

Due Diligence and Valuation Report

Arrowhead code:	27-03-08
Coverage initiated:	June 3, 2021
This document:	July 20, 2023
Fair Value Bracket (per share):	AUD 0.71 to AUD 0.87
Share Price (July 20, 2023):	AUD 0.32

Analyst

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Market Data

52-Week Range:	AUD 0.25-0.75
Average Daily Volume:	1,273,094
Market Cap as on date:	AUD 198.21 million

Financial Forecast (in AUD) (FY Ending – June)

AUD	'24P	'25P	'26P	'27P	'28P
NI (mn)	(13.8)	(3.6)	51.7	165.3	183.4
EPS (cents)	0.02	(0.01)	0.08	0.26	0.29

Company Overview

Lithium Power International Limited (“LPI” or “the Company”) is a pre-revenue, pure play, lithium exploration, and development company that owns a lithium brine asset in Chile called Maricunga Lithium Brine Project (“MSB Project”). The Company owns this project through a subsidiary, Minera Salar Blanco S.A. (“MSB”). LPI completed the Definitive Feasibility Study (“DFS”) for MSB Project in January 2019 and published an updated DFS on Stage One of MSB in January 2022. Stage One of MSB is expected to enter the construction stage in late 2023 with production likely to begin in early 2026.

Key Highlights

1. Previously, LPI owned 51.6% of the MSB JV while Borda Group owned 31.3%, and Bearing Lithium owned 17.1%. The Company consolidated 100% interest in the project through two all-scrip mergers with its JV partners in December 2022.
2. LPI is currently focused on negotiating financing options for construction at the MSB project. LPI has received several expressions of interest in relation to debt and equity funding from strategic investors, export credit agencies, and governmental bodies.
3. LPI completed the sale of its Australian subsidiary, Western Lithium Ltd (“WLI”) for AUD 30 million to Albemarle Lithium Pty Ltd on July 3, 2023. The Company owned three assets in Western Australia through WLI, namely Greenbushes, East Pilbara, and Eastern Goldfield.



Company:	Lithium Power International Ltd
Ticker:	ASX: LPI
Headquarters:	Sydney, Australia
CEO & MD:	Cristobal Garcia-Huidobro
CFO:	Andrew Phillips
Website:	www.lithiumpowerinternational.com

Key Strengths

1. MSB is among the most advanced development-stage projects in Chile’s Atacama region. The development of the MSB Project has been managed commendably, making it among very few assets whose DFS has been concluded. LPI released DFS for Stage One of MSB in January 2022. According to the DFS, the annual production of Lithium Carbonate Equivalent (“LCE”) is estimated to be 15,200 tonnes per annum, with an expected mine life of 20 years. The Company’s Stage One of MSB has an NPV of USD 1.4 billion after tax.
2. MSB has obtained all key approvals and licenses for construction at Stage One of MSB Project including Environmental Permit from Servicio de Evaluación Ambiental, Chilean Nuclear Energy Commission permit, and basic infrastructure permissions and approvals for water, roads, electricity, port, logistics, etc. Stage One of MSB is the only new mining asset to be granted Chile’s prized environmental approval in the last five years.

Key Risks

We believe that LPI has a mid-high risk profile because it is a pre-revenue company and is not expected to generate revenue until early 2026. Construction at its MSB project is expected to commence in late 2023 for which the Company requires significant capex and is currently looking to raise capital to finance its development.

Valuation and Assumptions

Based on its due diligence and valuation estimates, Arrowhead believes that LPI’s fair share value lies in the AUD 0.71 to AUD 0.87 bracket, which has been calculated using a blended valuation method with 50% weighting to the DCF method and 50% weighting to Comparable Companies Valuation method. Our model suggests a fair value of AUD 0.79. Our DCF model suggests a fair value of AUD 0.88 per share, while a relative valuation provides a fair value of AUD 0.71.

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Investment Thesis

Arrowhead is updating equity research coverage of Lithium Power International Ltd. ("LPI") with the following investment highlights:

Strong demand for lithium-ion batteries to benefit early movers like LPI the most

Lithium is primarily used for manufacturing lithium-ion batteries used in Electric Vehicles ("EVs"), mobile phones, tablets, grid-level mass storage systems etc. The demand for these batteries has grown significantly in recent years due to the growing demand for these products and is likely to continue growing sharply. The demand growth for battery-grade lithium is expected to exceed its supply growth in the coming years, resulting in a significant lithium shortage by 2025 and could potentially skyrocket lithium prices. Many new players are entering the lithium mining space to benefit from these rising prices. Existing players are also trying to aggressively expand by accelerating the development of existing assets, acquiring new assets, and merging or entering JVs with competitors. Companies like LPI that were early to identify the strong growth potential of the lithium market and acquire promising lithium assets are likely to benefit the most from the upcoming lithium boom.

Promising high-grade lithium project in Chile

MSB Project is among the most advanced development-stage lithium assets in the Atacama region of Chile. LPI completed the consolidation of MSB in December 2022 and now has 100% ownership of the MSB Project. MSB has among the world's highest-grade lithium resources at 957 mg/l lithium and 8,500 mg/l potassium concentration. The updated Definitive Feasibility Study ("DFS") on Stage One of MSB released in January 2022, shows an approximately 2x increase in the Measured and Indicated resource of LCE as compared to the resource estimated in the DFS released in 2019.

MSB produced its first battery-grade lithium carbonate sample in 2018 with GEA Messo. In 2022, after the process optimizations incorporated in the updated DFS, MSB produced battery-grade lithium carbonate samples with 99.92% purity, which exceeds the industry standard specifications of 99.20%. LPI expects to produce high-purity and high-quality battery-grade lithium carbonate. This will allow the Company to make the most of the expected growth in demand for lithium-ion batteries used in EVs, as well as tablets, mobile phones, and other consumer electronics.

Smooth progress of the high-potential MSB asset a major positive

The development of the MSB Project has been managed commendably, making it among very few assets whose DFS has been concluded and all the important approvals and permits, (including EIA and water) have been secured. A DFS released on the project in 2019 supported LCE production potential of 20,000 tonnes per annum over a 20-year period. In 2021, to reduce the uncertainty of the project due to regulatory approvals and licenses, the Company decided to move forward with a staged strategy. This enables the Company to independently start the construction on Stage One as it is a fully permitted project. An updated Resource Report was released by the Company in September 2021, showing a 91% increase in the Measured and Indicated Resources.

In January 2022, the Company released the results of an updated DFS, which was conducted only on the Old Code Mining Concessions ("OCC") by engineering consultancy, Worley. As per the latest DFS, the production from OCC is estimated at an average of 15,200 tonnes per annum of battery-grade lithium carbonate for 20 years. This result is based on exploration work carried out to a depth of 400 meters only on Stage One concessions as compared to the previous DFS released in 2019, which was done on the

complete asset and was only up to 200 meters. The latest DFS on OCC also provides an estimate of USD 626 million for the CAPEX, which includes project development costs, indirect costs, and contingency costs. The estimate includes all the information contained in the proposals received as part of the international EPC bidding process carried out by the company in 2020, after accounting for the expected inflation on different materials and supplies. A potential Stage Two will be developed in the New Code Concessions ("NCC"). The Chilean Government announced its National Lithium Strategy ("NLS") on April 20, 2023. NLS outlines the plans for the implementation of lithium exploration policies and seeks to accelerate the development of new lithium projects in Chile. LPI intends to work closely with the Chilean Government to make MSB's Stage Two the first successful public-private alliance under the new parameters established by the NLS and set an example for future projects.

The Company's current goal is to finalize the financing for the project during 2023. LPI is working with both international and Chilean financial institutions to raise capital for the development of the mine. Given the positive results from the latest DFS of Stage One project, the Company is continuing to work on the development of subsequent stages at Maricunga.

Partnerships with established miners to offset lack of operating experience

LPI does not have any experience in operating and managing in-production assets since none of its assets have entered production yet. The Company's leadership team has extensive experience of managing in-production assets at other organizations but have not worked with such assets together, as one team. The Company also has an MoU with Japanese major Mitsui, which could soon culminate into a JV with MSB. This partnership is likely to go a long way in offsetting LPI's lack of operating experience, at least for MSB.

Converting Expression of Interest into a binding agreement and the ability to finance other ambitious growth plans will be critical going forward

LPI has periodically tapped capital markets to fund its growth plans. After its AUD 8.9 million IPO in 2016, the Company raised an additional AUD 28.3 million and AUD 8.0 million through private placements in 2017 and 2020, respectively. LPI raised capital in September 2022, bringing in AUD 25 million through a placement of its shares to sophisticated and institutional investors. The Company is currently in discussions with investors for raising the capital required for the next stage of MSB's development. LPI has received several expressions of interest in relation to debt and equity funding from strategic investors, export credit agencies, and governmental bodies. Currently, the Company along with Canaccord is evaluating non-binding terms sheets. The next steps in the Company's financial plan include progressing with due diligence processes and advancing commercial discussions with potential off-takers. However, another option for the LPI's management is to sell the entire MSB project to a strategic acquirer who may be better funded and experienced in operating in-production assets.

Increasing prices of Potassium Chloride ("KCl") could incentivize KCl production

Along with the production of Lithium on Stage One, LPI also has permits to produce KCl, which is a by-product during the production of Lithium. Until now, the Company did not plan to process and sell potash due to its depressed prices. The recent recovery of the prices will allow the Company to consider the production and sale of KCl at no additional costs, thus effectively reducing its lithium cash operating costs.

Company Presentation

Lithium Power International Limited (ASX: LPI) (“LPI” or “the Company”) was incorporated in 2015 and listed on the Australian Securities Exchange in 2016. LPI is a pre-revenue, pure play, lithium exploration, and development company. LPI has a lithium brine asset in Chile called Maricunga Lithium Brine Project (“MSB Project”). The Company owns this project through a subsidiary, Minera Salar Blanco S.A. (“MSB”). The Company also owned three assets in Western Australia through its subsidiary, Western Lithium Ltd (“WLI”). LPI entered into a binding agreement on June 19, 2023, to sell its wholly owned subsidiary, WLI to Albemarle Lithium Pty Ltd for AUD 30 million. LPI completed the sale of WLI on July 3, 2023. The Company received approximately AUD 29 million and the balance amount is contingent upon certain tenement applications being granted within 18 months of WLI’s sale. The sale of WLI will allow the Company to effectively allocate its resources to MSB Project.

LPI is now primarily focusing on developing its MSB project in Chile, with the objective of becoming one of Chile’s lowest-cost high-grade lithium producers. The Maricunga Salar, the location of the MSB properties, is within South America’s “Lithium Triangle” which comprises Chile, Argentina, and Bolivia, and hosts approximately half of the world’s lithium reserves.

Maricunga Lithium Brine Project

LPI completed the consolidation of MSB in December 2022 and now owns 100% of the MSB project. MSB is one of the most advanced development-stage projects in the Atacama region of Chile. MSB’s mining concessions have been divided into two groups – Old Code Concessions (“OCC”), also referred to as the Stage One concessions and New Code Concessions (“NCC”), where future expansions will be based. The primary difference between OCC and NCC is that the OCC was constituted under the 1932 Chilean mining law and does not require any special regulatory permits for lithium exploration. On the other hand, NCC was constituted after 1979 and requires additional regulatory approvals to exploit lithium including a CEOL between the state and the Company.

