflation Adjustment	428,241
Indirects assoc with Reductions	1,832,697
Total Potential Reductions	18,311,576

Earthworks

The earthworks scope and capital cost estimate were developed using methodologies applied in the Bécancour Lithium Refinery study, adjusted for the proposed site location and current construction pricing. Quantities were derived from conceptual layouts and preliminary 3D models using publicly available survey data. Preliminary geotechnical assumptions include a California Bearing Ratio (CBR) of approximately 3 and a general cut-and-fill balance. Cost estimates incorporate allowances for drainage, imported fill, site levelling, haulage, compaction, and associated civil infrastructure works.

Structural Concrete and Steel

The structural concrete and steel scope has been developed using quantities derived from the Bécancour Lithium Refinery reference plant documents and 3D models for areas where the design remains substantially unchanged. Preliminary structural designs were prepared for the main process building, while other infrastructure elements, including non-process buildings, pipe racks, and ancillary structures, were estimated using metrics-based methodologies and benchmark refinery data. Piling quantities were based on the reference plant layout, assuming average pile lengths of approximately 10 metres. Unit rates were derived from comparable industrial projects and current regional construction pricing.

Piping

The piping scope has been developed primarily from quantities extracted from the Bécancour Lithium Refinery reference plant and associated piping lists for intra-area services. Inter-area piping quantities include allowances for pipe rack lengths together with additional allowances of approximately 30 metres at each end for tie-ins and distribution. Additional piping quantities associated with new or modified equipment were estimated using manual take-offs and benchmark refinery data.

Valve quantities were derived from preliminary Piping and Instrumentation Diagrams (P&IDs) developed for the reference refinery, while special piping (SP) quantities were based on reference plant data adjusted for additional equipment and revised process requirements. Unit rates were developed according to piping complexity and material class using current pricing and benchmark data from comparable industrial projects in the region.

Electrical

The electrical scope has been developed based on the mechanical equipment list and preliminary electrical load lists, with adjustments made where vendor information was available. Preliminary switchroom layouts and switchboard sizing were developed using reference refinery designs and applicable industrial standards. High-voltage (HV) cable quantities were estimated using preliminary sizing calculations and manual take-offs from conceptual plant layouts, while low-voltage (LV) cables, conduits, and minor cable ladders were estimated using metrics-based methodologies.

Major cable ladder quantities were derived from manual layout take-offs, and lighting allowances for process buildings and general plant areas were estimated using typical industrial spacing assumptions. Preliminary allowances for earthing and lightning protection systems were also included. Major equipment pricing was based on budget quotations obtained during the study, supplemented by historical refinery data for minor equipment and bulk materials. Installation costs were estimated using standard unit installation norms and current regional labour rates.

Control and Instrumentation

The control and instrumentation scope has been developed using the Bécancour Lithium Refinery reference plant I/O lists and Instrument Index. Quantities for instrumentation cabling, cable trays, and conduits were estimated using metrics-based methodologies derived from instrument counts and average cable routing distances. Budget quotations were obtained for the Process Control System (PCS), Power Management System (PMS), and Balance of Plant instrumentation packages, supplemented by historical refinery data for field enclosures, bulk materials, and ancillary instrumentation components. Installation costs were estimated using standard unit installation norms, productivity assumptions, and current regional labour rates.

Table 8: Project Quantities

Description	UOM	LU7
Earthworks	m^3	398,000
Piles	ea	3,300
Concrete	m^3	24,000
Steel	t	5,000
Mech Tagged Items	ea	830
Pipe	m	47,000
Valves	ea	2,900
Cables	m	405,000
Tray / Conduit	m	61,000
Instruments	ea	2,900

Indirect Costs

Temporary facilities and services have been estimated at approximately 5% of direct project costs, consistent with methodologies applied in the Bécancour Lithium Refinery study. Allowances have also been included for heavy lift crane activities, including two 400-tonne lifts associated with kiln installation and major equipment erection. Freight costs were estimated at approximately 7% of equipment supply costs, with bulk material freight incorporated within individual material pricing.

Travel and accommodation allowances originally included for the Bécancour project have been removed for the Brownsville development, reflecting the expectation that most of the Brownsville construction workforce will be sourced locally during peak construction activities. Vendor support services were estimated at 1.5% of equipment supply costs, while commissioning spares were estimated at 5% of equipment supply costs. Preliminary allowances for first fills and commissioning consumables were also included.

Engineering, Procurement and Construction Management (EPCM) costs were estimated at approximately 17% of direct costs, with owner's costs and operational readiness allowances estimated at 2% and 1% of direct costs respectively. EPCM costs have subsequently been escalated at approximately 5% per annum from the original Q2 2024 Bécancour study estimate to reflect current market conditions and engineering cost escalation.

A summary of this estimate is presented in the following table:

Initial CAPEX	Approx US$
Direct Costs	380.7 million
Project Indirect & EPCM	113.0 million
Owner's Cost Contingency	11.0 million
Contingency (LU7)	102.0 million
Total	606.7 million

Table 9: Brownsville Capital Expenditure Cost Estimate Summary (US$)

Construction Labour & Const Indirects	Growth %		USD Q3 2024	USD Q2 2026	Diffrence USD	Comments
	2024	2025	Becancour DFS	Brownsville Scoping	Browns - Becancour	
Total Construction Indirects			**129,842,238**	**113,157,510**	(16,684,728)	Reduce labour costs at Brownsville
Equipment & Materials Costs Estimate	**Growth %**		**USD Q3 2024**	**USD Q2 2026**	**Diffrence USD**	**Comments**
Escalation Basis	**2024**	**2025**	**Becancour DFS**	**Brownsville Scoping**	**Browns - Becancour**	
Civil Construction Materials	5	5	26,016,308	28,341,516	2,325,208	Price Escalation since Q3 2024
Structural Steel	5	5	25,265,621	27,523,736	2,258,115	Price Escalation since Q3 2024
Materials Handling Equipment	10	6	2,392,047	2,749,658	357,611	Price Escalation since Q3 2024
Process Equipment	12	6	80,090,525	93,737,950	13,647,425	Price Escalation since Q3 2024
Mechanical Equipment	5	5	28,846,413	31,424,561	2,578,148	Price Escalation since Q3 2024
Piping & Acessories	3	1	12,602,302	13,077,724	475,422	Price Escalation since Q3 2024
Electrical Equipment	14	17	41,616,419	53,491,664	11,875,245	Price Escalation since Q3 2024
Instrumentation & Automation	7	7	13,500,259	15,203,654	1,703,395	Price Escalation since Q3 2024
Mobile Equipment	5	5	1,816,700	1,979,068	162,368	Price Escalation since Q3 2024
Total Equipment & Materials			**232,146,594**	**267,529,531**	35,382,937	
Indirect Costs	**Growth %**		**USD Q3 2024**	**USD Q2 2026**	**Diffrence USD**	**Comments**
	2024	**2025**	**Becancour DFS**	**Brownsville Scoping**	**Browns - Becancour**	
Temporary Facilities & Services			18,500,003	19,034,352	534,349	Calculated at 5% of Direct Costs
Heavy Lift Crane			3,700,001	3,700,001	-	Allowance (2 x 400t lift for kiln + other)
Equipment Freight			9,694,001	11,236,240	1,542,239	Calculated at 7% of equipment supply
Travel & Accommodation			20,424,002	-	(20,424,002)	Expect to source labour locally
Vendor Support			2,220,000	2,407,766	187,766	Calculated at 1.5% of equipment supply
Spares			7,400,001	8,025,886	625,885	Calculated at 5% of equipment supply
First Fills			2,156,493	2,264,318	107,825	Preliminary List with 5% growth
EPCM			60,923,468	66,368,503	5,445,035	Assume 5% growth per annum
Total Project Indirects			**125,017,969**	**113,037,066**	(11,980,903)	
Owners Costs & Land			-		-	No land capex for Browsville (lease) but leave in as contingency
Land Contingency				**11,000,000**	11,000,000	Land Development Contingency
Contingency			**51,000,000**	**102,000,000**	51,000,000	Additional $51m contingency added due to Iran war, oil crisis and inflation
Total Capital Costs			**538,006,801**	**606,724,106**	**68,717,305**	

Overall, the total capital cost for a Brownsville Refinery Study is estimated at approximately US$606.7 million, with an expected accuracy range of ±30% consistent with a Pre-Feasibility Study level estimate.

