

AUSTRALIAN

# RESEARCH

INDEPENDENT INVESTMENT RESEARCH

## Lithium Power International Ltd (ASX:LPI)

August 2017

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**Note:** This report is based on information provided by the company as at August 2017

| Investment Profile              |                  |
|---------------------------------|------------------|
| Share Price as at 7 August 2017 | A\$0.29          |
| Mid-point Valuation             | A\$1.88          |
| Ordinary Shares                 | 145.5m           |
| Escrow Shares                   | 50.5m            |
| Listed Options                  | 71.1m            |
| Unlisted Options                | 33.5m            |
| Fully Diluted                   | 301.5m           |
| Market Capitalisation           | A\$56.8m         |
| 12 month L/H                    | A\$0.238/\$0.465 |
| Cash as at 30 June 2017 - LPI   | A\$4.27m         |
| Cash as at 30 June 2017 - JV    | US\$6.0m         |

| Board and Management  |  |
|---|--|
| Mr David Hannon: Non-Executive Chairman   |  |
| Mr Martin Holland: Managing Director/CEO  |  |
| Mr Reccared (Ricky) Fertig: Non-Executive Director/Chairman, Minera Salar Blanco S.A. |  |
| Mr Andrew Phillips: Non-Executive Director/Company Secretary/CFO                      |  |
| Mr Russell Barwick: Non-Executive Director  |  |
| Dr. Luis Ignacia Silva P: Non-Executive Director/Latin America Regional Manager       |  |
| Mr Murray Brooker: Group Technical and Exploration Advisor                            |  |
| Mr Stuart Peterson: Exploration Manager   |  |

| Major Shareholders                 |        |
|------------------------------------|--------|
| Martin Holland Direct and Indirect | 10.72% |
| David Hannon Direct and Indirect   | 10.57% |
| Ricky Fertig Direct and Indirect   | 9.00%  |
| Minera Salar                       | 8.17%  |
| Directors and Management           | 31.01% |
| Top 20                             | 58.79% |



Senior Analyst – Mark Gordon

The investment opinion in this report is current as at the date of publication. Investors and advisers should be aware that over time the circumstances of the issuer and/or product may change which may affect our investment opinion.

### MAJOR DE-RISKING & PROGRESS TOWARDS FEASIBILITY

**Maricunga quality demonstrated:** Since our March 2017 initiation note, ongoing work by Lithium Power International (“LPI” or “the Company”) to advance the Pre-feasibility Study (“PFS”) at the 32.5% owned (increasing to 50%) Maricunga Joint Venture (“Maricunga” or “the Project”) in the “Lithium Triangle” of the South American altiplano, has significantly de-risked the Project including returning resources and brine flow rates comparable to, and in most case superior to those of present operations and listed peers’ development projects; this confirms the potential for Maricunga to be developed into a world-class lithium brine operation.

**Major resource upgrade:** The most significant step has been a major resource upgrade for Maricunga with this increasing 3.7 fold from 574,000t contained lithium carbonate equivalent (“LCE”) to 2,150,000t contained LCE, with 80% of the new Mineral Resource Estimate (“MRE”) being in the Measured and Indicated categories which can be converted to Reserves; this also contains 5.7Mt of KCl, a potential valuable by-product of any future operation.

**Exploration Target:** The MRE is estimated down to a depth of 200m; drilling to date has intersected brine bearing units to a depth of 360m, with the interval from 200m to 400m over the salar (200m to 300m over the salar margin, being 16% of the property) being included in an Exploration Target with a range of 1,03Mt to 2.50Mt contained LCE and 2.94Mt to 6.60Mt KCl, with mid-points of 1.765Mt LCE and 4.77Mt KCl - this has the potential, with further work, to double the current MRE.

**High grade:** Both the MRE and Exploration Targets contain high grade lithium and potassium, being the highest grade of any pre-production resource globally; the Li grade of the total resource is 1,163mg/l, with the K grade being 8,512mg/l, with the Exploration Target ranges being 600mg/l to 1,000mg/l Li and 5,500mg/l to 7,500mg/l K. The only higher published grades are those of current producers in Salar Atacama.

**Positive pumping tests:** As part of the PFS additional pump testing was carried out over the upper, shallow halite aquifer – this returned a steady 45l/s flow rate over the seven day pumping period, with lithium grades remaining steady at 1,140mg/l and potassium at 8,322mg/l – there was also only a minor drop in water level in the upper halite aquifer – these flow rates are comparable to those of major lithium brine producers.