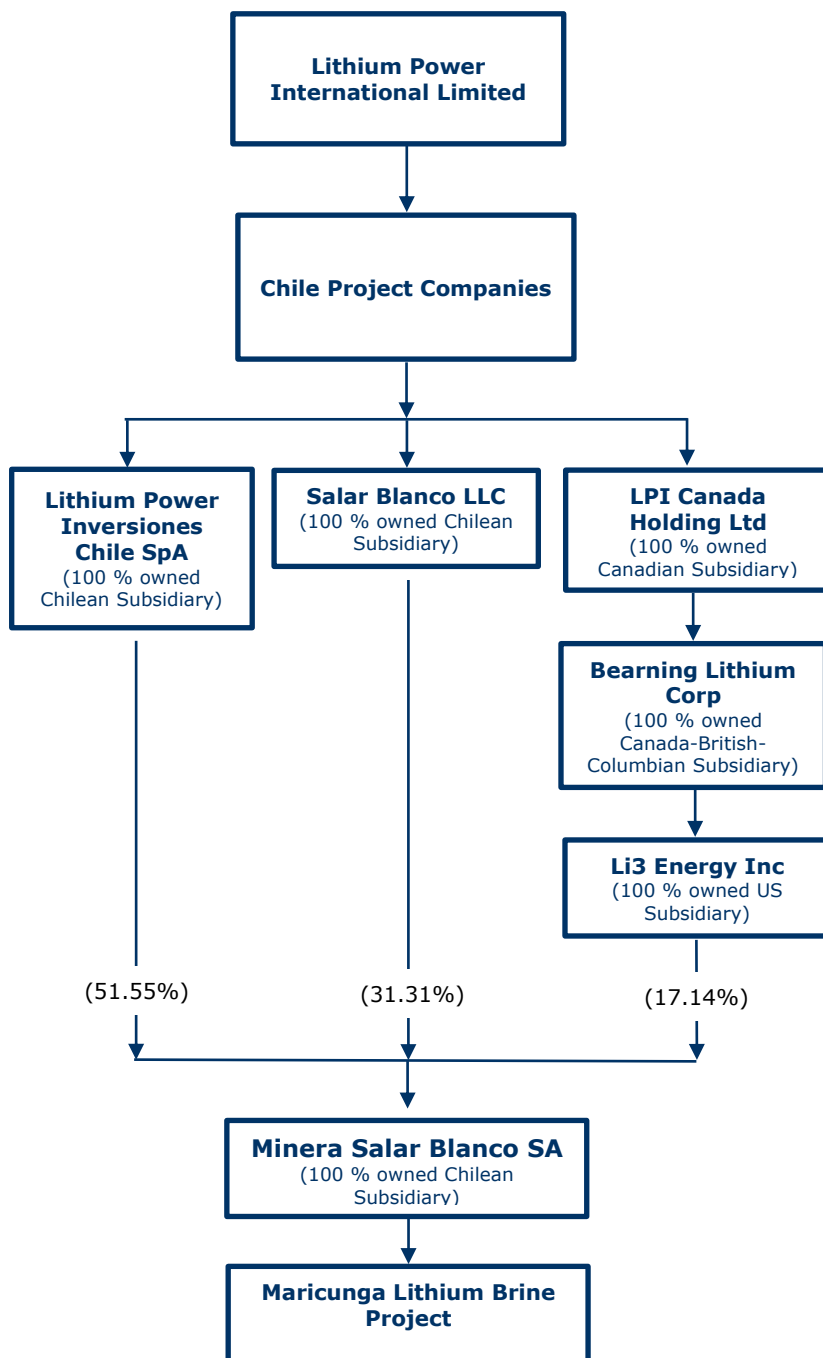
LPI completed the updated Definitive Feasibility Study (“DFS”) for Stage One of MSB in January 2022. Stage One of MSB received the Environmental Permit from Servicio de Evaluación Ambiental (“SEA”) in 2020. The Environmental Permit was ratified by the Committee of Ministers of the Chilean Government in 2022, which rejected all the objections submitted by the third parties. Stage One of MSB is the only new mining asset to be granted Chile’s prized environmental approval in the last five years. Stage One also received the CCHEN permit in 2018 which allows LPI to sell Lithium products from Chile. LPI has obtained all key approvals and licenses



for construction at Stage One of MSB and it is expected to enter the construction stage with production likely to begin in early 2026.

Stage Two of MSB project has NCC status requiring additional regulatory approvals to extract lithium. LPI intends to form an alliance of Stage Two of MSB with the Chilean Government in the future as outlined in the NLS. LPI intends to work closely with the Chilean Government and set the first example of a public-private alliance with its Stage Two project of MSB.

Organization Structure: LPI owns 100% of its assets located in Chile through a network of subsidiaries. The Company’s group structure is as follows:



Company Milestones

Year	Event
2015	<ul style="list-style-type: none"> Incorporated in Sydney, Australia, as Lithium Power International
2016	<ul style="list-style-type: none"> Raised AUD 8.9 million through an IPO and listed on the Australian Stock Exchange Acquired several properties in Western Australia's Centenario Salar region
2017	<ul style="list-style-type: none"> Formed a JV by acquiring a 50% stake in MSB in Chile Raised AUD 28.3 million equity capital Acquired assets in Western Australia's Tabba Tabba and Strelley regions. Identified Greenbushes region for exploration through targeted rock and soil sampling programs
2018	<ul style="list-style-type: none"> Acquired another 1% stake in the MSB JV Sold 30% stake in the properties acquired in Centenario
2019	<ul style="list-style-type: none"> Released its first Definitive Feasibility Study for MSB
2020	<ul style="list-style-type: none"> Received environmental permit for MSB Received approval for Program of Works (POW) for the Greenbushes project Sold Strelley tenements to Carnaby Resources Ltd. Raised AUD 8 million from sophisticated and institutional investors for developing the MSB project and conducting exploration activities at Greenbushes project Adopted a staged strategy to continue the development at Maricunga, accelerating the Stage One, based on part of its mining concessions.
2021	<ul style="list-style-type: none"> Commenced exploration program adjacent to Greenbushes lithium mine owned and operated by Albemarle and Tianqi Completed further resource drilling to the target depth of 400-meters at MSB and confirmed favorable specific yield and permeability characteristics Signed a non-binding MoU with Mitsui & Co., Ltd. For the development of the MSB project and future developments in Chile Sold remaining 70% interest in Centenario asset to Vertex Lithium Corporation Raised AUD 12.4 million from institutional investors Measured and Indicated resource from 200-meters to 400-meters depth at Maricunga Stage One Lithium project is estimated to be 1,905,000 tonnes of LCE

2022	<ul style="list-style-type: none">• Released an updated DFS for the Stage One Maricunga Lithium Brine Project• Planned to demerge its Western Australian Greenbushes and East Pilbara lithium assets• Purchased CMC Lithium for AUD 240,000• Agreed to purchase two tenements in Eastern Goldfields of WA• Raised AUD 25 million from institutional investors• Acquired the 62 lt /sec CAN 6 water rights for the MSB project• Produced 99.92% pure battery-grade lithium carbonate from the MSB project• Consolidated 100% interest in the MSB project
2023	<ul style="list-style-type: none">• Sold 100% stake in WLI for AUD 30 million

Corporate Strategy & Future Outlook

LPI's core strategic focus over the next few years will be completing the construction on Stage One of MSB and bringing it into production by 2026. LPI aims to become one of Chile's lowest-cost high-grade lithium producers and an eminent global producer of battery-grade lithium. The Company is currently focused on negotiating financing options for construction at the MSB project. LPI has received several expressions of interest in relation to debt and equity funding from strategic investors, export credit agencies, and government bodies. Currently, the Company along with Canaccord is evaluating non-binding term sheets for financing the construction at MSB. The next steps in the Company's financial plan include progressing with due diligence processes and advancing commercial discussions with potential off-takers. However, another option for the LPI's management is to sell the entire MSB project to a strategic acquirer who may be better funded and experienced in operating in-production assets.

Signing a non-binding MoU with Japan's Mitsui & Co., Ltd. in May 2021 was a landmark accomplishment towards operationalizing MSB soon and tapping the vast potential of Chile's Lithium industry. LPI and Mitsui have been in partnership discussions for over two years now.

According to the MoU, Mitsui will have offtake and financing rights for MSB's Stage One development as well as future development. The MoU also lays out a broad framework for collaboration between LPI and Mitsui for future lithium mining projects in Chile as well as for related businesses, such as manufacturing lithium-based products. The MoU also discusses a collaboration for facilitating the development and testing of the Direct Lithium Extraction ("DLE") technology at MSB for the production of lithium hydroxide.

LPI aims to leverage Mitsui's financial strength to build significant financial capacity for the future development of MSB as well as investments in other lithium assets in Chile. Mitsui will contribute equity capital as well as bring the Japan Bank of International Cooperation ("JBIC") and Japan Oil, Gas, and Metals Corporation ("JOGMEC") as a senior participant for debt capital. In parallel with finalizing the development of Stage One, LPI will continue working on the future expansion and growth of Maricunga, with the development of the rest of its mining concessions at the project.

News

[LPI completed the sale of WLI to Albemarle Lithium Pty Ltd](#)

July 03, 2023

LPI announced that it completed the sale of its wholly owned Australian subsidiary, Western Lithium to Albemarle Lithium Pty Ltd, which is an Australian subsidiary of Albemarle Corporation. LPI sold a 100% stake in WLI for AUD 30 million. The Company has received approximately AUD 29 million and will receive the remaining amount if certain tenement applications are granted within 18 months of sale completion.

[Chilean President Gabriel Boric announced the long-awaited National Lithium Policy](#)

April 24, 2023

Chilean President Gabriel Boric announced the National Lithium Strategy ("NLS") on April 20, 2023. NLS outlines the plans for the implementation of lithium exploration and exploitation policies. According to the NLS, National Lithium Company will be established, and the State will participate in the entire lithium production lifecycle. The State will retain a majority stake in projects deemed strategic for Chile. There will also be an emphasis on the adoption of new lithium extraction technologies that minimize environmental impact. LPI said that the Company was in constant dialogue with the Chilean government and private institutions that participated in the development of the NLS.

[LPI completed its inaugural drilling program at East Kirup lithium prospect in the Greenbushes](#)

January 25, 2023

LPI completed its RC drilling stage of the inaugural drilling program and drilled total of 10 holes for 573 m at its East Kirup lithium prospect in the Greenbushes region of Western Australia. The drilling intercepted quartz, pink potassic feldspar, biotite and tourmaline which indicate the presence of pegmatite in the region. Further, the Company commenced diamond drilling on the prospect and drilled 4 holes for 400 m.

[LPI gained 100% ownership of its flagship Maricunga Lithium Brine Project](#)

December 23, 2022

LPI completed the plan of arrangement with joint venture partner Bearing lithium Corp. which had a 17.14% interest in the Maricunga lithium brine project in Chile. As a result of the transaction LPI now has 100% ownership of the project and is well positioned to rapidly develop the project.

[LPI increased ownership of its flagship Maricunga Lithium Brine Project to 82.86%](#)

December 20, 2022

LPI completed the merger with the Minera Salar Blanco SpA which had a 31.31% interest in the Maricunga lithium brine project in Chile. As a result of the transaction LPI now has 82.86% ownership of the project. The transaction also satisfies the final condition required to attain the remaining 17.14% ownership from Bearing lithium Corp.