The capital cost (CAPEX) estimate for a proposed Brownsville Lithium Refinery has been developed using the Q2 2024 Bécancour Definitive Feasibility Study (DFS) as the foundational reference point. This approach is justified by the high degree of alignment between the two projects, particularly in terms of process plant design, flowsheet configuration, and core equipment selection. As such, the Bécancour DFS Class 3 estimate provides a robust and credible baseline from which to update costs, avoiding the need for a full bottom-up re-estimation.

The Equipment and Materials estimate has been updated from the Bécancour DFS baseline by applying escalation factors to reflect current market pricing, rather than undertaking a complete re-engineering of the cost structure. Escalation allowances have been applied to account for inflation since Q2 2024 across key categories including process equipment, structural steel, electrical systems, piping and materials handling. This methodology leverages the detailed engineering completed during the DFS while incorporating current supplier pricing and market conditions to develop an updated capital cost estimate for the Brownsville project.

The updated estimate indicates a net increase of approximately US$35.4 million in Equipment and Materials costs. This increase is considered measured and consistent with prevailing industry trends, where inflation and supply chain dynamics have driven moderate cost escalation. Notably, increases in areas such as process equipment and electrical systems have been partially offset by stabilisation in other categories, including mechanical equipment and certain bulk materials. This balanced outcome reinforces the reliability of the estimate and demonstrates that cost pressures have been actively managed through market engagement and benchmarking.

Indirect costs have been assessed separately, with a structured and conservative approach adopted to reflect the earlier stage of development of the Brownsville project. While many indirect cost components remain broadly aligned with the DFS baseline, adjustments have been made to reflect improved scope definition, updated contractor inputs, and regional considerations specific to the U.S. Gulf Coast.

The most significant adjustment within indirect costs is the inclusion of an additional US$51 million in contingency. This increase has been deliberately applied to account for the transition from a DFS-level study at Bécancour to a Pre-Feasibility Study level for Brownsville. At this stage of planning and development, it is appropriate to apply a higher contingency allowance to address uncertainties associated with project definition, permitting pathways, labour market conditions, and infrastructure integration.

Key risk factors informing this contingency uplift include volatility in global construction markets, potential labour constraints in the United States, and jurisdiction-specific regulatory requirements. Additionally, the development of a new operational footprint and the integration of logistics through the Port of Brownsville introduce execution risks that are appropriately captured within contingency provisions.

Overall, the total capital cost increase of approximately US$57.7 million reflects a disciplined and methodical update process. The estimate maintains Class 3 accuracy, supported by vendor inputs and the proven DFS framework, while incorporating prudent allowances for risk and uncertainty. This approach aims to ensure the Brownsville CAPEX estimate is realistic and robust, based on the level of planning, providing a sound basis for further engineering advancement and investment decision-making.

An additional US$11 million contingency allowance has been included within the capital cost estimate to provide for potential site-related uncertainties and unforeseen development requirements. This contingency has been incorporated notwithstanding that ongoing site lease payments have already been accounted for separately within the project operating cost assumptions. The key cost movements compared with the Bécancour DFS are summarised in the table below.

Table 10: Built In Contingency at Brownsville

Item	Plus / Minus
Reduced Labour Costs	(16,684,728)
Escalation Equipment Materials	35,382,937
Reduced Labour Travel Accommodation	(20,424,002)
Escalation EPCM	5,445,035
Reduced Land Cost	-
Site Contingency Escalation	11,000,000
Project War/Contingency Escalation	51,000,000
Total Escalation	**65,719,242**

ECONOMIC ANALYSIS

The project study economics remain positive and robust even under conservative long-term lithium pricing assumptions. Based on the modelling and assumptions the Brownsville Lithium Refinery is anticipated to deliver a pre-tax Net Present Value (NPV) of approximately US$787 million at an 8% discount rate, with a pre-tax Internal Rate of Return (IRR) of approximately 21.0% and a steady-state payback period of around 3.9 years. The financial model is based on conservative long-term price assumptions of US$1,170 per tonne for spodumene concentrate (SC6) and US$20,970 per tonne for battery-grade lithium carbonate. The Company considers these assumptions to be reasonable and prudent for the purposes of the study. The lithium carbonate price assumption remains below current spot market pricing and is considered appropriate for long-term project evaluation.

Plant availability and lithium recovery are assumed at 86% and 88% respectively. The financial model incorporates a realistic production ramp-up profile, with full production capacity achieved after three years of operation.

At full production capacity, the project is expected to generate annual revenues of approximately US$383 million, with annual operating costs of approximately US$222 million, including spodumene feedstock costs. This results in an annual EBITDA of approximately US$161 million and a gross margin of approximately 42%. Post-tax, the project is estimated to generate an NPV8 of approximately US$531 million. The total capital cost is estimated at approximately US$607 million, including a contingency allowance of approximately US$130 million. The capital estimate is based on engineering deliverables developed from the preliminary Brownsville refinery design together with mature engineering, operating experience and supplier pricing derived from the successful Jiangsu Lithium Refinery and the completed Bécancour Definitive Feasibility Study. The substantial contingency allowance provides additional protection against current construction cost escalation, supply chain uncertainty and geopolitical volatility.

Table 11: Lithium Universe Brownsville Pre-Feasibility Study Summary

Economics	Unit	Approx Value
Operation Life	years	20
Estimated Li_2CO_3 production	tpa	18,270
Total Estimated Capital Costs	US$mm	$607
Estimated Sustaining Capital per annum	US$mm	$5
Estimated Before-tax Net Present Value @ 8% discount rate	US$mm	$787
Estimated Annual Revenue	US$mm	$383
Estimated Annual Costs inc Spodumene	US$mm	$222
Estimated Post-tax Net Present Value @ 8% discount rate	US$mm	$531
Estimated Before-tax Internal Rate of Return	%	21.0%
Steady state Li_2CO_3 conversion estimated all-in sustaining costs	$/t	$3,566
Estimated Annual steady state EBITDA	$mm/y	$161
Steady state estimated payback	years	3.9

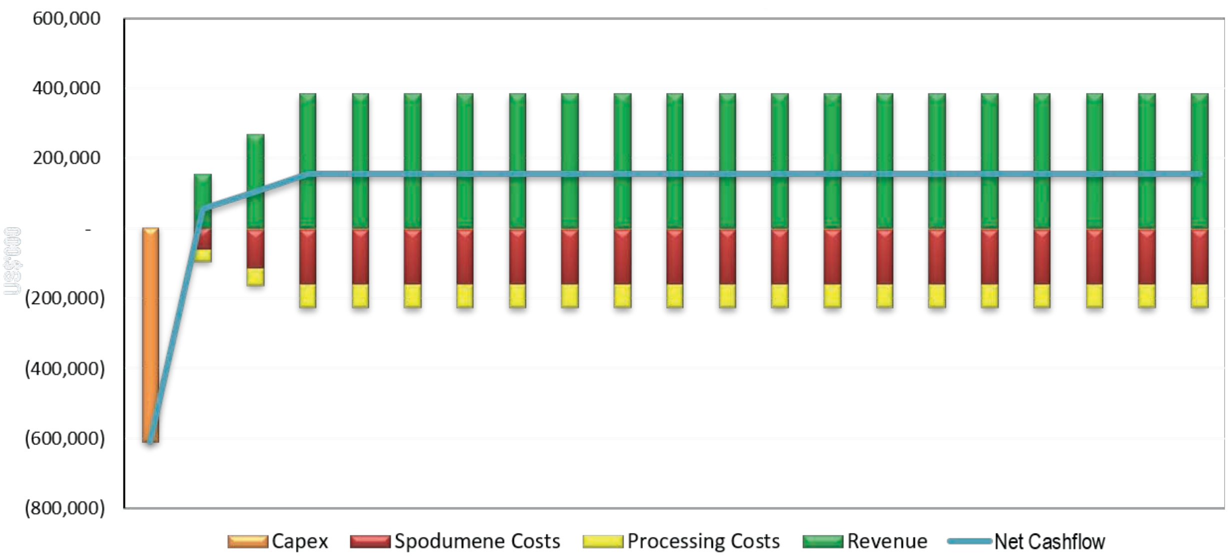


Figure 23: Lithium Universe Brownsville Refinery Estimated Pre-tax Cashflows

OPERATING COST ESTIMATE

The estimated operating cost is based on the mass balance usage of electricity, natural gas, sulphuric acid, sodium carbonate, neutralising agents, and various reagents and consumables extracted from Jiangsu operating experience. Input prices are shown in Table 12.