**Potentially low cost, high value project:** The above factors point towards the potential for Maricunga to be a low cost, high return project.

**Major ownership milestone:** In June 2017, the Company reached a major ownership milestone, reaching 32.5% (with no possibility of clawbacks) – this resulted from an advance payment of US\$5.5 million to accelerate activities, taking total payments into the Maricunga JV to date to US\$17.7 million, with US\$9.5 million remaining to secure the 50% ownership under the terms of the agreement; in addition the Company has the first right of refusal to purchase the remaining 32.3% that will continue to be held by the Chilean partner once LPI’s 50% ownership is reached.

**Pre-feasibility advancing:** Additional work associated with the ongoing PFS is advancing, with this including engineering, environmental, power and water amongst others; the PFS is due for completion by the end of 2017.

**Pilot plant processing:** This work is now underway, being overseen by Veolia and GEA, with the aim to produce lithium carbonate and a design for the flow sheet over coming months - lithium carbonate produced by this work will be used as samples for prospective offtakers.

**Chilean Presidential election:** The election is being held in November, with the favourite being the right of centre former President Sebastián Piñera; the feeling in Chile is that he will be positive for business should he be elected, and that investor confidence will increase.

**Forecast strong lithium demand:** Forecasts subsequent to our initiation report have indicated increased demand for LCE to 500,000t to 1,000,000t, and potentially up to 1,600,000tpa by 2026, a multiple of the 2015 demand of ~200,000t, with this largely driven by batteries for the electric automobile sector - this should ensure there will be room for new producers in the market, with prices remaining strong and our view is that long term prices of US\$10,000t LCE should be sustainable.

**Board reinforcement:** Mr Russell Barwick, a mining engineer, former CEO of Newcrest Mining and former COO of Goldcorp, was appointed to the Board of LPI in April, bringing considerable experience to an already strong and experienced Board.

**Steady news flow:** Ongoing activities, including the expected completion of the PFS at Maricunga by the end of 2017 will provide steady news flow for LPI.

**Valuation:** We have revised our valuation upward, based on the ultimate 50% ownership of Maricunga, to a range of A\$1.33 to \$2.44/share, with a mid-point of A\$1.88/share - our preferred valuation and price target is at the lower end of this range given the comparison with transaction valuations. In our view the key value drivers will be successful pilot plant lithium carbonate production and the completion of a robust PFS.

## ACTIVITIES UPDATE

### OVERVIEW

- ◆ Since our March 2017 initiation report LPI has made considerable progress on the Maricunga JV (Figure 1), in which the Company now owns 32.5% following accelerating payments required under the JV agreement; activities are concentrated on delivering a PFS by the end of 2017.
- ◆ This work has included a 3.7-fold MRE upgrade and successful brine pumping tests following completion of drilling in the March quarter, 2017, with this work demonstrating the world-class quality of the Project.
- ◆ Worley Parsons has been engaged to undertake the engineering work for the PFS and DFS, and Veolia and GEA are overseeing ongoing successful process testwork, including pilot scale lithium carbonate production.
- ◆ On the corporate front LPI raised \$12 million in a domestic and international institutional share placement – this allowed for a milestone payment into the JV of US\$5.5 million to be brought forward to fast track development of Maricunga.
- ◆ Mr Russell Barwick, former CEO of ASX-listed Newcrest Mining (ASX: NCM) and former COO of TSX-listed Goldcorp (TSX: G) was appointed to the Board in April 2017, adding considerable expertise to an already experienced Board.

Figure 1: Maricunga JV location



Source: LPI

### MARICUNGA JV - CHILE

#### Resource Upgrade

- ◆ A key development at Maricunga has been the upgrade of the MRE and Exploration Target (Tables 1 and 2), with the MRE containing 2.15Mt LCE and 5.70Mt KCl, potentially sufficient to support a long term operation (dependent upon Resource to Reserve conversion).
- ◆ The MRE upgrade covers an area 78% larger than the previous MRE, now incorporating the majority of the JV's tenement holdings, and to a depth of 200m, 50m deeper than the previous MRE – this is shown graphically in Figure 2; in addition, 80% of the Resource is now in the higher confidence Measured and Indicated categories.
- ◆ The grade of the MRE, at 1,163mg/l Li, is the highest of any undeveloped lithium brine project globally, and second only to that for current producers at Salar Atacama.