[LPI completed the acquisition of water rights for its Maricunga lithium project in Chile](#)

December 8, 2022

LPI acquired the 62 liters/second CAN 6 rights for its Maricunga lithium project in Chile. This will secure the water supply needs for its Stage One and future expansion at the Maricunga lithium project in Chile. The Stage One project will produce an average of 15,200 tonnes per year of battery-grade lithium carbonate and will have a water consumption of 8 liter/second.

[LPI produced 99.92% pure battery-grade lithium carbonate from the Maricunga lithium project in Chile](#)

November 17, 2022

LPI Optimized its production processes at the Maricunga lithium project and produced battery-grade lithium carbonate with 99.92% purity. This significantly exceeds the industry standard specifications for battery-grade lithium carbonate of 99.5%. The Company plans to send samples to potential lithium buyers for analysis as part of LPI's financing plans for mine construction at the Maricunga lithium project.

[LPI raises AUD 25 million through a share placement](#)

September 9, 2022

LPI has received binding commitments from institutional, sophisticated, and professional investors to raise AUD 25 million through a single tranche share placement by issuing 41,666,667 new fully paid ordinary shares at an issue price of AUD 0.60 per share. Funds raised through the placement will primarily be used to develop, expand, and accelerate the Maricunga project.

[LPI buys CMC Lithium and two tenements in the Eastern Goldfields of WA](#)

July 5, 2022

LPI has bought CMC Lithium and its Greenbushes Projects in Western Australia, adding an extra 365 km² of prospective ground around Talison Lithium's Greenbushes mine. The Company has also acquired two tenements in the mineral rich Eastern Goldfields of WA, from Lysander Lithium. These tenements were acquired for a combination of cash and LPI stock.

[LPI plans to consolidate 100% ownership of Maricunga Lithium Brine Project](#)

June 22, 2022

LPI has planned to consolidate 100% ownership of the MSB project through a three-party all-scrip merger with its JV partners MSB SpA and Bearing Lithium who currently own 31.31% and 17.14% of the project. According to the Company, the transaction will result in an increase of 12% in proportionate interest from the current 51.55% to 57.9% for the LPI shareholders.

[LPI releases the updated DFS for the Stage One Maricunga project](#)

January 20, 2022

The updated DFS results for the State One Maricunga Lithium Brine project shows production of 15,200 tonnes of LCE per annum for 20 years, with a CAPEX of USD 626 million. The project is expected to deliver an after tax NPV of USD 1.4 billion at an 8% discount rate, an IRR of 39.6%, and a 2-year payback period.

Listing Information

Lithium Power International, headquartered in Sydney, Australia is listed on the Australian Securities Exchange – (ASX: LPI).

Contacts

Head office	Level 7, 151 Macquarie Street, Sydney NSW 2000
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E-mail	info@lithiumpowerinternational.com

Top Shareholders as on December 31, 2022

Equity Holder	No. of ordinary shares held	% Shareholding
Minera Salar Blanco SPA	177,783,334	28.26%
HSBC Custody Nominees	47,369,857	7.53%
Citicorp Nominees Pty Limited	41,184,970	6.55%
BNP Paribas Noms Pty Ltd	25,838,150	4.11%
Chifley Portfolios Pty Limited	21,485,888	3.42%
Treasury Services Group Pty Limited	18,135,981	2.88%
Nabide Pty Limited	11,833,132	1.88%
Merrill Lynch (Australia) Nominees Pty Limited	11,729,169	1.86%
BNP Paribas Nominees Pty Ltd ACF Clearstream	7,479,138	1.19%
HSBC Custody Nominees (Australia) Limited	6,528,525	1.04%
G Harvey Nominees Pty Ltd	6,498,576	1.03%
Others	253,230,840	40.27%
Total	629,097,560	100%

Source – LPI's Quaterly Activity Report December 2022

Management and Governance

David R Hannon*Chairman*

- Over 30 years of experience in finance industry with a focus on property, mining, and international investing
- Founding Director and former Chairman of Atlas Iron Limited
- Led Chifley Investor Group Pty Limited for over 15 years

Cristobal Garcia-Huidobro R*CEO and Managing Director*

- Civil Engineer with over 23 years of experience developing and financing of mining, energy, infrastructure, and property projects
- Led MSB's exploration and development program at Maricunga Salar
- Previously a director and committee member of various mining, property, and agricultural funds in North and South America

Richard A Crookes*Executive Director – Corporate Finance*

- Geologist with more than 30 years of experience in mining and finance sectors
- Highly regarded mining and investment professional with deep involvement in all aspects of mining projects including exploration, mineral resource development, operations, project finance, and project management

Andrew G Philips*CFO, Company Secretary and Executive Director*

- Over 25 years of international experience in commercial, finance and corporate governance
- Held senior management and board positions at several public and private companies, including multinationals, such as Aristocrat, Allianz, Hoya Lens, and Sequoia Financial Group
- On the board of small cap companies in the Mineral and Resources sector

Russell C Barwick*Non-Executive Director*

- Mining Engineer with over 43 years of experience globally and specially in Latin America
- Previously COO of Wheaton River – Goldcorp, one of the largest gold company in the world by market capitalization
- Also served as CEO of Newcrest Mining and was with Placer Dome Inc. for 16 years

Martin Borda

Non-Executive Director

- An economist with over 40 years of experience in a range of industries in Chile and internationally
- A major stakeholder in the early development stages of the Maricunga Lithium Brine Project which included the establishment of the joint venture company, Minera Salar Blanco S.A., of which he owns 30.98% through a private investment entity. Mr Borda has served on many boards in Chile, including as a Non-Executive of Banco Scotiabank and Compania Molinera San Cristobal.
- Held board positions at many companies in Chile, including as a Non-Executive of Banco Scotiabank and Compania Molinera San Cristobal.

Assets

LPI has a lithium brine asset in Chile called Maricunga Lithium Brine Project, which the Company owns through its subsidiary, Minera Salar Blanco S.A. ("MSB"). The Company owned other properties in Argentina and Australia which it has now sold. The Company sold the Strelley properties in July 2020, but it will receive a 1% Net Smelter Return Royalty for any gold produced and also retains the mineral rights for lithium, caesium, tantalum, and tin. LPI sold 30% of its Centenario property to Marquee Resources in June 2019 and the remaining 70% to Vertex Lithium Corporation in May 2021. The Company completed the sale of WLI (the holding company through which it owned its Western Australian assets) on July 3, 2023, for AUD 30 million.

LPI's MSB asset is among the most advanced development-stage lithium assets in the Atacama region of Chile. It is among very few assets whose DFS has been concluded and all the important approvals and permits, (including EIA) have been secured. LPI has devoted approximately 90% of its resources and efforts towards MSB's development. The Company's MSB asset is expected to enter the construction stage with production expected to start in 2026. A brief overview of the MSB project is as follows:

Maricunga Lithium Brine – Chile

Overview: Maricunga Lithium Brine Project ("MSB Project") is located approximately 170 km north-east of the mining town of Copiapo, 250 km from the Chilean coast, and adjacent to International Highway 31 which connects northern Chile and Argentina. The Maricunga Salar is regarded as the highest quality pre-production lithium brine project in South America, with characteristics comparable to the world-leading Atacama lithium brine deposit.

LPI is banking on its MSB project to become one of Chile's lowest-cost high-grade lithium producers and an eminent global producer of battery-grade lithium. MSB produced its first battery-grade lithium carbonate sample in 2018 with GEA Messo. This sample was produced using MSB brine from its pilot evaporation ponds operated for more than 2 years at the Salar. After the optimizations in the production process included in the updated DFS in January 2022, MSB produced battery-grade lithium carbonate samples with 99.92% purity which exceeds the industry standard specifications of 99.20%.

MSB's mining concessions have been divided into two groups – OCC, also referred to as the Stage One concessions and NCC, where future expansions will be based. The primary difference between OCC and NCC is that the OCC was constituted under the 1932 Chilean mining law and does not require any special regulatory permits for lithium exploration. On the other hand, NCC was constituted after 1979 and requires additional regulatory approvals to exploit lithium including a CEOL between the state and the Company. Out of the total, the NCC accounts for 1,438 hectares and the OCC accounts for 1,125 hectares and contains about 54% of the total resources of the Company. This division of the concessions has helped the Company to reduce the uncertainty of the project due to regulatory approvals and licenses. This will enable the Company to independently start the construction relatively early on Stage One as it does not require any regulatory approvals. If the Company is successful in obtaining the CEOL and other permits and licenses, it will be able to substantially increase production in the future.

The project was under a JV named Minera Salar Blanco S.A. ("MSB") between LPI, Borda Group, and Bearing Lithium (TSXV: BRZ). LPI, Borda Group, and Bearing Lithium held 51.6%, 31.3%, and 17.1% equity interest respectively in this JV. On December 23, 2022, the Company consolidated 100% ownership in the MSB project. The Company believes this will simplify the decision-making process for the MSB

project, de-risk the funding pathway for Maricunga, and will increase the Company's ability to source funds from a wide range of sources as it will now have complete autonomy over the project.

The first DFS was conducted by Worley (previously WorleyParsons) for MSB on both the NCC and OCC to a depth of 200 meters and was released in early 2019. The 2019 DFS supported LCE production potential of 20,000 tonnes per annum over a 20-year period. The Company has released the results of an updated DFS conducted only on Stage One, which includes just the OCC. As per the revised DFS, the Stage One project will have an annual average production of 15,200 tonnes of battery-grade lithium carbonate for 20 years. This result is based on exploration work carried out to a depth of 400 meters as compared to the previous DFS released in 2019, which was only up to 200 meters. The DFS also estimates the CAPEX for Stage One project at USD 626 million which includes project development costs, indirect costs, and contingency costs. The estimate includes all the information contained in the proposals received as part of the international EPC bidding process carried out by the company in 2020, after accounting for the expected inflation on different materials and supplies.

The Company's current goal is to negotiate the financing for the MSB project. Strategic investors, export credit agencies, and governmental organizations have expressed a strong interest in providing equity as well as debt to finance construction at the MSB project which is estimated to cover most of the expected capex required for construction.

Given the positive results from the revised DFS of the Stage One project, the Company is continuing to work on the development of Stage Two at Maricunga. The tables below show the Measured and Indicated resource estimates only for Stage One as per the DFS released in 2022.

Mineral Resource Estimate for Lithium Metal (Li) and Potassium (K) only for Stage One						
	Measured (M)		Indicated (I)		M + I	
	Li	K	Li	K	Li	K
Area (Km²)	4.5		6.76		11.25	
Aquifer volume (Km³)	1.8		1.8		3.6	
Mean specific yield (Sy)	0.09		0.12		0.1	
Brine volume (km³)	0.162		0.216		0.378	
Mean grade (g/m³)	87	641	111	794	99	708
Concentration (mg/l)	968	7,125	939	6,746	953	6,933
Resource (tonnes)	154,500	1,140,000	203,500	1,460,000	358,000	2,600,000

Source: LPI's ASX announcement dated September 29, 2021

Mineral Resource Estimate for Lithium Carbonate Equivalent (LCE) and Potash only for Stage One		
M + I Resources		
	LCE	KCL
Tonnes	1,905,000	4,950,000

Source: LPI's ASX announcement dated September 29, 2021

Note: Lithium is converted to lithium carbonate (Li₂CO₃) with a conversion factor of 5.32 and Potassium is converted to potash with a conversion factor of 1.91

A new exploration target ranging between 400 meters – 550 meters of depth has been defined for further resource expansion below the Old Code concessions, and between 200 meters – 550 meters below the New Code concessions. This could potentially harness 1.2 mt - 2.1 mt of LCE.