Cost Area	Unit	Approx Value
Spodumene ore	US$/t Li_2CO_3	8,582
Natural Gas	US$/t Li_2CO_3	59
Electricity	US$/t Li_2CO_3	685
Sulphuric acid	US$/t Li_2CO_3	578
Sodium carbonate	US$/t Li_2CO_3	436
Caustic soda	US$/t Li_2CO_3	57
Limestone	US$/t Li_2CO_3	176
Labour and Overheads	US$/t Li_2CO_3	650
Other	US$/t Li_2CO_3	925
Total Estimated Conversion Costs	**US$/t Li_2CO_3**	**3,566**
Total Estimated Operating Costs incl. SC6	**US$/t Li_2CO_3**	**12,148**

Table 12: Brownsville Estimated Operating Unit Costs

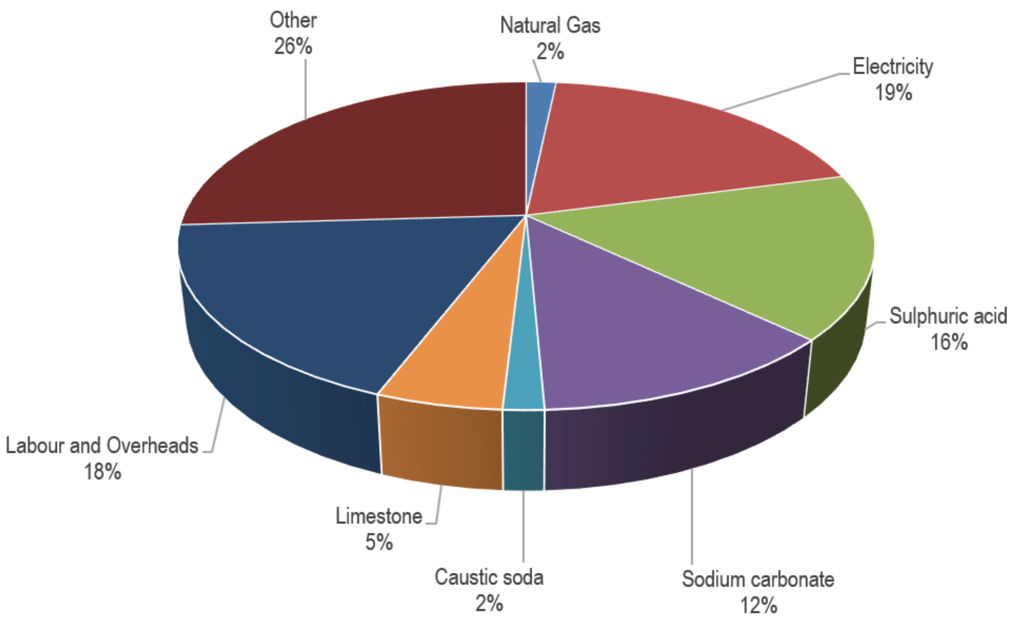


Figure 24: Lithium Universe Brownsville Pre-Feasibility Study Summary Estimated OPEX Summary not inc spodumene

Based on the updated Brownsville Pre-Feasibility Study, the operating cost assumptions have improved from the earlier estimate. The revised study estimates lithium carbonate conversion costs at approximately US$3,566 per tonne of Li_2CO_3, (excluding spodumene feedstock) and US$12,148 per tonne of Li_2CO_3 including spodumene concentrate, representing a reduction of approximately US$365/t compared with the Bécancour DFS. The lower estimated cost structure is primarily driven by Brownsville's lower labour costs, reduced natural gas and soda ash pricing, lower maintenance expenses, favourable logistics, and discounted spodumene supply secured through the proposed Nigeria offtake agreement.

For comparison, lithium carbonate conversion costs in China are generally estimated to be around US$3,000/t Li_2CO_3, depending on plant scale, reagent pricing, energy costs, and environmental compliance requirements. While leading Chinese refineries may operate at the lower end of this range, North American producers exporting spodumene concentrate to China must also incur additional logistics costs including trucking, port handling, ocean freight, insurance and working capital.

For a North American spodumene producer, shipping concentrate to China for conversion can typically add approximately US$150/t of spodumene concentrate, equivalent to around US$1,200–1,300 per tonne of lithium carbonate produced. When these logistics costs are incorporated, the effective conversion cost of producing lithium carbonate in China increases to approximately US$4,100–4,300/t Li_2CO_3, compared with Brownsville's estimated conversion cost of US$3,566/t Li_2CO_3.

This cost advantage, combined with shorter supply chains, reduced geopolitical risk, direct access to North American EV and energy storage markets, and potential eligibility for U.S. federal and Texas state incentives, supports Lithium Universe's view that Brownsville has the potential to emerge as a highly competitive lithium conversion hub for North America. The refinery's strategic location at the Port of Brownsville also enables efficient receipt of spodumene concentrate from Africa, Brazil and North America while supplying battery-grade lithium carbonate directly into the rapidly growing North American battery supply chain.

Table 13: Brownsville Costs vs Chinese Conversion

Cost Item	Brownsville	Bécancour	China
Average Estimated Operating Costs	US$3,566/t	US$3,931/t	US$3,000/t

PROFITABILITY OF LITHIUM CONVERTERS

This Market Analysis aims to address recurring questions raised regarding the potential profit margins of lithium refineries compared to those of spodumene miners and concentrate producers. There appears to be a lack of clarity within the investment community about this topic, which is understandable given that most of the hard rock spodumene refining is currently concentrated in China and the number of independent converters with publicly available information is limited. This geographic concentration has led to several misconceptions, most notably, the belief that lithium chemical converters consistently experience significantly lower margins than spodumene miners, or that their margins are fixed regardless of underlying lithium market dynamics.

Misconception #1
Lower Margins of Lithium Chemical Converters vs Spodumene Miners

Margins in Refining vs Mining: A Balanced Perspective. The Company asserts that establishing and operating a successful lithium conversion facility is no less challenging than developing a spodumene mine. Moreover, there is a limited global capacity to produce high-quality, battery grade (BG) lithium carbonate (LC) and hydroxide. As a result, converters require similarly attractive returns to justify the capital-intensive nature of refinery development.

A Compelling Case Study: Tianqi Lithium Corporation. Tianqi Lithium owns 25% interest in the Greenbushes mine and several lithium refineries including the Jiangsu Lithium Carbonate plant. The spodumene ore supplied from Greenbushes is purchased on an arm's length basis and therefore both parts of the business are independent profit centres. According to Tianqi's Annual Reports for 2021 and 2022, the gross profit margins for both its lithium concentrate business and lithium compounds (chemical conversion) business are remarkably similar, demonstrating parity between mining and refining returns. This margin alignment underscores that lithium refineries, like mining operations, are highly profitable and benefit proportionally from rising lithium prices.