- ◆ Due to a 360m drillhole still being in brine at the bottom of hole, the Exploration Target covers the same area as the MRE, and from a depth of 200 to 400m over 85% of the Project that is located over the salar, and from 200m to 300m over the 15% that covers the salar margins – the potential salar depth of 400m is supported by geophysical surveys.
- ◆ The areas covered by the current and historical MREs and Exploration Target are shown graphically in Figure 2.
- ◆ Work carried out in conjunction with the MRE upgrade included porosity and permeability tests amongst others, including total and drainable porosity.
- ◆ Results of the drainable porosity tests are included in Table 3.

**Table 1: Maricunga Mineral Resource Estimate**

| Table 1: Maricunga Mineral Resource Estimate |                  |       |                  |       |                  |       |                        |       |                   |       |
|--|------------------|-------|------------------|-------|------------------|-------|------------------------|-------|-------------------|-------|
|  | Measured         |       | Indicated        |       | Inferred         |       | Measured+<br>Indicated |       | Total<br>Resource |       |
| Area km <sup>2</sup>                         | 18.88            |       | 6.76             |       | 14.38            |       | 25.64                  |       | 25.64             |       |
| Aquifer volume km <sup>3</sup>               | 3.06             |       | 1.35             |       | 0.72             |       | 4.41                   |       | 5.13              |       |
| Brine volume km <sup>3</sup>                 | 0.15             |       | 0.14             |       | 0.06             |       | 0.3                    |       | 0.36              |       |
| Mean drainable porosity %                    | 5.02             |       | 10.65            |       | 8.99             |       | 6.75                   |       | 7.06              |       |
| Element                                      | Li               | K     | Li               | K     | Li               | K     | Li                     | K     | Li                | K     |
| Mean grade g/m <sup>3</sup> of aquifer       | 56               | 409   | 114              | 801   | 114              | 869   | 74                     | 529   | 79                | 577   |
| Mean concentration mg/l                      | 1,174            | 8,646 | 1,071            | 7,491 | 1,289            | 9,859 | 1,143                  | 8,292 | 1,163             | 8,512 |
| Resource tonnes kt                           | 170              | 1,250 | 155              | 1,100 | 80               | 630   | 325                    | 1,350 | 405               | 1,980 |
| <b>LCE tonnes</b>                            | <b>900,000</b>   |       | <b>820,000</b>   |       | <b>430,000</b>   |       | <b>1,720,000</b>       |       | <b>2,150,000</b>  |       |
| <b>Potassium Chloride tonnes</b>             | <b>2,400,000</b> |       | <b>2,100,000</b> |       | <b>1,200,000</b> |       | <b>4,500,000</b>       |       | <b>5,700,000</b>  |       |