LPI also has permits to produce KCl, which is a byproduct during the production of Lithium. As indicated in the table, the Company has a Measured and Indicated resource of 4.95 million tonnes of KCl. Until now, the Company did not plan to process and sell potash due to its depressed prices. However, the prices have gone up significantly in 2022, mainly due to the sanctions imposed by many countries on Russia. These sanctions have led to supply chain disruptions and thus a shortage of salt in the market. With the prevailing prices, it will be profitable for the Company to process and sell KCl at no additional costs, thus effectively reducing its lithium cash operating costs.

LPI's immediate focus is on completing the Stage One construction on the property and soon bringing it into production. MSB has signed an important non-binding MoU with Mitsui for this. The MoU grants offtake and financing rights for MSB's Stage One development as well as future development to Mitsui. The MoU also discusses a collaboration for facilitating the development and testing of the Direct Lithium Extraction ("DLE") technology at MSB for the production of lithium hydroxide.

LPI has appointed Deloitte as Lead Advisor for the new Environmental, Social, and Governance ("ESG") program at Maricunga. Under the program, Deloitte will conduct a verification, evaluation, and gap analysis of the various processes at MSB. Deloitte will take measures to check whether operational, environmental, and social requirements align with legal and regulatory requirements. The aim of the project is to become a carbon-neutral producer by using sustainable protocols in future lithium extraction operations.

Mitsui MoU: MSB signed the Mitsui & Co., Ltd. MoU for a strategic alliance to advance the Stage One development of the MSB Project in May 2021. MSB and Mitsui agreed on the following:

- **Off-Take Rights:** Mitsui will have the right to purchase up to 15,000 tonnes annually of high purity lithium carbonate battery grade production from Stage One of the MSB Project for 10 years, that can be further extended for two consecutive five-year periods. Under the agreement, parties can decide on a price structure and terms for the off take in order to be sufficiently bankable to support MSB's debt funding requirements.
- **Logistics and Distribution:** MSB plans to make use of Mitsui's global logistics and battery materials marketing expertise for the distribution of products.
- **Project Funding:** Mitsui will have the right to participate directly in the Stage One funding of the Project through a combination of equity-like and debt-like options.

- **Future Expansion of the MSB project:** Mitsui will have the first option for an off-take agreement to purchase a relevant portion of the future production of the expansion on the basis that it will provide a relevant portion of the necessary capital expenditure requirements for the future expansion of the MSB project, subject to the parties agreeing to the financing proposal.
- **Strategic Collaboration:** MSB and Mitsui will collaborate on developing efficient and environment friendly lithium processing technologies. Under the agreement, MSB will have to facilitate the development and testing of the DLE technology at the MSB project in collaboration with Mitsui and its technical partner. Mitsui has also advanced the due diligence process, and the Company believes that it will likely progress to a binding agreement once the due diligence is complete.

Financing: MSB is currently in its Stage One development and the forecasted capital expenditure for this stage is USD 626 million, including approximately USD 419 million in direct development costs, USD 145 million indirect costs, and 63 million in contingencies. The financing for this stage would comprise an equal amount being raised from debt and equity. The Company plans to prioritize financing activities for the MSB project, with the objective of starting Stage One construction in 2023. The Company continues its project financing process assisted by Canaccord. Different parties, including strategic investors, export credit agencies, and governmental bodies, have expressed strong interest in providing equity and debt. This is estimated to cover most of the expected capex required for the project. Non-binding terms sheets are being evaluated by the company and by Canaccord. MSB signed a non-binding Memorandum of Understanding (“MoU”) with Chile’s state-owned mining company Codelco for a potential JV and the development of the MSB project in 2019 but is currently due.

Production: As per the DFS released in 2022, the Stage One LCE reserve is estimated to be 479,000 tonnes of LCE, out of which 75,000 tonnes are classified as Proven and 404,000 tonnes as Probable. Considering a 65% lithium process recovery efficiency, the total amount of recoverable LCE is 311,000 tonnes.

Mining Reserve for Pumped Lithium and Lithium Carbonate Equivalent for Stage One						
Concession	Category	Extraction Years	Brine Vol. (Mm3)	Avg Li Conc. (mg/l)	Li Metal (tonnes)	LCE (tonnes)
Old Mining Code	Proven	1-7	19	1,024	14,000	75,000
	Probable	1-7	13		19,000	102,000
	Probable	8-20	60	950	57,000	302,000
Total Production in 20 years					90,000	479,000

Production of Lithium Carbonate (“LCE”) (Reflecting the 65 % Lithium Process Recovery Efficiency Post Pumping)						
Concession	Category	Extraction Years	Brine Vol. (Mm3)	Avg Li Conc. (mg/l)	Li Metal (tonnes)	LCE (tonnes)
Old Mining Code	Proven	1-7	19	1,024	9,000	49,000
	Probable	1-7	13		12,000	66,000
	Probable	8-20	60	950	37,000	196,000
Total Production in 20 years					58,000	311,000

Operations: Worley and GEA Messo have completed the basic engineering works at MSB. The updated Definitive Feasibility Study was released in January 2022. After the optimizations in the production process included in the updated DFS, MSB and GEA Messo, are working with IBZ Labs in Germany to replicate the optimized production process, using brine from the pilot evaporation ponds that were operated for more

than 2 years with brine from the Maricunga Salar. To date, they have produced 1 kg of battery-grade lithium carbonate samples with 99.92% purity, which exceeds the industry standard specifications of 99.20%. The next target is to produce up to 10 kg of battery-grade lithium carbonate which would be sent to potential off-takers.

The Stage One project has an average connected load of 13.7 MW of electric power. MSB plans to source all its electricity renewable sources via long-term contracts with solar power providers. Furthermore, the production process has been designed to reduce water consumption. MSB secured its water requirements in 2018 through a long-term contract for the use of the CAN 6 water well at the Salar. In December 2022, LPI acquired the water rights of the CAN 6 water well at the Salar and replaced the long-term lease it previously held. This will secure the water supply for both its Stage One project and future expansions without the risk of external interference from third parties. The acquisition of water rights from the CAN 6 water well provides MSB with up to 62 lt /sec of fresh water while MSB's Stage One project is expected to consume only 8 lt /sec of fresh water.

MSB employed Andinor, a contractor, for the water drilling program. A water well was drilled to a 200-meters depth in early April 2021 for fresh water supply to the project. The preliminary testing suggests that this well will be able to meet the project's water supply requirements. Additionally, this new well will serve as a backup for future requirements.

In February 2020, MSB's Environmental Impact Assessment ("EIA") completed all permits required for LPI's 'Old Code' mining concessions. This means that the existing permits would allow for the construction of the project to commence immediately.

Once MSB is successful in obtaining the Special Contract for the Operation of Lithium ("CEOL"), MSB will have the option of increasing the production capacity and/or the life of the mine beyond its expected 20-year lifespan. Making the NCC operational will be relatively quick once Stage Two commences because exploration for resources and reserves, which is the slowest part of the process and represents a major portion of the total effort, is already done.

Other Western Australia Assets

LPI sold its wholly owned subsidiary, Western Lithium Ltd on July 3, 2023. The Company owned three assets in Western Australia through WLI, namely Greenbushes, East Pilbara, and Eastern Goldfield. LPI has sold all its other assets to focus exclusively on the MSB Project and plans to utilize the funds from the sale of WLI to develop its MSB project in Chile.

Industry Analysis

Lithium Demand

The global Lithium market size was valued at USD 7.5 billion 2022 and is expected to reach 19.0 billion at a CAGR of 12.0 % during 2022-2030ⁱ. Out of all the segments, lithium carbonate has the largest share of over 57%, in terms of volume in 2021ⁱⁱ. Lithium is used in several industries, including batteries, ceramics and glass, and lubricating greases. The highest demand for lithium comes from battery manufacturers, who accounted for 74% of total demand in 2021. This was followed by ceramics and glass (14%), lubricating greases (3%), continuous casting mold flux powders (2%), air treatment (1%), and others (6%)ⁱⁱⁱ.

Global Lithium Consumption to Grow Significantly: Lithium consumption has increased significantly from 497,000 mt of lithium carbonate equivalent ("LCE") in 2021 to 636,000 mt of LCE in 2022, particularly on the back of extensive use of rechargeable lithium batteries in electric vehicles (EVs), portable electronic devices, electric tools, and grid storage applications^{iv}. The global demand for lithium is forecast to further increase by 40% to reach 890,400 mt in 2024.

While all these industries are expected to continue generating high demand for lithium in the coming years, the highest demand growth is expected to come from the EV industry. According to Benchmark Mineral Intelligence, in 2015, 32% (55,680 tonnes of LCE) of the total lithium consumption of 174,000 tonnes of LCE was used for manufacturing lithium-ion batteries. While the total consumption of lithium is forecasted to go up by 129% from 2015 levels to 398,000 tonnes of LCE in 2021, the share of lithium-ion batteries is forecasted to go up to 67% (266,660 tonnes of LCE), implying a growth of 379% from 2015 levels^v. Consequently, the demand for lithium compounds (lithium carbonate, lithium hydroxide, lithium concentrate, lithium metal, butyl lithium, lithium chloride) that are directly used in batteries is projected to grow from USD 5.3 billion in 2020 to USD 13.5 billion by 2025, at an implied CAGR of 20.6%^{vi}.

APAC Leading Global Lithium Demand: The highest demand for lithium has traditionally come from Asia Pacific (APAC) because it is the manufacturing hub for automobiles, electronics, and other industries that consume lithium the most. APAC accounted for 56.3% of the total demand for lithium (in US dollar terms) in 2020.^{vii} China, being the largest battery manufacturer in the world, is among the world's top consumers of lithium. It accounted for 40% of APAC's volume share of the battery market in 2019 and is expected to continue dominating the world Battery market in the coming years owing to its low wage rates, large manufacturers, and high lithium reserves.

China has 6.7 million tonnes of lithium reserves, controls 80% of world's lithium refining capacity, and manufactures 80% of global lithium-ion-battery^{viii}. China's continued dominance of the lithium battery market implies that the demand for lithium is expected to continue being the highest in the APAC going forward. APAC also dominates other geographies in terms of lithium reserves, primarily due to Australia having 7.7 million tonnes of lithium reserves. Newly found 5.9 million tonnes of lithium reserves in northern India in 2023 has added to APAC's total reserves and further consolidated its position as the geography with the world's largest lithium reserves.

Europe Catching Up Fast on The Back of German EV Production: Europe was the second-largest market for lithium in 2020 thanks to its large and growing EV manufacturing sector. Germany alone accounted for 18% of the world's EV production in 2019 and its share is expected to increase to 29% by 2024, as it surpasses China and the US to become the world's largest EV manufacturer. German automobile giant Volkswagen recently announced that its demand for batteries in Europe alone will

increase by 240 gigawatt-hours (GWh) by 2030. This is more than the combined requirement of all automakers globally in 2020.