Table 14: Tianqi's Annual Reports for 2021 and 2022

	Gross Margin 2021	Gross Margin 2022
Lithium Concentrates	62.0%	83.9%
Lithium Compounds	61.5%	85.7%

2021 Average SC6 price US$1,442, LiC BG Price US$25,583 /t
2022 Average SC6 price US$5,175, LiC BG Price US$71,740 /t

Misconception #2
No Upside Margins for Refineries in Rising Lithium Price Environment

Brownsville Refinery Study Model: Upside Potential Validated. To further illustrate the potential margins in the lithium refining business, Lithium Universe conducted an analysis using historical spot prices for SC6 spodumene and lithium carbonate (Figure 11 and 12). These prices represent the real-world market conditions under which a lithium refiner would purchase spodumene feedstock and sell the final battery-grade lithium carbonate product. By applying these historical quarterly prices to the Company's Brownsville Refinery Pre-Feasibility Study model, Lithium Universe was able to estimate the project's profitability across various market conditions. The base case PFS EBITDA for the Brownsville Study is US$161 million per annum at a SC6 price of US$1,170/t and BG LC at US$20,970 /t. The estimated EBITDA and NPV at the various quarterly spot prices going back to June 2021 is shown in Table 15.

Date	Spot SC6 Price US$/t	Spot LC Price US$/t	Estimated EBITDA US$ Mil	Estimated NPV US$ Mil
Jan-21	400	10,000	63.9	(89)
Mar-21	500	13,500	114.5	366
May-21	650	13,500	94.3	185
Jul-21	1,000	15,000	74.9	10
Sep-21	1,400	23,000	167.4	843
Nov-21	2,100	32,500	247.2	1,561
Jan-22	3,000	56,000	555.9	4,342
Mar-22	4,450	68,000	580.9	4,566
May-22	4,800	68,200	537.6	4,177
Jul-22	4,900	68,500	529.7	4,105
Sep-22	5,800	78,000	582.6	4,582
Nov-22	6,000	79,000	574.1	4,505
Jan-23	5,100	60,000	347.6	2,465
Mar-23	3,300	41,000	241.7	1,512
May-23	3,300	40,000	223.4	1,347
Jul-23	3,100	32,200	107.7	305
Sep-23	2,000	22,500	77.9	37
Nov-23	990	15,000	76.2	22
Jan-24	900	15,200	91.9	163
Mar-24	1,100	16,000	79.8	54
May-24	1,000	15,000	74.9	10
Jul-24	820	11,000	25.9	(431)

Table 15: Brownsville PFS at historical SC6 and LC prices

Figure 25: Brownsville PFS EBITDA at historical SC6 and LC Prices

Figure 26: Brownsville PFS Net Present Value at historical SC6 and LC Prices

Crucially, even in periods of subdued lithium pricing, the Brownsville project study remains EBITDA-positive, validating the project's resilience across market cycles. However, when the lithium prices increased between January and November 2022, the estimated EBITDA surged to approximately US$582 million per annum vs the PFS EBITDA of US$161 million per annum, more than three times the PFS base case. This demonstrates a strong correlation between rising lithium prices and increased refinery profitability. This reinforces that purchasing spodumene at benchmark market prices and selling battery-grade lithium carbonate at prevailing market rates can be a highly profitable business model. This is the business model of most of the lithium refineries in China.

Chemical Converters are Integral, Profitable, and Scalable

As with other successful chemical businesses globally, lithium converters purchase raw material, transform it into a high-value end product, and distribute it internationally. The Brownsville and Bécancour Lithium Refineries studies are no different in this regard. They are well-positioned to generate robust margins through commodity cycles and offer investors the same potential upside as lithium mining companies when prices recover. Lithium Universe remains committed to advancing the Bécancour and Brownsville Refinery Projects as part of its strategy to capture value across the lithium supply chain.

Working Capital

Working capital of US$3.7 million has been estimated and included to fund the refinery's day-to-day operating requirements during commissioning and ramp-up. This allowance covers estimates for inventory, reagents, consumables, payroll, utilities, accounts receivable and payable, and other short-term operating expenses before the project reaches steady-state production and generates sufficient cash flow from product sales.

Royalties, Taxes, Depreciation and Depletion

The financial model has been prepared on both a pre-tax and post-tax basis, incorporating the applicable United States federal corporate income tax rate of 21%. Texas does not impose a state corporate income tax; however, a Texas franchise tax of approximately 0.75% of taxable margin has been included separately in the operating model. Potential government incentives, refundable tax credits, grants, and concessional financing programs have not been incorporated into the economic analysis. The operating subsidiary would enter into a royalty arrangement with the parent company for the use of proprietary process technology and intellectual property throughout the life of the project. Capital expenditures are assumed to be depreciated over the operating life of the refinery in accordance with applicable U.S. tax regulations.

SENSITIVITY ANALYSIS

A detailed sensitivity analysis was undertaken to assess the impact of variations in key project parameters, including lithium carbonate pricing, spodumene feedstock pricing, operating expenditure (OPEX), and capital expenditure (CAPEX), on the overall economic performance of the project. The analysis indicates that the project is most sensitive to changes in lithium carbonate prices, with movements in product pricing having the greatest influence on project revenues, cash flow generation, and overall profitability. Spodumene pricing was identified as the second most significant variable, reflecting the importance of feedstock costs within the refinery operating model. Variations in spodumene concentrate pricing directly affect operating margins and project returns, particularly during periods of lithium market volatility. Changes in operating costs and capital expenditure also demonstrate a meaningful impact on project economics, although the sensitivity is lower than that associated with lithium carbonate and spodumene pricing.

Overall, the sensitivity analysis highlights the strong leverage of the project to improving lithium market fundamentals and demonstrates the importance of sustained favourable lithium carbonate pricing in maximising project returns and long-term economic performance.

Sensitivity - Pre-Tax NPV (+/- 15%)

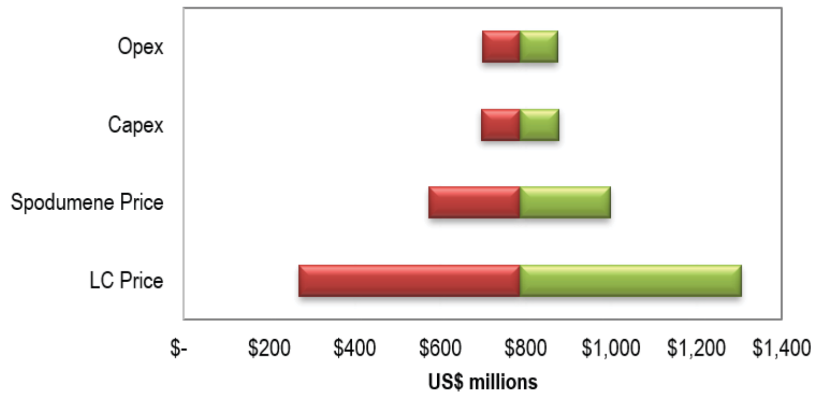


Figure 27: Pre-Tax NPV Sensitivity Analysis

Lithium Universe has adopted a conservative long-term pricing framework for the Brownsville Lithium Refinery Study, based on a spodumene concentrate (SC6) price of US$1,170/t delivered to Brownsville Port and a battery-grade lithium carbonate selling price of US$20,970/t. These assumptions are consistent with those used in the Bécancour DFS, enabling a direct comparison of project economics on an equivalent basis. While the Company does not expect lithium prices to revisit the exceptional peaks of 2022, when battery-grade lithium carbonate exceeded US$70,000/t, it believes that continued growth in electric vehicle (EV) and energy storage system (ESS) demand is likely to support prices above current long-term forecast levels. Recent market conditions have already demonstrated a significant recovery from the 2024–2025 cyclical lows. As a result, any sustained increase in lithium carbonate prices above the Company's long-term assumptions would have a material positive impact on project cash flow, EBITDA and overall project value. The sensitivity of annual EBITDA to higher lithium carbonate prices is illustrated in the figure below.