Source: LPI

**Table 2: Maricunga Exploration Target**

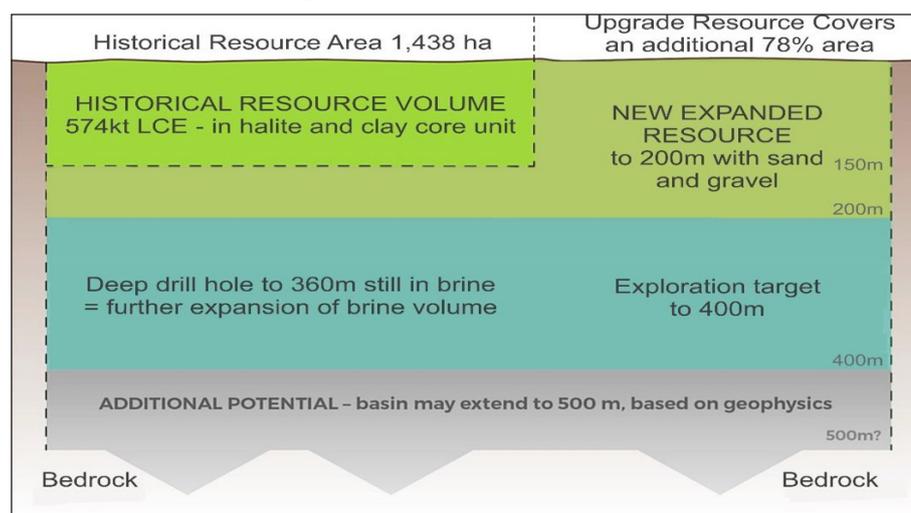
| Table 2: Maricunga Exploration Target |                                     |                    |                |                  |                      |                  |                  |
|---------------------------------------|-------------------------------------|--------------------|----------------|------------------|----------------------|------------------|------------------|
| Subarea                               | Brine volume million m <sup>3</sup> | Lithium Conc. mg/L | Lithium tonnes | LCE tonnes       | Potassium Conc. mg/L | Potassium tonnes | KCl tonnes       |
| <b>Upper Range Scenario</b>           |                                     |                    |                |                  |                      |                  |                  |
| Western                               | 42.3                                | 1,000              | 40,000         | 200,000          | 6,500                | 270,000          | 500,000          |
| Central                               | 428                                 | 1,000              | 430,000        | 2,300,000        | 7,500                | 3,200,000        | 6,100,000        |
| <b>Total</b>                          |                                     |                    | <b>470,000</b> | <b>2,500,000</b> |                      | <b>3,470,000</b> | <b>6,600,000</b> |
| <b>Lower Range Scenario</b>           |                                     |                    |                |                  |                      |                  |                  |
| Western                               | 25.4                                | 600                | 15,000         | 80,000           | 5,000                | 130,000          | 240,000          |
| Central                               | 257                                 | 700                | 180,000        | 950,000          | 5,500                | 1,400,000        | 2,700,000        |
| <b>Total</b>                          |                                     |                    | <b>195,000</b> | <b>1,030,000</b> |                      | <b>1,530,000</b> | <b>2,940,000</b> |

Source: LPI

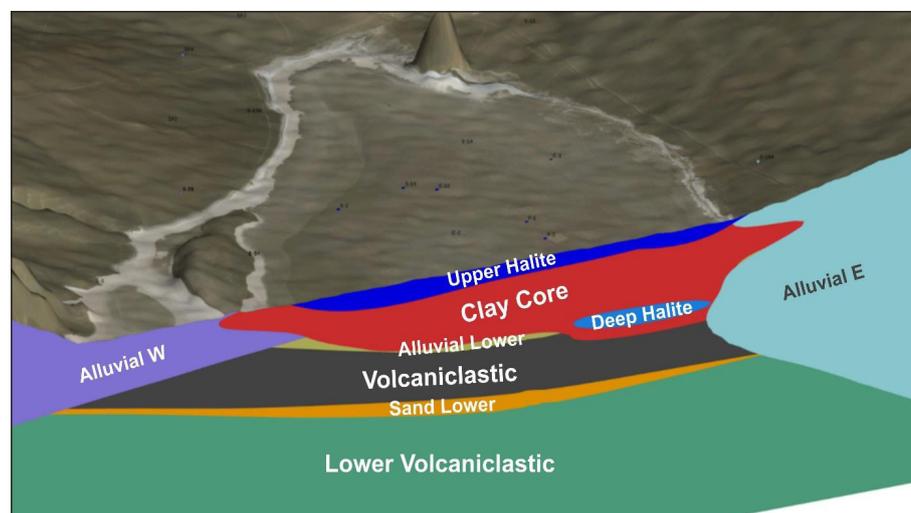
**Table 3: Maricunga drainable porosity**

| Table 3: Maricunga drainable porosity |                    |
|---------------------------------------|--------------------|
| Modelled Unit                         | Drainable Porosity |
| Upper Halite                          | 6.5%               |
| Clay Core                             | 2.2%               |
| Deep Halite                           | 5.3%               |
| Alluvial NW                           | 14.8%              |
| Lower Alluvial                        | 6.3%               |
| Lower Sand                            | 6.0%               |
| Upper Volcaniclastic                  | 10.3%              |
| Lower Volcaniclastic                  | 10.3%              |