Battery production will have to increase significantly to keep up with the demand from EV manufacturers, especially now that battery manufacturers have been able to cut prices significantly. BCG estimates that a tenfold increase in the production of battery cells and their key materials, such as lithium and nickel, will be required by 2030^{ix}. With increasing exploration and production activity, producers of these battery materials might be able to match demand over the long term. However, supply bottlenecks might develop in the short run, keeping lithium prices high and reducing the momentum of decline in battery prices. Lithium mining activity is at an all-time high as existing producers expand capacity and new producers enter the industry to make the most of soaring lithium prices.

Lithium Production

There was a historical upsurge in lithium exploration and mining activity in the mid-2010s due to expectations of a continued increase in the demand for lithium from battery manufacturers. Global production of lithium has increased at a higher rate than increase in demand since 2018, resulting in an oversupply of lithium and a fall in lithium prices. Lithium producers tried to stem falling lithium prices in 2020 by cutting production by 5% to 434,000 tonnes of LCE (82,000 tonnes of lithium content) compared to 456,000 tonnes of LCE (86,000 tonnes of lithium content) in 2019^x. However, global lithium production increased in 2021, reaching 546,000 tonnes. In 2022, Australia was the leading lithium producer, followed by Chile, China, and Argentina. One of the key trends driving demand for lithium-ion batteries is the increasing adoption of electric vehicles. Furthermore, the increasing use of lithium-ion batteries in industrial applications such as cordless power drills, data centre and backup power, energy storage, advanced medical devices, material handling equipment, and aerospace and defence is driving lithium-ion battery demand.

Traditionally, lithium was extracted from lithium brine deposits and hard rock spodumene deposits. Oil and gas operators have now also started extracting lithium from wastewater left in reservoirs. Approximately two-thirds of the world's lithium reserves are in the 'Lithium Triangle'. According to the US Geological Survey 2021, approximately 45% of global lithium reserves are in Chile, followed by Australia (23%), and Argentina (9%).

Regulatory Obstacles Stifling Lithium Production in Chile: According to the BP Statistical Review of World Energy, despite having 45% of the world's lithium reserves, Chile only produced 25% of world's total lithium output in 2021 and was a distant second behind Australia, which produced 52% of world's total lithium output despite having a much smaller 23% of the world's total lithium reserves^{xi}. Although there is strong investor interest to start new projects and expand existing projects in Chile, no new project has come online in the country in recent years due to its regulatory opaqueness. Among investors' chief concerns is the obligation to either partner with the state for lithium mining or obtain a special mining permit. The path to obtaining the mining permit, as well as an environmental permit that is mandatory for selling or exporting lithium from Chile, is unclear and unpredictable.

Chile has experienced continued social unrest since October 2018 and is currently stuck in a constitutional rewrite to address wide-ranging socioeconomic challenges, including those faced by lithium miners. Currently only two projects owned by sector leaders SQM and Albemarle have utilized their permits. The remaining five projects, including two Codelco projects, are yet to start production. The concerned regulator CCHEN as well as the mining ministry have given repeated assurances that they will review the

procedure and shed the opaqueness. The ministries of mining and economy have also taken part in a review of CCHEN's protocols.

National Lithium Strategy

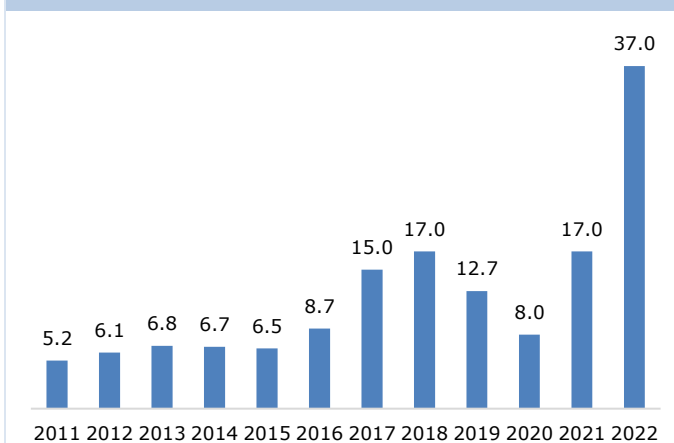
On April 20, 2023, the Chilean Government announced the National Lithium Strategy which seeks to promote the development of the lithium mining industry, contribute to productive diversification, and enhance Chile's regional development. One of the key features of NLS is the establishment of a National Lithium Company that will be involved in the entire lithium production cycle in partnership with private companies through Public-Private Partnership Agreements ("PPPA")^{xii}. These PPPAs may be in the form of joint venture agreements (between state-owned enterprises and private investors), shareholders agreements, etc. Chile's state-owned copper companies Codelco and ENAMI will fulfill the responsibilities assigned to the National Lithium Company until it is created. Importantly, Philippi Prietocarrizosa Ferrero DU & Uria ("Philippi") notes that the National Lithium Strategy does not consider any legal change to the Legal Statute of Lithium currently in force, no new rights are granted, nor preferences are recognized to the mining concessions constituted under the current regime, maintaining the current situation. The NLS does not consider, neither expressly nor tacitly, the nationalization of lithium, as erroneously reported by some media, nor does it imply disregarding the rights of pre-1979 mining concessions to develop lithium projects^{xiii}. Mainly, guidelines are defined to promote the development of the lithium industry, applying the currently existing regulatory framework, most of which do not require legislative modifications^{xiv}.

Lithium Prices

Lithium prices increased sharply from USD 5,180 per metric ton in 2011 to USD 17,000 per metric ton in 2018, primarily due to strong demand from battery manufacturers. However, between 2018 and 2020, the growth in lithium production outpaced demand, resulting in a fall in price to USD 8,000 per metric ton in 2020. Lithium producers tried to support the falling prices through a production cut in 2020 but found limited success due to the Covid-19-induced fall in global demand^{xv}. Lithium prices rebounded in 2021 due to the increasing demand from battery manufacturers that cater to the EV and high-tech devices industries. Spot lithium prices in China started recovering towards the end of 2020 and this recovery accelerated in 2021 and reached an average of USD 17,000 per metric ton. This uptrend continued in 2022 and the prices reached an all-time high in mid-November 2022. However, in 2023 the prices are on a downtrend mainly due to less bullish sentiment for EVs in China and the expiry of a decade-long subsidies for EV purchases.

Lithium carbonate prices soared about 496.7% in 2021 on strong demand for electric vehicles^{xvi}. Macquarie believes that with Chinese lithium carbonate prices up 110% and lithium hydroxide prices up around 40% from the beginning of 2020, prices could go up further in the coming months. Macquarie forecasts a 30% to 100% price increase over the next four years, as EVs begin displacing approximately 1 billion internal

LCE USD per ton (in thousands)



Source: Statista

combustion engines globally. Macquarie expects that the market will start facing a lithium deficit starting 2022 with material shortages emerging from 2025. According to Macquarie, this deficit will push spodumene prices to above USD 720 a tonne and significantly increase lithium carbonate and lithium hydroxide prices going forward. Macquarie expects lithium carbonate to remain above its “incentive” price of USD 13,000 per tonne and lithium hydroxide to remain comfortably above USD 16,000 a tonne going forward^{iii, xvii, xviii}.

Lithium prices are expected to remain strong due to the disbalance in demand and supply. According to S&P Global Market Intelligence, lithium chemical supply is forecasted at 636,000 mt lithium carbonate equivalent in 2022, increasing from an estimated 497,000 mt in 2021 and 408,000 mt in 2020. S&P forecasts a deficit of 5,000 mt LCE in 2022. In 2020, there was a surplus of 66,000 mt due to decrease in demand because of slowed economic activity attributed to Covid-19, which was reduced to 8,000 mt in 2021. According to the World Economic forum, the demand for lithium is projected to reach 1.5 million tonnes of LCE by 2025 and 3 million tonnes by 2030. Based on these demand projections, the production needs to almost double by 2025 and increase nearly five-fold by 2030. This widening deficit and increase in prices have incentivized existing suppliers to increase their production and restart idle mines. Recently, Albemarle's MARBL joint venture with Minerals Resources in Western Australia announced plans to restart one of the Wodgina mine's three 250,000 mt per year processing lines in Q3'22.^{xix}

Social and Environmental Impacts of Lithium Mining

The ecological impact of lithium production is a topic of constant concern for environmentalists and is inspiring end-use industries to look for lithium alternatives. It is estimated that approximately 500,000 gallons of water is used to produce one tonne of lithium, which significantly depletes water resources in areas of water scarcity.

Most of mining activity in Chile is concentrated in the northeast, which is among the driest regions in the world. It is estimated that the mining industry consumes enough water annually to provide for 75% of the needs of Chile's population. In regions like Chile's Salar de Atacama, mining activities consume 65% of the water supply that local communities rely on.

Toxic chemicals, such as hydrochloric acid, that are used in the separation process for lithium contaminate local water supply and air quality. Companies, especially in China, are working on recycling and reusing lithium-ion batteries as an option to reduce the environmental impact of lithium mining. A BCG analysis suggests that the economics of EV battery recycling at scale are attractive, while generating profits from reuse is likely to be much harder. Alternatives to lithium-ion, such as sodium-ion, zinc-ion, and hydrogen cell are also under active research and development. However, most of these alternatives are in the development stage and, despite their long-term potential, are unlikely to pose a serious competitive threat to lithium-ion in the short and medium term^v.

Recycling and Reusing Lithium Batteries

Recycling and reusing lithium-ion EV batteries are new trends with strong growth potential, given their economic lucrativeness and their potential of enabling better use of resources and reducing carbon emissions by reducing the need for lithium mining over the long term. Recycling is a specialized method of recovering valuable metals such as cobalt, manganese, nickel, and lithium from battery cells and selling them to manufacturers for use in future batteries. Reusing involves repurposing battery cells, without dismantling them, for a second (mostly stationary) use. This second use is typically in combination with new power electronics, software, and housing structure.

The useful life of lithium-ion batteries used in EVs is around ten years on an average suggests a recent analysis by Geotab. Newer models are likely to have an average useful life of over 20 years or over 300,000 miles. This is primarily a function of the number of charge cycles, the intensity of charge cycles, and the manufacturing quality. These batteries are no longer fit for use in an EV once their rated capacity fall below 80% of the original. At this stage, lithium-ion batteries typically enter the waste stream i.e., they are placed in a disposal facility, such as a landfill, and its remaining value is never recovered.

According to BCG, more than 32 million EVs are currently on the roads globally, including 8 million fully electric passenger vehicles and 24 million partially electrified vehicles. Batteries of close to 1 million of these passenger vehicles (excluding commercial EVs and two-wheelers) are nearing the end of their useful life, with an estimated capacity of 4 GWh. The number of passenger EVs is likely to exceed 300 million by 2030 and nearly 4 million EVs are expected to be retired in 2030, with a combined originally rated capacity of nearly 100 GWh. Regulations regarding what happens to the battery after its first use are evolving in most countries and are increasingly mandating that these batteries be recycled and reused rather than discarded, e.g., the EU's End of Life Vehicles Directive^v.

Commercial-scale recycling of EV batteries is currently the most established in China. The country is witnessing the emergence of clear market leaders after years of high fragmentation. Battery material suppliers GEM, Huayou Cobalt, and Ganfeng Lithium currently hold the largest market shares. EVs, cathodes, cells, and battery packs manufacturer, BYD, and a subsidiary of cathode manufacturer CATL, Brunp Recycling, are other major players.