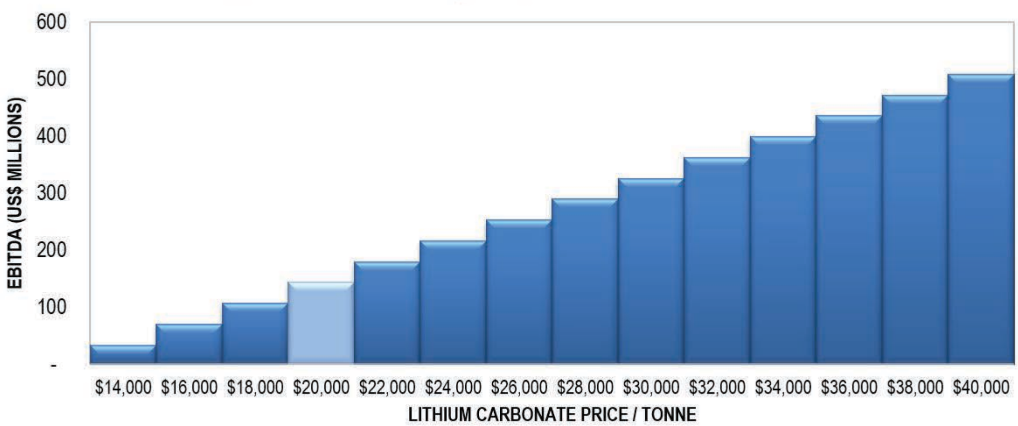


Figure 28: EBITDA to Lithium Carbonate Price Sensitivity Analysis

BROWNSVILLE PRE-FEASIBILITY STUDY VS BÉCANCOUR DFS

- Same pricing assumptions used for both studies (Li_2CO_3 US$20,970/t and SC6 equivalent pricing), allowing a direct "apples-to-apples" comparison of project economics.
- Brownsville NPV increased to US$787 million compared to US$718 million for the Bécancour DFS, an increase of approximately 10%.
- Annual EBITDA increased to US$161 million versus US$148 million for Bécancour, reflecting lower operating costs and spodumene feedstock advantages.
- Operating costs reduced by approximately US$365/t lithium carbonate, lowering production costs from US$12,896/t at Bécancour to US$12,148/t at Brownsville.
- Gross margin increased from 39% to 42%, demonstrating stronger operating leverage in Texas.
- Project IRR remained at 21.0%.
- Payback remained at 3.9 years.
- Brownsville benefits from lower labour costs, estimated at around 24% below Québec, together with lower natural gas, maintenance and logistics costs.
- Spodumene feed costs reduced through the proposed Nigeria offtake arrangement, including a 7.5% partner discount, contributing to improved refinery margins.
- Shipping costs are lower due to the shorter Nigeria-to-Texas freight route compared with shipping to eastern Canada.
- Cold-climate infrastructure requirements are largely eliminated, reducing long-term maintenance and operating complexity.
- Capital cost increased to US$607 million from US$549 million for Bécancour, primarily due to inflation, updated vendor pricing and a significantly larger contingency allowance.
- Contingency increased to approximately US$130 million compared with US$51 million in the Bécancour DFS, providing greater protection against current geopolitical and construction cost volatility.
- Higher sulphuric acid and electricity costs in Texas partially offset the operating advantages, but overall project economics remain stronger than the Bécancour case.
- Both projects maintain identical production capacity of approximately 18,270 tpa battery-grade lithium carbonate using the proven Jiangsu flowsheet and operating model.

Key Takeaway

Despite a higher capital cost and substantially larger contingency allowance, the Brownsville Pre-Feasibility Study delivers higher NPV, higher EBITDA, and higher margins than the Bécancour DFS, primarily due to lower operating costs and discounted spodumene feedstock supply from Nigeria.

PROJECT FINANCE

Given the early stage of project development, Lithium Universe intends to commence preliminary evaluation of potential debt financing pathways, including conventional project finance facilities, commercial bank lending, export credit agency support, and potential bond or structured financing alternatives. Initial discussions with selected financial institutions and industry participants in North America and Europe are expected to commence following completion of the Pre-Feasibility Study, which will provide an important foundation for assessing project economics, development strategy, and financing requirements.

In parallel, the Company notes that U.S. federal and state governments have demonstrated increasing financial support for critical minerals, battery materials, and domestic supply chain projects in recent years. These initiatives may include low-interest loans, grants, tax incentives, infrastructure support, and other project-based funding mechanisms aimed at strengthening domestic battery supply chains and reducing reliance on imported lithium chemicals.

Lithium Universe intends to assess these potential government-backed funding opportunities as part of its broader financing strategy, with the objective of reducing overall project capital costs and enhancing long-term financing flexibility. While no financing arrangements are currently in place, the Company believes the strategic positioning of the project within the emerging North American battery materials sector may support future access to both commercial and government-supported funding sources.

The Company's financing strategy will continue to evolve as engineering studies advance and project definition improves, with more detailed debt financing structures and funding options expected to be evaluated during later stages of project development, including Pre-Feasibility and Definitive Feasibility Study phases.

Equity Financing Strategy

Even at this early stage of development, Lithium Universe intends to actively pursue strategic equity financing by offering up to a 49% interest in the project to selected strategic investors. The target investor group is expected to comprise companies that either currently hold secured spodumene offtake positions or are existing spodumene producers seeking downstream lithium chemical conversion capacity within North America. By aligning with participants that already control spodumene supply, the Company aims to establish a more vertically integrated lithium supply chain while securing reliable long-term feedstock for the refinery.

Lithium Universe plans to engage with multiple potential strategic partners with the objective of securing not only financial investment, but also operational synergies, technical expertise, marketing support, and long-term supply arrangements. The Company believes this partnership approach has the potential to materially reduce project development risk while strengthening the commercial position of the refinery within the rapidly expanding North American battery materials sector.

This strategic equity financing model is consistent with Lithium Universe's broader vision of establishing a competitive lithium chemical production hub in North America, positioned to support the growing demand for domestically produced battery-grade lithium carbonate and other critical battery raw materials.

ENVIRONMENTAL, SUSTAINABILITY AND GOVERNANCE

Environmental

The environmental permitting assessment completed for the proposed lithium carbonate refinery at the Port of Brownsville indicates that the project is strategically positioned to proceed primarily through a Texas state-administered environmental approval framework led by the Texas Commission on Environmental Quality (TCEQ). The proposed refinery benefits from several important project characteristics that significantly reduce the level of federal environmental exposure typically associated with major industrial developments along the Gulf Coast region.

Key project advantages include the refinery's preferred location within an existing industrial development zone at the Port of Brownsville, the adoption of a Zero Liquid Discharge (ZLD) process philosophy, the absence of marine terminal construction requirements, and the likely avoidance of dredging activities. Collectively, these factors substantially reduce the risk of triggering major federal permitting processes such as a full National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS), extensive U.S. Army Corps of Engineers (USACE) review, or prolonged federal environmental litigation.

The study concludes that the project's environmental approvals are expected to focus predominantly on state-level permits associated with air emissions, industrial stormwater management, industrial waste handling, hazardous chemical storage, and local construction approvals. Of these approvals, the Air New Source Review (NSR) Permit administered by the TCEQ is expected to represent the critical-path permitting activity and will likely govern the overall project development schedule.

The Air NSR permitting process requires a comprehensive technical submission including process flow diagrams, heat and material balances, equipment lists, emission inventories, combustion calculations, stack parameters, air dispersion modelling, and Best Available Control Technology (BACT) assessments. Major emission sources associated with a conventional lithium carbonate refinery may include calcination kilns, sulfuric acid roasting systems, dryers, dust collection systems, crystallisers, storage tanks, and natural gas-fired process equipment. Based on benchmarking against other Gulf Coast chemical facilities, including the Tesla lithium refinery project near Corpus Christi, the Air NSR permitting and review process is anticipated to require approximately 12–18 months from commencement of detailed engineering definition through to final approval.

A major strategic advantage for the project is the proposed adoption of a Zero Liquid Discharge (ZLD) process configuration. Under this approach, process wastewater is internally recycled and no direct wastewater discharge to surface waters is planned. This is expected to significantly simplify the environmental permitting pathway by potentially avoiding Texas Pollutant Discharge Elimination System (TPDES) wastewater permits, reducing public scrutiny, minimising receiving-water impact studies, and limiting anti-degradation assessments. Remaining water-related approvals will primarily involve stormwater management permits, construction dewatering controls, runoff management systems, and spill containment infrastructure. These approvals are expected to require approximately 3–6 months.