Source: LPI

**Figure 2: MRE and Exploration Target schematic**

Source: LPI

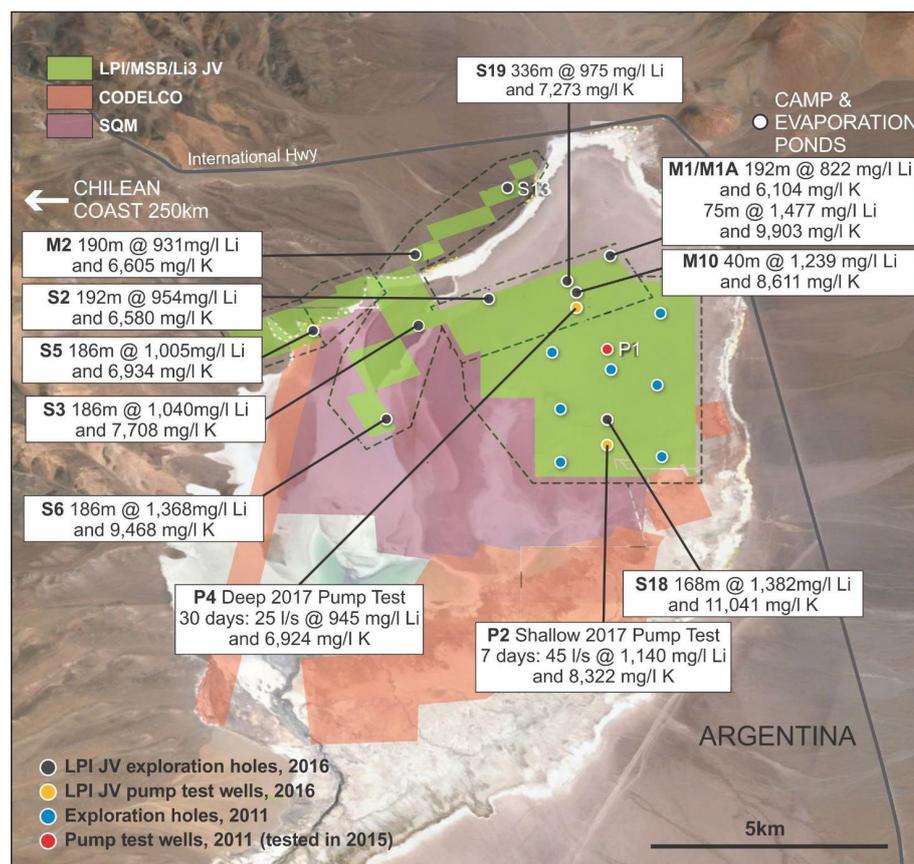
**Figure 3: Maricunga interpreted salar geology**

Source: LPI

### Well Pumping Tests

- ◆ The JV recently completed a pumping test of the upper halite horizon (Figure 3), testing the upper 16m in well P2 (Figure 4) – this returned a constant flow rate of 45l/s over the seven day test period, a similar rate to that achieved in commercial brine operations.
- ◆ Importantly, this delivered consistent grades averaging 1,140mg/l Li and 8,322mg/l K, and was also associated with only a minimal fall in the water table in the nearby monitoring wells highlighting the potential sustainability of the flows.
- ◆ The 150m deep well, which was installed in 2011, was also used, in 2015, to test the lower aquifer and upper halite, with a combined continuous flow rate of 37l/s over the 28-day test.
- ◆ The most recent test was carried out to elucidate the performance of the upper halite only (the previous test did not separate the two aquifers tested) – this is important in considering the ability of the upper halite to support the early stages of any operation, with the results of this latest test confirming this potential.
- ◆ This also follows on from earlier work in 2017 testing the deeper gravel and volcaniclastic sediments in well P4 which delivered 25l/s @ 945mg/l Li and 6,924mg/l K over the 30 day test.

Figure 4: Drill hole locations, intersections and pumping test results on tenements



Source: LPI

### Brine Process Test Work

- ◆ Veolia and GEA, both leading suppliers and service providers in the lithium space, have been appointed to oversee brine processing test work to produce battery grade lithium carbonate to demonstrate the capability to produce the material, and to provide samples from a number of batches for prospective customers and offtakers should the work be successful.
- ◆ The test work has included successful evaporation pond trials, with brine produced from these tests now being run through a lithium carbonate pilot processing plant operating in Berlin with the aim to successfully produce lithium carbonate over coming months, and to provide a design for the processing flow sheet.