Leading EV battery recyclers outside China include VW, Umicore, SungEel, and 4R Energy, which is a JV between Nissan and Sumitomo. New players, such as Li-Cycle, Battery Resourcers, Deussenfeld, and Redwood Materials are experimenting with a wide range of technologies for pretreatment and metal recovery. However, recycling is still a long way from becoming an established industry and posing a serious potential threat to lithium miners.

Alternatives to Lithium Batteries

Given the adverse environmental impacts of lithium production and expectation of a lithium shortage causing a sharp rise in lithium prices over the next four years, active research is underway for alternatives to lithium-ion batteries. While none of these alternatives is likely to become a major competitive threat to lithium-ion batteries in the short and medium term, they could emerge as strong competitors in the long term. Some of the front runners to compete with lithium-ion in the long-term are as follows:

Zinc-ion: Zinc-ion batteries are likely to be the first major competitor to lithium-ion. Zinc-ion's most significant differentiators from lithium-ion are their safety and supply chain predictability. A significant part of the production process when using lithium has to be conducted in a highly controlled atmosphere because it violently reacts with water. This makes the process expensive and complicated. Zinc-ion batteries are not constrained in this way because they are water-based batteries.

Additionally, zinc-ion batteries can move from the manufacturing line to the customers faster than lithium-ion batteries because they do not require formation cycling at the end of their life. Additionally, zinc-ion is built using materials that are available more abundantly and at lower prices than those used for lithium-ion. This means that zinc-ion can be produced more widely than lithium-ion, for which there is overdependence on countries like China, and foster greater supply chain predictability. California-based Salient Energy is among the zinc-ion innovation leaders. The Company claims that its zinc-ion based energy-storage technology will be at least 30% less expensive, as well as safer and longer-lasting than standard lithium batteries.

Sodium-ion: Research & development work done on sodium-ion until now has mostly been for non-EV purposes, although there have also been some successes in the EV space. A pigment known as Prussian Blue is a key component in sodium batteries. This component is cheap and abundantly available, and its chemical structure is ideal for electrodes, which store and release energy in a battery. Prussian blue allows ions to pass back and forth more easily than other materials such as lithium. This makes its electrodes more durable than lithium-ion batteries, whose electrodes are carbon and metal-based.

Although prices of lithium-ion packs have fallen almost 90% since 2010, sodium-ion batteries are most cost-effective because their main ingredient sodium is the sixth-most-abundant element on Earth. In contrast, lithium-ion batteries are made from a combination of expensive metals such as nickel, and cobalt etc. that can constitute close to 60% of the battery cell's cost, according to BNEF. Additionally, sodium-ion batteries are faster to recharge than lithium-ion batteries and can deliver short bursts of energy in quick time.

Natron Energy and Faradion are among the eminent companies developing sodium-ion batteries. Natron is developing batteries for critical stationary applications including data-center UPS, electric forklifts, smart grids/microgrids, and renewables support. The company's batteries can be fully charged or discharged in minutes and are highly cost-efficient. Natron has raised close to USD 70 million from investors including Chevron Corp, as well as received USD 19 million in Department of Energy funding in April 2021.

Faradion is a UK-based developer of sodium-ion batteries. It recently signed supply agreements for Australia's residential energy storage market and EV batteries for commercial vehicles in India.

Hydrogen fuel cells: Hydrogen produces water as a byproduct and is much more efficient and cleaner than lithium when it comes to producing and recycling it at the end of the vehicle's life. This is why major automobile manufacturers, led by Toyota are working on hydrogen fuel cells as an alternative clean energy product. Hydrogen fuel cells can be used to power anything that uses electricity, such as EVs and electronic devices and these fuel cells don't need to be recharged as long as they have hydrogen fuel. Energy efficiency provided by hydrogen fuel cells for EVs is two to three times more efficient than an internal combustion engine fueled by gas and the refueling time averages less than four minutes^{xx}.

The most significant hurdle that is keeping hydrogen cells from becoming a major clean fuel technology is that at present hydrogen is mostly produced using fossil fuels. Several research efforts are underway globally to convert water into hydrogen using a variety of materials, such as modified algae. However, present methods are neither environmentally friendly nor cost-effective. There are some companies that are trying to produce hydrogen using alternatives like biomass but these companies currently operate at a very small scale.

Green hydrogen, which is created using renewable energy instead of fossil fuels, is emerging as the most promising option. The electrolysis method that splits water into hydrogen and oxygen using an electric current in an electrolyzer is one of the popular methods of producing green hydrogen. Green hydrogen is also produced from solar and wind energy. The use of green hydrogen is expected to increase significantly in future because energy from hydrogen can be used and stored in gas or liquid form and quickly converted into electricity or fuel^{xi}.

Extensive use of green hydrogen in areas that require high energy density fuel or intense heat, such as transportation, electricity generation, manufacturing, aviation, shipping, long-distance trucking, and steel production, is considered essential to meet the goals of the Paris Agreement because green hydrogen can

help reduce greenhouse emissions^{xi}. Although green hydrogen is being pushed by public policy in Europe as well as the US, a lack of appropriate storage and transportation infrastructure such as transmission lines and pipelines are preventing its wider adoption^{xi}.

Solar panels: The consistently improving capabilities of solar panels have made them a viable clean energy option for several static purposes. However, they are still not efficient enough to power EVs. Although, with Tesla and other major automobile companies working on viable solar roofs, solar panels seem set to emerge as a major alternative to lithium-ion batteries to power EVs. It is possible that the whole surface of the car would be a solar panel in the future. However, this is likely to require years of effort and fine tuning, implying no immediate threat to lithium-ion battery manufacturers.

Solid state batteries: The mechanics of solid state batteries are similar to solid state drives (SSDs) used in laptops, and has the potential to impact the performance of EVs just as SSDs impacted the data storage capabilities of laptops. In addition to their compact packaging and capability to improve the energy efficiency of EVs, solid state batteries are also considered to be much safer than contemporary batteries. These batteries are claimed to reduce fire risk to almost zero, be more durable, and perform well even in inhospitable weather conditions.

Risk Profile Analysis

1. Operational Risk

MSB Project is in a pre-production stage and its construction is expected to commence by late 2023. LPI released a revised DFS only for Stage One of MSB, confirming significant Proven and Probable LCE reserves in January 2022. According to the DFS, the Company is expected to start production in 2026, with an average annual production of 15,200 tonnes of LCE per annum. Once the Company starts generating revenue from MSB, its dependence on external sources of finance will reduce and it will be able to direct its excess cash towards the further development of MSB. Until MSB Project becomes operational and starts generating revenue, the capital-intensive nature of construction activities exposes LPI to significant operational risk. For these reasons, we believe that the Company has a MEDIUM operational risk profile.

2. Political and Regulatory Risk

MSB Project is one of the most advanced development-stage lithium projects in Chile. The Company has ambitious long-term expansion plans in Chile in partnership with Mitsui, including significant investments in MSB as well as other lithium mining and lithium product projects. Chile has enjoyed relative geopolitical unrest in recent times. Although the euphoria seems to have died down following a broad-based rejection of the proposed changes to the country's constitution, political uncertainty is likely to remain elevated until a set of amendments that are acceptable to the vast majority are put forth.

Additionally, Chile has acquired a reputation for opaque rules governing the lithium mining sector because of which no new project has come online in the country in recent years and the country is a distant second in global lithium production despite having almost half of the world's lithium reserves. The relevant regulatory body, CCHEN, as well as the country's ministry of mining, have repeatedly affirmed their commitment to improving transparency, but no tangible steps have been taken yet and none seem imminent.

Fortunately for LPI, MSB has received all the necessary permits in Chile, including the 30-year CCHEN approval and the all-important Environmental Approval (EIA). MSB was the first new mining project to receive EIA in 5 years in Chile and took three long years to prepare, submit, and obtain it. Stage One of MSB is fully permitted for construction and the Company is in the process of raising funds to begin its construction. LPI intends to form an alliance of Stage Two of MSB with the Chilean Government in the future as outlined in the NLS. LPI intends to work closely with the Chilean Government and set the first example of a public-private alliance with its Stage Two of MSB.

We believe that MSB is relatively immune to political risks and bureaucratic inefficiencies. However, LPI and Mitsui might have to endure significant regulatory unpredictability as they strengthen their partnership and make tangible commitments in Chile's Lithium sector. Consequently, we believe LPI has a MID-LOW political and regulatory risk profile.

3. Financing Risk

LPI is currently in the pre-revenue stage and is unlikely to generate any meaningful revenue to fund its operations until MSB comes online. The Company has funded its research, exploration, and development activities by periodically tapping capital markets. LPI and other JV partners have been successful in reaching a mutually beneficial MoU with Mitsui. Although the MoU is an encouraging first

step as it is comprehensive and sets a defined framework for the Stage One development of the MSB project, it is non-binding. The parties have been working on it for over two years and key terms (such as the structure) might not be finalized imminently since the ensuing due diligence process might take time to complete.

The Company will also need to raise additional capital to finance future expansions of MSB as well as to finance its growth plans that include acquiring new assets and vigorously continue exploration and drilling work at its properties. Although the Company is hopeful of securing a strong financial partner for most of its growth plans by converting its non-binding Mitsui MoU to a binding partnership in due course, its financial risk cannot be completely ruled out. The ability to convince Mitsui and other debt and equity investors about the viability of the Company's future plans and the management's ability to execute these plans successfully would be critical to raise these funds. Consequently, we believe LPI has a MID-HIGH financing risk profile.

4. Environmental Risk

LPI currently does not face any major environment risk since MSB has already obtained EIA and, as per current Chilean regulations, neither requires renewing it nor obtaining any other environmental permit. However, since regulations in Chile are not firmly established and procedures are known to be interpreted and applied differently by officials, this risk cannot be completely discounted. The Company has also hired Deloitte to ensure a robust Environmental, Social and Governance ("ESG") program at Maricunga. Deloitte will conduct a verification, evaluation, and gap analysis of all MSB processes to ensure that the project is aligned with the operational, environmental, and social requirements. Additionally, LPI might be exposed to a higher level of environmental risk in the future once its Mitsui partnership crystalizes and starts investing in new projects. Since these investments are a long time away, we believe that LPI's environmental risk profile is LOW.

5. Key Personnel Risk

LPI's leadership team is knowledgeable and has decades of experience in the mining industry, including extensive experience of managing in-production assets at several leading organizations. The Company also has a separate Technical Committee, including experienced industry experts, consultants, engineers, and professors, to oversee the exploration and mining operations in Chile. However, the Company's leadership has no experience managing an in-production business as a single team yet. The real test will come when LPI starts producing and marketing lithium because this is when the leadership will have to come together to take tough decisions and face stiffer challenges. Consequently, we believe that the Company has MEDIUM key personnel risk.

Financial Analysis

LPI has not generated any significant cash flows yet because it has been focusing on acquiring and exploring promising mining assets, with the expectation of generating cash flows once lithium reserves are discovered and these assets enter production. The Company expects Stage One of MSB to enter the developing stage and start generating cash flows by 2026. LPI has been incurring substantial operating expenses, which is typical of pre-production mining companies. The major costs until now have been exploration and development related. LPI will also require significant capital to meet its MSB obligations and support its own growth plans going forward, which is typical of pre-production mining companies. The Company's ability to sell its vision to investors and its execution capabilities will be critical to raise these funds.