The principal remaining federal environmental risk relates to potential impacts on wetlands or Waters of the United States (WOTUS) during site grading, land filling, drainage modifications, and utility corridor construction. If major wetland impacts are avoided through careful site layout optimisation, the project may avoid lengthy USACE Individual Permit processes that can extend environmental approvals by several years. Accordingly, the study recommends that the Front-End Engineering and Design (FEED) phase include early wetland delineation studies, floodplain assessments, drainage optimisation, yet to be commenced, and early agency consultation where required.

Overall, the environmental assessment concludes that, assuming the refinery maintains a disciplined engineering definition and minimises federal permitting triggers, the environmental approval process is anticipated to remain manageable, commercially executable, and capable of being completed within an estimated 15–24 month timeframe based on the above assumptions.

Tesla Texas LiOH Refinery Example

The environmental permitting process undertaken by Tesla for its lithium hydroxide refinery near Robstown, Texas, provides a useful benchmark for large-scale lithium chemical developments on the Gulf Coast. Tesla's permitting strategy was primarily managed through the Texas Commission on Environmental Quality (TCEQ) and focused heavily on state-level air emissions and industrial operating approvals rather than extensive federal environmental review.

Tesla's application demonstrates the significant level of technical detail required even for state-administered permits, including comprehensive emissions inventories, process flow diagrams, material handling studies, calciner emissions modelling, boiler emissions calculations, stormwater controls, and hazardous materials management. The refinery incorporated multiple regulated process units, including calciners, dryers, sulfuric acid storage, cooling towers, bulk mineral handling systems, and natural gas-fired boilers.

Importantly, Tesla structured the project to remain below major federal air permitting thresholds and avoid classification as a major emissions source under Title V requirements. This strategy significantly reduced permitting complexity and supported a predominantly Texas state-led approval pathway. Publicly available information suggests Tesla undertook approximately 12–18 months of environmental and permitting activities before substantial construction activity became visible on site.

The Tesla experience also highlights that, even where environmental approvals are technically achievable, permitting schedules for lithium refineries are strongly governed by the Air New Source Review (NSR) process, drainage coordination, infrastructure routing, and detailed engineering definition. The project demonstrates that successful lithium refinery permitting in Texas is achievable within a state-administered framework, provided that projects minimise federal environmental triggers, maintain disciplined engineering design during FEED, and proactively manage air emissions, stormwater, and industrial infrastructure interfaces.

Conclusion

The Brownsville Lithium Refinery study benefits from several permitting advantages including its location within an established industrial zone, existing infrastructure, absence of marine construction requirements, and adoption of a Zero Liquid Discharge process. These characteristics are expected to support a predominantly Texas state-administered permitting pathway centred on the TCEQ Air New Source Review process. While federal permitting risks appear manageable, ongoing focus will be required during FEED to address wetlands, floodplain management, storm resilience, water supply, and community engagement. Subject to detailed engineering and environmental studies, the project is considered capable of achieving environmental approvals within an estimated 15–24 month timeframe, consistent with comparable Gulf Coast industrial developments.

ECONOMY

The project is expected to generate approximately 170–200 permanent full-time operational positions and up to 600 full-time equivalent jobs during the construction phase. The development is also expected to deliver broader economic and social benefits to the Brownsville region through workforce training initiatives designed to enhance local skills, technical capability, and long-term employability within the advanced manufacturing and chemical processing sectors. Increased local procurement, infrastructure investment, and higher tax revenues are anticipated to contribute positively to regional economic growth, public services, and community development. In addition, potential collaboration with local educational institutions, technical colleges, and community organisations may support specialised training programs, research partnerships, and broader educational opportunities within the region.

GOVERNMENT AND COMMUNITY RELATIONS

State of Texas

The Company has engaged with some Texas economic development agencies and industry stakeholders regarding the proposed Brownsville Lithium Refinery Project and its role in strengthening domestic critical minerals processing capacity. Discussions have focused on investment opportunities, job creation, and supporting a secure North American battery materials supply chain.

City of Brownsville

The Brownsville Lithium Refinery would provide economic benefits, including the creation of skilled employment opportunities, increased industrial activity, and long-term regional growth. The Company remains committed to supporting local community, workforce development, educational, and environmental initiatives as the project progresses.

Port of Brownsville

The Company continues to work closely with the Port of Brownsville regarding the proposed refinery site within the Business Park on Chemical Road. The Port offers significant advantages through its deep-water facilities, established infrastructure, and strategic access to U.S. and Mexican markets. LU7 has formally requested a two-year option over approximately 35 acres of land to complete feasibility studies, environmental assessments, and project development activities.

United States Federal Government

The Brownsville Lithium Refinery is well aligned with U.S. policy objectives aimed at expanding domestic critical minerals processing, strengthening battery supply chains, and reducing reliance on imported battery materials. The project may be eligible for support through a range of federal programs, including initiatives administered by the U.S. Department of Energy, Department of Defense, and other agencies supporting critical minerals, advanced manufacturing, and energy security.

PROJECT RISK MANAGEMENT

Regulatory and Compliance Risks

1. Licensing and Permits: Risks related to obtaining and maintaining permits and licenses for the Brownsville Lithium Refinery from local, provincial, and federal authorities. Failure to secure these could delay or halt operations. Lithium Universe will engage with regulatory bodies early in the process and maintain proactive communication to ensure timely approval of permits and licenses.
2. Environmental Regulations: Risks of non-compliance with US environmental laws, including emissions regulations and waste management requirements. The project needs to adhere to stringent environmental regulations in Texas. The company will implement comprehensive environmental management systems and conduct regular audits to ensure compliance with all regulations.
3. Safety Standards: Risks of non-compliance with occupational health and safety standards, which could lead to fines, legal liabilities, or project delays. Ensuring safety protocols are in place for the construction and operational phases is critical. Lithium Universe would establish rigorous safety protocols and provide ongoing training to ensure adherence to health and safety standards.

Market Risks

1. Commodity Price Fluctuations: Lithium prices are highly volatile. Significant drops in the price of lithium carbonate or spodumene concentrate could impact the project's profitability, despite conservative pricing forecasts. The company will seek to employ hedging strategies to manage price volatility and protect profit margins.
2. Demand and Supply Dynamics: Risks associated with fluctuations in EV and ESS demand or oversupply of lithium products. The project is heavily reliant on demand from EV and ESS manufacturers and automotive OEMs. Lithium Universe will seek to diversify its customer base and secure long-term contracts to mitigate demand fluctuations.
3. Competitive Landscape: Risks from established and emerging competitors in the lithium market. New entrants or improvements in competitor technologies could impact Lithium Universe's market share and pricing power. The company will focus on innovation and cost efficiency to maintain a competitive edge in the market.

Operational Risks

1. Construction and Development Delays: Risks of delays in constructing the Brownsville Refinery due to issues like supply chain disruptions, labour shortages, or unforeseen site conditions. This could affect the project's timeline and cost. Lithium Universe will seek to develop contingency plans and work with reliable contractors to minimise construction delays.
2. Technology and Equipment: Risks related to the performance and reliability of technology and equipment used in the refinery, including potential issues with the technology adapted from the reference project. The company will conduct thorough testing and quality assurance for all technology and equipment.
3. Operational Efficiency: Risks of inefficiencies in the refining processes that could lead to higher operating costs or lower output. The accuracy of mass balance and process flow diagrams is critical to operational efficiency. Lithium Universe will implement continuous process optimisation and closely monitor operational performance.

Financial Risks

1. Cost Overruns: Risks of exceeding the capital expenditure budget due to unexpected costs in materials, labour, or construction. The estimate includes approximately a 20% contingency, but unforeseen factors could still cause overruns. The company will aim to maintain strict budget controls and regularly review project expenditures.
2. Funding and Financing: Risks related to securing the necessary funding and financing for the project. This includes potential challenges in obtaining investment or managing debt. Lithium Universe will seek to secure multiple funding sources and establish a robust financial plan to support the project.
3. Exchange Rate Fluctuations: Risks from changes in exchange rates if the company has international operations or funding. This could impact the cost of imported materials and financial returns. The company will seek to use financial instruments to hedge against exchange rate risks.