### Other PFS Activities and Timeline

- ◆ Other activities relating to the PFS that have advanced include:
  - Engineering design work (with Worley Parsons appointed as engineering consultant),
  - Environmental studies, and,
  - Infrastructure studies, including water and power; the Project is close to the national highway network and ports and has good cellular phone coverage.
- ◆ The planned Project work programme is shown in Appendix 1, this also shows completed and current activities.
- ◆ Activities are now concentrated on “Phase 2”, with this targeting completion of the PFS and submission of the Environmental Impact Assessment (“EIA”) documents by the end of CY2017.
- ◆ Following that, work will then be aimed at completion of the DFS and receipt of Government approvals by the end of 2018.

### Project Ownership

- ◆ LPI has now achieved a clear 32.5% ownership in the Maricunga JV, with this achieved by an advance payment of US\$5.5 million to accelerate activities, taking total payments into the JV to US\$17.7 million.

- ◆ To increase equity to 50% LPI now needs to provide an additional US\$9.5 million into the JV, with this planned in a revised schedule of four tranches (note that all payments go into the ground, funding the JV work programmes):
  - US\$2 million in November 2017 – ownership to 36.2%
  - US\$2 million in March 2018 – ownership to 39.8%
  - US\$2 million in June 2018 – ownership to 43.5%
  - US\$3.5 million in September 2018 – ownership to 50%
- ◆ LPI also has the first right of refusal to buy out its Chilean partner's stake of 32.3% - should this happen LPI's ownership would increase to 82.3%, with the balance held by Li3 Energy, which is currently finalising a friendly takeover with Bearing Lithium (TSX-V: BRZ, "Bearing"), with this expected to be ratified by a vote by shareholders at an upcoming general meeting - Li3 currently has over 60% of shareholders committed to the scheme.

## CORPORATE

- ◆ Key corporate activities include an A\$12 million capital raising, and the appointment of Mr Russell Barwick to the Board.

### Capital Raising

- ◆ As announced to the market on April 6, 2017, LPI raised A\$11.8 million by the placement of 31,052,632 shares at A\$0.38/share to sophisticated and professional investors.
- ◆ An additional A\$200,000 under the same terms is to be placed to new board member Mr Russell Barwick.
- ◆ Each share issued has one free attaching listed option, exercisable within two years of issue at a price of A\$0.55.
- ◆ The use of the capital raised included the US\$5.5 million (~A\$7 million) that was advanced to the Maricunga JV to increase equity to 37.5%.

### Board Appointment

- ◆ The appointment of Mr Russell Barwick as a Non-Executive Director was announced to the market on April 12, 2017.
- ◆ Mr. Barwick is an internationally renowned mining executive and engineer with over 43 years technical, managerial and corporate experience in various commodities. He initially worked for Bougainville Copper Limited [CRA], Pancontinental Mining Limited [Jabiluka Uranium] and CSR Ltd [Hail Creek Coal]. Following this, Mr. Barwick spent 16 years with Placer Dome Inc. occupying a number of key development, operational and corporate roles in numerous countries culminating in being appointed Managing Director of Placer Nuigini Ltd.
- ◆ He then served as Chief Executive Officer of Newcrest Mining Limited (ASX: NCM) where he achieved strong market support. For the four-year period, up to 2007, Mr Barwick was the Chief Operating Officer of Wheaton River Minerals and Goldcorp Inc. during which the quickly evolving company grew from market capitalisation of several hundred million dollars to CAD\$22 billion and became the third largest gold company in the world by market capitalisation. He is currently the non-executive Chairman of Red Metal Ltd (ASX: RDM) and a non-executive director of Mt Gibson Iron Ltd (ASX: MGX).
- ◆ LPI commented that "Mr. Barwick will add a distinctive skill set to the Board with a strong development, operating and corporate background, particularly in Latin America, along with providing the Company with leadership recognised by the international resources investment community".

## VALUATION

- ◆ We have updated our valuation for LPI, and as for our initiation note we have used both comparable transactions and multiple of in-ground value ("IGV") methods for the valuation of Maricunga, which comprises over 90% of the Company valuation.
- ◆ Our valuation is presented in Table 4 - these are the results of the IGV multiple method for Maricunga, as the comparable transaction valuation, at A\$1.40/share for Maricunga and A\$1.54/share for the Company falls at the lower end of this range and thus supports the results of this.
- ◆ It needs to be noted that both of these are indicative valuations only.