Revenue and Profitability: LPI's financials are primarily driven by MSB because it is the closest to entering production and is the only project that is expected to generate revenue in the short and medium term. Since MSB is currently a pre-revenue project with heavy pre-production costs, LPI is also currently in deep losses. MSB incurred AUD 5.3 million in pre-production costs in FY 2022 and LPI recorded its then proportionate share (51.6%) of these JV losses, i.e., AUD 2.7 million. Currently, LPI has consolidated 100% interest in MSB through two all-scrip mergers with its JV partners in December 2022. The consolidation enables LPI to rapidly develop the project by giving it complete autonomy over decision-making.

We have assumed in our projections that MSB will start generating revenue and profits from FY 2026 onwards, making LPI profitable for the first time. However, these expectations are based on the assumption that lithium prices will continue to remain high and are sensitive to volatility in lithium prices.

LPI's operating expenses other than net foreign exchange (which primarily includes employee costs and administrative costs) increased slightly from AUD 2.7 million in FY 2021 to AUD 3.0 million in FY 2022. The Company's operating expenses other than net foreign exchange were AUD 3.7 million in H1'2023. We expect LPI's operating costs to remain between AUD 8.9 million to AUD 9.7 million between FY 2023 to FY 2026 unless the Company acquires new assets or accelerates exploration and development work on one of its existing assets.

LPI reported a Net Loss of AUD 12.6 million in FY 2022 and AUD 5.7 million in H1'2023. Out of the AUD 12.6 million, AUD 6.9 million is attributed to Foreign Exchange Loss in FY 2022. LPI reported a Foreign Exchange Loss of AUD 1.4 million in H1'2023 which was a decrease of 76.6% YoY. Hence, we expect the Company's losses are likely to decrease going forward and reach AUD 3.6 million in FY 2025. We expect the Company to become profitable from FY 2026 when MSB starts operations and generate a Net Profit of AUD 51.7 million during the year.

Capital Requirement: LPI's share capital increased from AUD 77.4 million in June 2021 to AUD 215.3 million in December 2023, as the Company primarily relied on equity capital to meet both short-term and long-term capital requirements. The Company has raised a small amount of debt in the past and was prompt to repay it and currently has no outstanding debt on its books.

LPI has tapped into the capital markets thrice since its IPO in 2016 and might have to do so again before it starts commercial production. The Company will also require a significant amount of capital for exploration work at its other assets and for the acquisition of new assets. With such a significant amount of additional capital required to run the business, LPI's ability to convince investors about the business's future potential and the Company's ability to manage the execution phase will be critical. Although this is typical of early-stage mining businesses, the inability to raise enough capital could be a significant threat going forward.

Income Statement – Historical

<i>(All figures are in AUD thousands)</i>	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Revenue	(4,078)	(5,545)	(8,826)	(3,600)	(1,660)	(2,731)
Expenses						
Employee Benefit Expense	1,087	1,964	1,532	1,577	1,606	1,191
<i>%age of Revenue</i>	-26.7%	-35.4%	-17.4%	-43.8%	-96.7%	-43.6%
Occupancy Costs	77	92	133	155	113	168
<i>%age of Revenue</i>	-1.9%	-1.7%	-1.5%	-4.3%	-6.8%	-6.1%
Depreciation and Ammortization Expense	0	3	6	10	8	3
<i>%age of Revenue</i>	0.0%	0.0%	-0.1%	-0.3%	-0.5%	-0.1%
IPO Transaction Costs	-	-	-	-	-	-
<i>%age of Revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Legal and Professional Fees	912	1,060	471	402	227	432
<i>%age of Revenue</i>	-22.4%	-19.1%	-5.3%	-11.2%	-13.7%	-15.8%
Travel Expense	267	451	220	231	31	72
<i>%age of Revenue</i>	-6.6%	-8.1%	-2.5%	-6.4%	-1.9%	-2.6%
Administration Expense	398	738	433	486	612	900
<i>%age of Revenue</i>	-9.8%	-13.3%	-4.9%	-13.5%	-36.9%	-33.0%
Net Foreign Exchange Gains / Lossers	400	(1,354)	(1,817)	6,381	1,573	6,895
<i>%age of Revenue</i>	-9.8%	24.4%	20.6%	-177.2%	-94.8%	-252.5%
Other Expenses	17	135	220	204	147	250
<i>%age of Revenue</i>	-0.4%	-2.4%	-2.5%	-5.7%	-8.9%	-9.2%
Finance Costs	9	9	40	23	3	3
<i>%age of Revenue</i>	-0.2%	-0.2%	-0.5%	-0.6%	-0.2%	-0.1%
Total Expenses	3,169	3,097	1,238	9,468	4,321	9,914
<i>%age of Revenue</i>	-77.7%	-55.9%	-14.0%	-263.0%	-260.3%	-363.0%
Profit / (Loss) before income tax	(7,247)	(8,642)	(10,064)	(13,068)	(5,980)	(12,645)
<i>%age of Revenue</i>	177.7%	155.9%	114.0%	363.0%	360.3%	463.0%
Income Tax Expense / (Benefit)	-	(143)	(147)	-	-	-
Profit / (Loss) After Income Tax	(7,247)	(8,785)	(10,212)	(13,068)	(6,171)	(12,645)
<i>%age of Revenue</i>	177.7%	158.4%	115.7%	363.0%	371.8%	463.0%

Balance Sheet – Historical

<i>(All figures are in AUD thousands)</i>	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
ASSETS						
Current Assets						
Cash & Cash Equivalents	3,617	23,364	15,341	7,142	6,281	6,429
GST Receivable	21	104	125	75	16	139
Income Tax Refund Due	-	-	68	0	-	-
Others	52	159	116	175	188	1,126
Assets of Disposal Groups classified as held for sale	298	-	-	-	317	4,586
Total Current Assets	3,988	23,627	15,651	7,392	6,802	12,279
Non Current Assets						
Investment in JV Accounted for using the Equity Method	37,456	33,233	30,124	25,075	28,595	30,379
Property, Plant and Equipment	5	9	148	26	24	6
Exploration and Evaluation	1,472	1,934	2,886	4,199	4,077	-
Total Non Current Assets	38,934	35,175	33,158	29,301	32,696	30,385
TOTAL ASSETS	42,922	58,802	48,808	36,693	39,498	42,664
LIABILITIES AND EQUITY						
LIABILITIES						
Current Liabilities						
Trade and Other Payables	8,036	563	250	294	322	666
Income Tax	-	142	-	-	-	-
Provisions (Employee Benefits)	-	29	58	42	82	95
Liabilities directly associated with Assets classified as held for sale	34	-	-	-	45	37
Total Current Liabilities	8,070	734	309	336	449	798
Non Current Liabilities						
Long Term Borrowings	-	-	-	-	-	-
Payables	4,590	-	-	-	-	-
Total Non Current Liabilities	4,590	-	-	-	-	-
TOTAL LIABILITIES	12,660	734	309	336	449	798
EQUITY						
Contributed Equity	37,259	69,513	69,513	69,613	77,403	89,392
Reserves	2,127	6,573	7,202	7,964	8,977	11,226
Accumulated Profits/ (Losses)	(9,124)	(17,907)	(28,062)	(41,034)	(47,148)	(58,752)
Non-Controlling Interest	-	(111)	(154)	(187)	(183)	-
TOTAL EQUITY	30,262	58,069	48,500	36,357	39,049	41,866
TOTAL LIABILITIES AND EQUITY	42,922	58,802	48,808	36,693	39,498	42,664

Income Statement Summary – Projected (1/2)

<i>(All figures are in AUD thousands)</i>	FY 2023P	FY 2024P	FY 2025P	FY 2026P	FY 2027P
Revenue	(992)	-	-	79,870	201,186
<i>YoY Growth</i>	-	-	-	-	151.9%
Total Expenses	8,933	3,559	3,595	9,761	21,329
<i>%age of Revenue</i>	-900.3%	0.0%	0.0%	12.2%	10.6%
EBIT / Operating Income (Loss)	(9,925)	13,785	(3,595)	51,691	165,274
<i>%age of Revenue</i>	1000.3%	0.0%	0.0%	87.8%	89.4%
Net Income / (Loss)	(9,925)	13,785	(3,595)	51,691	165,274
<i>%age of Revenue</i>	1000.3%	0.0%	0.0%	64.7%	82.2%
EPS	(0.02)	0.02	(0.01)	0.08	0.26
<i>YoY Growth</i>	-	-238.9%	-	-	219.7%

*Note: The last year of production for the MSB asset according to our projections is FY 2048

Income Statement Summary – Projected (2/2)

<i>(All figures are in AUD thousands)</i>	FY 2028P	FY 2029P	FY 2030P	FY 2031P	FY 2048*
Revenue	223,073	218,341	213,901	209,771	119,138
<i>YoY Growth</i>	10.9%	-2.1%	-2.0%	-1.9%	-12.3%
Total Expenses	23,497	23,140	22,766	22,471	15,147
<i>%age of Revenue</i>	10.5%	10.6%	10.6%	10.7%	12.7%
EBIT / Operating Income (Loss)	183,353	179,373	175,662	172,177	96,237
<i>%age of Revenue</i>	89.5%	89.4%	89.4%	89.3%	87.3%
Net Income / (Loss)	183,353	179,373	175,662	172,177	96,237
<i>%age of Revenue</i>	82.2%	82.2%	82.1%	82.1%	80.8%
EPS	0.29	0.29	0.28	0.27	0.15
<i>YoY Growth</i>	10.9%	-2.2%	-2.1%	-2.0%	-15.8%

*Note: The last year of production for the MSB asset according to our projections is FY 2048

Balance Sheet – Projected (1/2)

<i>(All figures are in AUD thousands)</i>	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
ASSETS					
Current Assets					
Cash & Cash Equivalents	17,898	31,039	27,453	77,975	268,585
Other	-	-	-	-	-
Total Current Assets	17,898	31,039	27,453	77,975	268,585
Non Current Assets					
Investment in JV Accounted for using	-	-	-	-	-
Property, Plant and Equipment	6	3	2	1	0
Exploration and Evaluation Assets	151,881	151,881	151,881	148,954	141,636
Capital WIP / Production Asset	-	263,077	701,538	860,023	817,775
Total Non Current Assets	151,887	414,960	853,420	1,008,978	959,412
TOTAL ASSETS	169,785	446,000	880,872	1,086,952	1,227,998
LIABILITIES AND EQUITY					
LIABILITIES					
Current Liabilities					
Trade and Other Payables	1,231	584	591	1,604	3,506
Total Current Liabilities	1,231	584	591	1,604	3,506
Non-Current Liabilities					
Long Term Borrowings	-	131,538	350,769	416,452	390,322
Total Non-Current Liabilities	-	131,538	350,769	416,452	390,322
TOTAL LIABILITIES	1,231	132,123	351,360	418,056	393,828
EQUITY					
Contributed Equity	215,300	346,838	566,069	653,761	653,761
Reserves	21,878	21,878	21,878	21,878	21,878
Accumulated Profits/ (Losses)	(68,624)	(54,840)	(58,434)	(6,744)	158,531
Non-controlling Interest	-	-	-	-	-
TOTAL EQUITY	168,554	313,877	529,513	668,896	834,170
TOTAL LIABILITIES AND EQUITY	169,785	446,000	880,872	1,086,952	1,227,998