Environmental and Social Risks

1. Environmental Impact: Risks related to potential environmental damage from the refinery operations in Brownsville, such as impacts on local ecosystems and adherence to environmental regulations. Lithium Universe will implement effective environmental management practices and engage with local stakeholders.
2. Community Relations: Risks of opposition from local communities or stakeholders in Texas. Negative perceptions or community resistance could affect project approval and operations. The company will actively engage with the community and address concerns to build positive relationships.

Technical and Innovation Risks

1. Technological Advancements: Risks that advancements in lithium processing technology could make the refinery's technology less competitive or obsolete. Staying updated with technological innovations is crucial. Lithium Universe will invest in research and development to stay ahead of technological advancements.
2. R&D and Innovation: Risks related to failures in research and development efforts, which could impact future product offerings or efficiency improvements. Effective R&D is necessary for maintaining competitive advantage. The company will focus on robust R&D programs and partnerships to drive innovation.

Legal and Contractual Risks

1. Contractual Obligations: Risks associated with failing to meet contractual obligations or disputes with OEMs, suppliers, or partners. This includes risks from "take or pay" agreements and other contractual terms. Lithium Universe will ensure clear and comprehensive contracts and work closely with legal advisors to manage obligations.
2. Litigation Risks: Risks of legal challenges or lawsuits related to the project, including potential intellectual property disputes or regulatory compliance issues. The company will maintain a strong legal team to address and manage potential litigation risks.

Feedstock Sourcing Risks

1. Supply Risks: As the Brownsville Lithium Refinery has been designed to operate as a standalone business, there is a potential risk that the company may face challenges in securing spodumene supply agreements from the market to sustain operations. To mitigate feedstock supply risk, long-term spodumene offtake agreements will be secured to underpin the financing, construction, and operation of the refinery. The Company has already secured approximately 60% of the refinery's spodumene requirements through a long-term supply arrangement (subject to supplier successful start-up and achieving planned operational parameters) and intends to secure the remaining balance from additional producers. This strategy is designed to provide a stable and reliable feedstock supply, supporting continuous refinery operations and reducing exposure to market and supply chain disruptions.
2. Logistical Issues: Risks include transportation delays or disruptions affecting spodumene imports to USA, along with tariffs or changing trade policies that could increase costs and make feedstock sourcing less viable. The company will develop robust logistics and supply chain management strategies to address potential disruptions.
3. Competitive Pricing: The Brownsville refinery faces competition from Chinese converters with lower conversion costs due to their economies of scale and established infrastructure. This could affect the refinery's ability to secure cost-effective feedstock. Lithium Universe will focus on optimising its cost structure and negotiating competitive supply contracts to counteract pricing pressures.

Geopolitical Risks

1. Political Stability: Risks from political instability in USA or international regions affecting operations. Political changes could impact regulatory frameworks or trade policies. Lithium Universe will monitor political developments and adapt its strategies to mitigate geopolitical risks.
2. Trade Policies: Risks related to changes in trade policies or tariffs could affect the cost and competitiveness of the project. The company will explore alternative construction supply sources and adjust procurement strategies to manage trade policy risks.

Health and Safety Risks

1. Accidents and Incidents: Risks of accidents or incidents at the Brownsville Refinery that could lead to health and safety concerns, legal liabilities, or operational interruptions. Lithium Universe will implement comprehensive safety management systems and emergency response plans.
2. Pandemics and Health Crises: Risks from global health crises, such as pandemics, that could disrupt supply chains, workforce availability, or operational continuity. The company will develop contingency plans for health crises and ensure workforce flexibility.

NEXT STEPS

Following completion of the Brownsville Pre-Feasibility Study, Lithium Universe will move to advancing the project toward Definitive Feasibility Study (DFS) level. Key activities will likely include adjusting the detailed engineering, environmental baseline studies, permitting and regulatory approvals, site investigations, and further optimisation of capital and operating costs. The Company will continue discussions with the Port of Brownsville to satisfy remaining land option contingencies and secure long-term site tenure. Engagement with U.S. federal, state, and local government agencies will continue to assess potential grants, incentives, and financing programs. In parallel, LU7 will advance discussions with strategic investors, lenders, and industry partners to support project funding and development.

Competent Person Statement

The technical test results in this report that relates to Metallurgical Testing is based on information compiled by Dr Jingyuan Liu, who is the Chief Technical Officer of LU7, and has supervised the testing program conducted by Linyi University Lithium Research Centre.

Dr Liu has sufficient experience in the processing and testing of lithium processes under consideration and in the activity which has been undertaken to qualify as a Competent Person (CP) as defined in the JORC, 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" and has read the definition of "qualified person" (QP). Dr Liu certifies that by reason of education, affiliation with a professional association, and past relevant work experience, fulfills the requirements to be a "qualified person". Dr Liu consents to the inclusion in this release of the matters based on the information in the form and context in which they appear.

Dr Liu has a PhD in chemical engineering and is widely regarded as a leading technical expert in the lithium industry. Dr Liu has acted as an expert technical consultant on over 20 different lithium converters worldwide from due diligence to commissioning. He previously held the position of General Manager of Development and Technologies at Galaxy Resources Limited, where he was responsible for overseeing the construction and commissioning of the Mt Cattlin Spodumene Project and the world-renowned Jiangsu Lithium Carbonate plant. Jingyuan also played a key role in designing the flow sheet for the Sal de Vida brine project in Argentina. Following his work with Galaxy Resources, he has acted as a special adviser to various lithium carbonate and lithium hydroxide projects globally, including the Lithium Hydroxide Plant operated by Tianqi in Kwinana, Western Australia.

JORC CODE, 2012 – TABLE 1

Section 1: Sampling Techniques and Data – Metallurgical Testwork

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques		*Spodumene samples used in the laboratory testing were purchased from the market place to represent various industry spodumene supply.* *The Becancour Lithium Refinery Definitive Feasibility Study (DFS) 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.*
Drilling techniques		*Not applicable, as there was no resource drilling associated with the DFS. The spodumene samples for test were purchased from a supplier or agent*
Drill sample recovery		*Not applicable as there was no resource drilling associated with the DFS. The spodumene samples for test were purchased from a supplier or agent*
Logging		*Not applicable, as there was no resource logging associated with the DFS. The spodumene samples for test were purchased from a supplier or agent.*
Sub-sampling techniques and sample preparation		*The purchased spodumene sample was prepared by the following procedure:* *1. 10Kg sample was received and mixed uniformly in a barrel mixer to provide a representative sample* *2. The sample was split into 4 quarters using a splitter* *3. One sub sample was milled to less than 300 micron* *4. The lithium values were measured using Quantitative X-ray Diffraction (QXRD), a technique used in the lithium industry.* *5. Impurity values were measured using ICP* *6. Particle sizing was conducted on the sub sample* *7. The other sub sample was calcined at 1080 deg C to convert to alpha spodumene* *8. The beta spodumene was digested with sulphuric acid* *9. The slurried was filtered and analysis of the liquor and solids were conducted using Atomic Absorption (AA)* *10. Lithium carbonate was precipitated and the final analysis was conducted using AA for lithium and ICP for impurities*