- ◆ Our valuation for Maricunga equates to A\$222 to A\$424/tonne LCE, significantly higher than the EV/tonne LCE for peers as shown in Table 5.
- ◆ However market valuations generally do not reflect the actual NAV during the exploration and development phase (and often in the operations phase), with a rule of thumb being that the market ascribes ~50% of the NAV of a company, hence differences between the valuation here and the market valuations in Table 5.
- ◆ The per share valuation does not take into account the potential dilutional effect of the 29 million long life in-money options, that are exercisable at A\$0.20 by 24/6/2021.

**Table 4: LPI valuation**

| LPI Valuation     |                    |              |              |                       |               |               |
|-------------------|--------------------|--------------|--------------|-----------------------|---------------|---------------|
| Asset             | Total Value (A\$m) |              |              | Per Share Value (A\$) |               |               |
|                   | Low                | Mid          | High         | Low                   | Mid           | High          |
| Maricunga Lithium | \$238              | \$347        | \$456        | \$1.22                | \$1.77        | \$2.33        |
| Other Projects    | \$10               | \$10         | \$10         | \$0.05                | \$0.05        | \$0.05        |
| Cash              | \$12               | \$12         | \$12         | \$0.06                | \$0.06        | \$0.06        |
| <b>Total</b>      | <b>\$260</b>       | <b>\$369</b> | <b>\$478</b> | <b>\$1.33</b>         | <b>\$1.88</b> | <b>\$2.44</b> |

Source: IIR analysis

### Multiple of In-Ground Value

- ◆ This is a rule of thumb method, and needs to be treated with care, however is useful for first pass estimates of potential value.
- ◆ Here we use factors, largely related to the confidence of the resource, and apply them to the in-ground value to arrive at an indicative valuation – this should ideally be used with other methods.
- ◆ The IGV of 2,150,000t of LCE using prices of US\$10,000/t is US\$21.50 billion.
- ◆ Calculating the IGV of recoverable resources, using say a 40% recovery factor for the brine, gives an IGV of US\$8.60 billion.
- ◆ As a rule of thumb, given the grade and high margin nature of the operation the NPV can be set at 15% of IGV, which would make an indicative project NPV of US\$1.29 billion.
- ◆ LPI's ultimate 50% share is therefore indicatively worth US\$645 million in the ground.
- ◆ This is then discounted/weighted according to the Resource confidence:
  - Measured Resources are weighted at 50% to 80%,
  - Indicated Resources are weighted at 20% to 50%
  - Inferred Resources are weighted at 5% to 20%
  - The resource weighted average for Maricunga is 30% to 56%
- ◆ This provides a valuation range for 50% of Maricunga, discounted for resource confidence of US\$191 - US\$364 million.
- ◆ At an AUD/USD exchange rate of 0.80 this results in an indicative valuation range of A\$238 - A\$456 million for 50% of the project, or A\$1.22 - A\$2.33/share undiluted.

### Comparable transaction

- ◆ As discussed in our initiation note the only publicly disclosed transaction that we are aware of is the merger of Li3 and Bearing, with the merged entity holding 17.7% of Maricunga.
- ◆ Our view in our initiation report was that the transaction gave an implied valuation of C\$220 million for the project, or C\$385/tonne LCE based on the then NI43-101 Measured Resource of 574,000t LCE.
- ◆ Subsequently the resource has been increased to 2,150,000t contained LCE, however the confidence has decreased overall given that not all of the resources are in the Measured category, therefore the value per tonne of LCE should be decreased to reflect this.
- ◆ An approximate multiplier may be the ratio of the midpoint weighting for Measured Resources (65%), and that for Maricunga as given above (43%), or 66%, resulting in a revised transaction value of A\$254/tonne LCE.
- ◆ Applying this to LPI's ultimate 50% share of the Maricunga resource of 1,075,000t LCE, results in a value of A\$274 million, which falls towards the lower end of our IGV multiple valuation.