*Note: The last year of production for the MSB asset according to our projections is FY 2048

Balance Sheet – Projected (2/2)

<i>(All figures are in AUD thousands)</i>	FY 2028	FY 2029	FY 2030	FY 2031	FY 2048*
ASSETS					
Current Assets					
Cash & Cash Equivalents	478,073	680,291	875,633	1,064,025	6,014,267
Other	-	-	-	-	-
Total Current Assets	478,073	680,291	875,633	1,064,025	6,014,267
Non Current Assets					
Investment in JV Accounted for using	-	-	-	-	-
Property, Plant and Equipment	0	0	0	0	0
Exploration and Evaluation Assets	133,588	125,539	117,490	109,441	-
Capital WIP / Production Asset	771,303	772,952	955,051	1,091,217	-
Total Non Current Assets	904,891	898,490	1,072,540	1,200,658	0
TOTAL ASSETS	1,382,964	1,578,781	1,948,174	2,264,683	6,014,267
LIABILITIES AND EQUITY					
LIABILITIES					
Current Liabilities					
Trade and Other Payables	3,863	3,804	3,742	3,694	2,490
Total Current Liabilities	3,863	3,804	3,742	3,694	2,490
Non-Current Liabilities					
Long Term Borrowings	361,578	358,833	461,196	532,522	-
Total Non-Current Liabilities	361,578	358,833	461,196	532,522	-
TOTAL LIABILITIES	365,441	362,637	464,939	536,216	2,490
EQUITY					
Contributed Equity	653,761	673,010	764,438	837,494	837,494
Reserves	21,878	21,878	21,878	21,878	21,878
Accumulated Profits/ (Losses)	341,884	521,256	696,918	869,095	5,152,405
Non-controlling Interest	-	-	-	-	-
TOTAL EQUITY	1,017,523	1,216,144	1,483,235	1,728,467	6,011,777
TOTAL LIABILITIES AND EQUITY	1,382,964	1,578,781	1,948,174	2,264,683	6,014,267

*Note: The last year of production for the MSB asset according to our projections is FY 2048

Valuation

Equity value of LPI stands between **AUD 448.1 million and AUD 547.7 million**

Equity value per share for LPI stands between **AUD 0.71 and AUD 0.87**

	Variance	Equity Value as on 20/07/2023 (in AUD thousands)	Price per Share (in AUD)
Downside Case	-10%	448,145	0.71
Base Case	0%	497,939	0.79
Upside Case	10%	547,733	0.87

Important information on Arrowhead methodology

The principles of the valuation methodology employed by Arrowhead BID are variable to a certain extent, depending on the sub-sectors in which the research is conducted. But all Arrowhead valuation research possess an underlying set of common principles and a generally common quantitative process.

With Arrowhead commercial and technical due diligence, Arrowhead researches the fundamentals, assets and liabilities of a company, and builds estimates for revenue and expenditure over a coherently determined forecast period.

Elements of past performance such as price/earnings ratios, indicated as applicable, are mainly for reference. Still, elements of real-world past performance enter the valuation through their impact on the commercial and technical due diligence.

We have presented the discounted cash flow estimate approach for FCFE valuation. We have also presented Comparable Company Analysis. The fair value bracket is built on the basis of these two methods.

Arrowhead BID Fair Market Value Bracket

The Arrowhead Fair Market Value is given as a bracket. This is based on quantitative key variable analyses such as key price analysis for revenue and cost drivers or analysis and discounts on revenue estimates for projects, especially relevant to projects estimated to provide revenue near the end of the chosen forecast period. Low and high estimates for key variables are produced as a valuation tool.

In principle, an investor comfortable with the high brackets of our key variable analysis will align with the high bracket in the Arrowhead Fair Value Bracket, and, likewise, in terms of low estimates. The investor will also note the company intangibles to analyze the strengths and weaknesses, and other essential company information. These intangibles serve as supplementary decision factors for adding or subtracting a premium in investor's own analysis.

The bracket should be taken as a tool by Arrowhead BID for the reader of this report and the reader should not solely rely on this information to make his decision on any particular security. The reader must also understand that while on the one hand global capital markets contain inefficiencies, especially in terms of information, on the other, corporations and their commercial and technical positions evolve rapidly. This present edition of the Arrowhead valuation is for a short to medium-term alignment analysis (one to twelve months).

Estimation of Equity Value

Value of LPI's equity has been arrived at using a blend of two approaches - Comparable Company Analysis and DCF Valuation Approach. The results have been summarized in the table below.

(All figures in AUD thousands)

Valuation Approach	Equity Value as on 20/07/2023	Price per share (AUD)	Weight (%)
Comparable Company Analysis	444,950	0.71	50%
DCF Valuation	550,928	0.88	50%
Weighted Average Equity Value	497,939	0.79	100%

Following is the detailed methodology of the two valuation approaches:

1. Comparable Company Analysis

Comparable Company Analysis method operates under the assumption that similar companies will have similar valuation multiples, such as EV/Proven and Probable Reserves. We have shortlisted companies similar in business with Lithium Power International based on parameters such as market size, regions of operations etc.

A list of available statistics for the companies was compiled, and the EV/Proven and Probable Reserves multiple was calculated for each of the comparable companies. Since most of the data was not normalized, we have left outliers in our calculations. The weighted average of the resulting multiple was then calculated and used as benchmark for valuing the LPI's MSB project.

The weights allocated to the comparable companies were based on the degree of their business match with the subject company.

(All figures in AUD thousands)

Relative Valuation based on:	Equity Value as on 20/07/2023	Implied Share Price (AUD)
EV / Proven & Probable Reserves	414,950	0.66
Add: Deal Consideration of WLI	30,000	
LPI's Value after the Sale of WLI	444,950	0.71

Business Match Score

We have considered nine junior lithium mining companies in our Comparable Company Analysis. Most of these companies are Australian and have assets in Australia, Argentina, and Spain. A majority of these companies are in pre-production stage and have completed their DFS.

We have assigned a business match score to these companies based on the country in which their assets are located, the lifecycle stage of their assets (exploration / development / production), and the nature of their reserves (measured / indicated / inferred).

Stock Exchange	Ticker	Company Name	Business Match Score	EV/Proven & Probable Reserves
ASX	AGY	Argosy Minerals Limited	40%	2,142.4
ASX	GLN	Galan Lithium Limited	80%	40.8
ASX	CXO	Core Lithium Limited	40%	6,550.9
ASX	EUR	European Lithium Limited	70%	277.2
ASX	INF	Infinity Lithium Corporation	70%	63.6
ASX	AVZ	AVZ Minerals Limited	50%	745.4
ASX	LTR	Liontown Resources Limited	50%	2,196.6
ASX	LKE	Lake Resources	60%	76.2
Median				277.2
Mean without Outliers				511.3
Weighted Average without Outliers				472.3
ASX	LPI	Lithium Power International		214.4

Sensitivity Analysis

We have also analyzed the sensitivity of Company's equity value to the EV/Proven and Probable Reserves multiple, calculated in the Comparable Company Analysis method.

Sensitivity based on EV/Proven & Probable Reserves Multiple

Target Multiple	Equity Value (AUD)	Price per share (AUD)
460.0x	407,800	0.648
470.0x	416,524	0.662
480.0x	425,249	0.676

2. Discounted Cash Flow (DCF) Approach for valuing LPI's MSB project

- **Valuation Methodology:** The Arrowhead fair valuation for Lithium Power International is based on the Discounted Cash Flow (DCF) analysis of the Company's investment in MSB.
- **Time Horizon:** The time period chosen is based on the production reserves available for the asset under MSB joint venture. The period chosen for valuation is 24 years (2024 – 2048).
- **Terminal Value:** Terminal Value is considered to be zero as the production reserves are depleted by the end of FY 2048.

The following table calculates the cost of equity for LPI. The expected return on the market is assumed for the broader market. We have additionally assumed a company-specific risk to account for the risk involved in bringing the lithium mine into the production stage:

Cost of Equity

Valuation	
Risk free rate (Rf)	4.16%
Beta	1.72
Equity Risk Premium	5.94%
Additional Company-specific Risk	2.50%
Cost of Equity	16.88%

The following tables summarize the Free Cash Flow to Equity computation for LPI, which is subsequently discounted at the Cost of Equity.

	2024	2025	2026	2027
Tax Adjusted Net Income	13,785	(3,595)	51,691	165,274
Add: Depreciation and Amortization	3	2	19,827	49,565
Less: Increase in Non-Cash Working Capital	646	(6)	(1,014)	(1,902)
Less: Capital Expenditure	263,077	438,461	175,384	-
Add: Increase in Debt	131,538	219,231	65,683	(26,130)
Free Cash Flow to Equity	(118,397)	(222,817)	(37,170)	190,611
Present Value	(101,299)	(163,109)	(23,280)	102,142

	2028	2029	2030	2031	2048
Tax Adjusted Net Income	183,353	179,373	175,662	172,177	96,237
Add: Depreciation and Amortization	54,522	54,522	54,521	54,521	27,019
Less: Increase in Non-Cash Working Capital	(357)	59	61	49	247
Less: Capital Expenditure	-	48,121	228,572	182,639	-
Add: Increase in Debt	(28,743)	(2,745)	102,363	71,326	-
Free Cash Flow to Equity	209,488	182,969	103,914	115,337	123,009
Present Value	96,046	71,773	34,876	33,119	2,492

(All figures in AUD thousands)

Valuation	
Equity Value as on 06/30/2023	546,239
Equity Value as on 20/07/2023	550,928
Number of Shares Outstanding (in thousands)	629,238
Value per Share (AUD)	0.88

The equity value of the Company is sensitive to the cost of equity. The following table captures the sensitivity of LPI's Value to these assumptions.

(All figures in AUD thousands)

Cost of Equity	Equity Value
11%	1,150,234
12%	1,012,862
13%	892,938
14%	787,924
15%	695,690
16%	614,449
17%	542,691
18%	479,140
19%	422,712
20%	372,485

Analyst Certifications

We, Karan Mehta and Aditya Ahluwalia, certify that all of the views expressed in this research report accurately reflect our personal views about the subject security and the subject company.

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Appendix

Glossary

LPI	Lithium Power International
JV	Joint Venture
MSB	Minera Salar Blanco S.A.
DFS	Definitive Feasibility Study
OCC	Old Code Mining Concessions
NCC	New Code Concessions
MoU	Memorandum of Understanding
Mitsui	Mitsui & Co., Ltd.
DLE	Direct Lithium Extraction
GEA Messo	GEA Messo GmbH
CLL	Centenario Lithium Limited
LPIH	Lithium Power International Holdings (Argentina) Pty Ltd
CP	Competent Person
QP	Qualified Person
LCE	Lithium Carbonate Equivalent
EPC	Engineering, Procurement and Construction
IRR	Internal Rate of Return
NPV	Net Present Value
EIA	Environmental Impact Assessment
CEOL	Special Contract for the Operation of Lithium
PPM	Parts Per Million
LCT	Lithium-Caesium-Tantalum
EDC	Export Development Canada
JBIC	Japan Bank for International Cooperation
EFA	Export Finance Australia
Vertex	Vertex Lithium Corporation
NLS	National Lithium Strategy
SEA	Servicio de Evaluación Ambiental

Notes and References

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