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	*Laboratory tests used*	*All tests were conducted by Linyi University Lithium Research Centre and supervised by Dr Jingyuan Liu.* *The mineral species of the spodumene samples and subsequent process steps were conducted with Quantitative X-ray Diffraction (QXRD), a technique used in the lithium industry.* *Xray Defractometer technique was used in particle size analysis of the various process components. Atomic Absorption (AA) was used in the liquid process analysis, again common in the lithium industry.* *Inductively Coupled Emission Spectrometry (ICP-AES) and Dual System Ion Chromatography were used during various test procedures as well.*
Verification of sampling and assaying		*Several lithium laboratory cross-checks using ICP and QXRD were conducted to verify the lithium assaying technique. The sample preparation was designed by Dr Liu to ensure a representative sample was used for down stream testing.*
Location of data points		*Not Applicable as there were no resource data points associated with the Pre-Feasibility Study. The spodumene samples for test were purchased from a supplier or agent*
Data spacing and distribution		*Not Applicable as there was no resource drilling, there was no data spacing and distribution associated with the Pre-Feasibility Study. The spodumene samples for test were purchased from a supplier or agent*
Orientation of data in relation to geological structure		*Not Applicable as there was no resource or geological structure associated with the Pre-Feasibility Study. The spodumene samples for test were purchased from a supplier or agent*
Sample security	*The measures taken to ensure sample security.*	*Purchase samples of spodumene were transported to Linyi University through reputable shipping companies. The company takes full responsibility on the custody of those purchased samples.*
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	*The laboratory sampling and laboratory test procedures were supervised and audited by Dr Liu and all procedures are consistent with lithium industry standards. Linyi University is a leading lithium research centre.*

Section 2: Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status		*Not Applicable (Pre-Feasibility Study) does not rely upon a mineral tenement or land tenure status. 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*
Exploration done by other parties		*Not applicable, as there was no resource drilling associated with the Not Applicable (Pre-Feasibility Study) does not rely upon a resource hence exploration by other parties. 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 processorsor agent*
Geology		*Not Applicable (Pre-Feasibility Study) does not rely upon geology of a resource. 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*
Drill hole Information		*Not Applicable – There were no drill holes associated with the Pre-Feasibility Study. 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*
Data aggregation methods		*Not Applicable - There were no data aggregation methods associated with the Pre-Feasibility Study. 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*
Relationship between mineralisation widths and intercept lengths		*Not Applicable - There were no mineralization associated with the Pre-Feasibility Study. 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*
Diagrams		*Not Applicable No diagrams are associated with the Pre-Feasibility Study. 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*

Criteria	JORC Code explanation	Commentary
Balanced reporting		*Not Applicable - 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*
Other substantive exploration data		*Not Applicable - 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*
Further work		*Not Applicable (Pre-Feasibility Study) does not rely upon geology of a resource. The spodumene concentrate feedstock for the proposed refinery has been assumed to have been No further work is planned for the completed testwork. The results are sufficient to form the view that the proposed process is sufficient to produce saleable lithium carbonate. directly from spodumene miners currently producing spodumene concentrates or marketing agents or traders currently purchasing spodumene concentrate and selling to the downstream processors*

Authorised by the Chairman of Lithium Universe Limited

LITHIUM UNIVERSE INTERACTIVE INVESTOR HUB

Engage with Lithium Universe directly by asking questions, watching video summaries and seeing what other shareholders have to say about this, as well as past announcements, at our Investor Hub
https://investorhub.lithiumuniverse.com

For more information, please contact:

IGGY TAN
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ABOUT LITHIUM UNIVERSE LIMITED

Lithium Universe Limited (ASX: LU7) ("Lithium Universe" or "the Company") is a forward-thinking company on a mission to close the "Lithium Conversion Gap" in North America and revolutionise the photovoltaic (PV) solar panel recycling sector.

SILVER EXTRACTION - PV SOLAR PANEL RECYCLING STRATEGY

As the global demand for solar energy expands, solar panel waste is projected to reach 60–78 million tonnes by 2050, making efficient recycling solutions critical. Silver is essential for solar panels, electronics, and electric vehicles due to its unmatched electrical conductivity. Industrial demand has surged, especially from photovoltaics and AI technologies, creating a global supply deficit. With production lagging, silver prices have soared, reinforcing the economic importance of efficient recycling.

Lithium Universe has responded by acquiring Macquarie University's Microwave Joule Heating Technology (MJHT) and Jet Electrochemical Silver Extraction (JESE) method, a breakthrough in recovering valuable metals from end-of-life PV panels. The first stage, developed by Macquarie University, is Microwave Joule Heating Technology (MJHT), a process that uses microwave energy to selectively heat silicon cells softening the ethylene vinyl acetate (EVA) encapsulant that binds a solar panel's layers. This enables room-temperature delamination of glass, silicon, and metal layers without crushing, furnaces, or toxic chemicals. The result is a clean separation of materials, drastically reducing energy use, emissions, and chemical waste while preserving the integrity of high-value silicon and silver components. Following delamination, Lithium Universe applies its Jet Electrochemical Silver Extraction (JESE) process, a micro-jet electrochemical system that directs a fine stream of dilute nitric electrolyte onto the silver pads of solar cells. This method achieves over 95% silver recovery at 96% purity, while using 83% less acid and no chemical additives. The process operates at just 5 volts, recycles its electrolyte, and produces zero heavy-metal waste, establishing a true closed-loop recycling system. Together, MJHT and JESE form a sustainable, scalable recycling platform that converts discarded solar panels into a renewable source of silver, silicon, and other critical materials, a vital step toward circularity in the global clean-energy supply chain.

LITHIUM DIVISION

Lithium Strategy: Closing the Lithium Conversion Gap

Lithium Universe is at the forefront of efforts to meet the growing demand for lithium in North America. As electric vehicle (EV) battery manufacturers prepare to deploy an estimated 1,000 GW of battery capacity by 2028, the need for lithium is expected to rise dramatically. However, with only a fraction of the required lithium conversion capacity in North America, LU7 is determined to play a pivotal role in reducing dependence on foreign supply chains. The company is planning to build a green, battery-grade lithium carbonate refinery in Bécancour, Québec, leveraging the proven technology developed at the Jiangsu Lithium Carbonate Plant. This refinery will produce up to 18,270 tonnes per year of lithium carbonate, focusing initially on the production of lithium carbonate for lithium iron phosphate (LFP) batteries. The refinery's smaller, off-the-shelf plant model ensures efficient operations and timely implementation, positioning LU7 as a key player in the emerging North American lithium market. With a strong leadership team, including industry pioneers like Chairman Iggy Tan, LU7 is well-positioned to deliver this transformative project. The company's strategy is counter-cyclical, designed to build through the market downturn and benefit from the inevitable recovery, ensuring sustained exposure to the growing lithium demand.

Second Refinery Strategy

Lithium Universe Limited has launched a second lithium refinery strategy in the Port of Brownsville, Texas, complementing its planned flagship Bécancour project in Québec. The initiative creates a binational refining platform to address North America's lithium conversion shortage and strengthen supply chain resilience. Strategically located near the Port of Brownsville, the site offers deep-water access, low labour costs, and streamlined permitting within one of the U.S.'s most business-friendly regions. Leveraging a "copy and paste" design from the proven Bécancour refinery, the Texas project can be rapidly deployed to serve nearby gigafactories, aligning with U.S. policy incentives under the Inflation Reduction Act.

[1] Avalon Advanced Materials, titled "Avalon Completes PEA: Post-Tax C$4.1 Billion NPV (8%) and 48% IRR at its Thunder Bay Lithium Processing Facility, ON", dated 03 September 2024.
[2] MSN, titled "Here's the latest lithium price forecast through to 2027", dated 04 March 2024.
[3] Sibanye Stillwater Limited, titled "Keliber Lithium Project, Finland - Technical Report Summary", dated 13 December 2023.
[4] Alkemy Capital Investments PLC, titled "Completion of Feasibility Study for Australia's first independent Lithium Sulphate processing facility in Port Hedland", dated 23 August 2023.
[5] Sayona Mining Limited, titled "Standalone lithium carbonate plant NPV of A$3.2B at NAL produces a combined NAL NPV of A$5.4B", dated 21 June 2023.
[6] Rock Tech Lithium Inc., titled "Rock Tech Lithium completes Bankable Project Study for its Guben Converter Project", dated 04 November 2022
[7] Piedmont Lithium Limited, titled "Piedmont completes preliminary economic assessment for second U.S. lithium hydroxide plant", dated 09 March 2022.
[8] Liontown Resources Limited, titled "Updated Downstream Scoping Study Highlights Next Growth Horizon for Kathleen Valley Project", dated 11 November 2021.
[9] Piedmont Lithium Limited, titled "Chemical plant PFS demonstrates exceptional economics and optionality of USA location", dated 26 May 2020.

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