## PEER GROUP

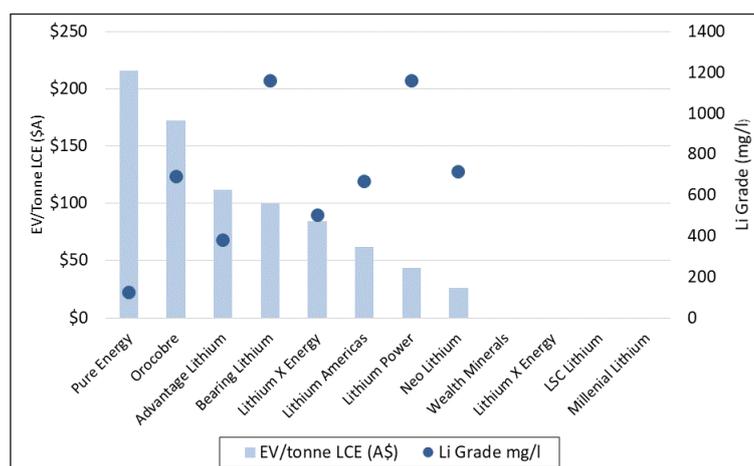
- ◆ LPI is one of a number of listed lithium brine explorers, developers and producers, with these listed in Table 5 and shown in Figure 5.
- ◆ With the exception of Orocobre and LPI which are ASX-listed, these are all listed on the TSX; Orocobre is a producer and Lithium Americas is currently in construction.
- ◆ We have assumed parity between the Canadian and Australia Dollars in converting figures, including enterprise values.
- ◆ In comparing companies we have used brine grades and the EV/tonne of company equity share of contained LCE; in calculating the latter we have used the ultimate project ownership.
- ◆ EV/tonne LCE should be treated as an indicative comparison only, as a number of factors will affect this metric, however this does show a general trend upwards to production - this will be discounted for companies with large resources, where those resources are sufficient to accommodate more than a 20-30 year operation.
- ◆ We have also included LPI's JV partner Bearing Resources here, assuming that the Li3 Energy takeover will proceed – we note the relatively higher value of this minority JV partner.
- ◆ EV is calculated as undiluted market capitalisation less net cash – no allowance has been made for other projects that the companies may own.

**Table 5: LPI Peers**

| Company            | Code     | Key Project        | EV (A\$M) | LCE (mt) | M & I % | Li Grade (mg/l) | Ultimate. O'Ship | EV/tonne LCE (A\$) |
|--------------------|----------|--------------------|-----------|----------|---------|-----------------|------------------|--------------------|
| Pure Energy        | PE.TSXV  | Clayton Valley     | \$47      | 0.2      | 0%      | 123             | 100%             | \$216              |
| Orocobre           | ORE.ASX  | Salar Olaroz       | \$782     | 6.8      | 95%     | 690             | 66.5%            | \$173              |
| Advantage Lithium  | AAL.TSXV | Cauchari           | \$39      | 0.5      | 0%      | 380             | 75%              | \$112              |
| Bearing Lithium    | BRZ.TSXV | Salar Maricunga    | \$38      | 2.2      | 80%     | 1,160           | 17.7%            | \$100              |
| Lithium X Energy   | LIX.TSXV | Sal de Los Angeles | \$139     | 2.1      | 51%     | 501             | 80%              | \$84               |
| Lithium Americas   | LAC.TSX  | Cauchari-Olaroz    | \$366     | 11.8     | 100%    | 666             | 50%              | \$62               |
| Lithium Power      | LPI.ASX  | Salar Maricunga    | \$47      | 2.2      | 80%     | 1,160           | 50%              | \$44               |
| Neo Lithium        | NLC.TSXV | Tres Quebrados     | \$54      | 2.1      | 35%     | 714             | 100%             | \$26               |
| Wealth Minerals    | WML.TSXV | Various            | \$157     | N/A      | N/A     | N/A             | 100%             | N/A                |
| Lithium X Energy   | LIX.TSXV | Arizaro            | \$139     | N/A      | N/A     | N/A             | 100%             | N/A                |
| LSC Lithium        | LSC.TSXV | Various            | \$111     | N/A      | N/A     | N/A             | 100%             | N/A                |
| Millennial Lithium | ML.TSXV  | Various            | \$48      | N/A      | N/A     | N/A             | 100%             | N/A                |

Source: IRESS, company reports, IIR analysis

**Figure 5: LPI Peers**



Source: IRESS, company reports, IIR analysis

## LITHIUM MARKETS

- ◆ Lithium markets have continued to perform strongly since our initiation report, with high prices being maintained.
- ◆ Lithium carbonate prices from lithium brines have remained around and above US\$10,000/tonne, with prices for hard rock spodumene concentrate supporting this level.
- ◆ Some forecasters have the lithium market growing at +10% CAGR over the next 8 years, with this largely driven by demand for rechargeable batteries - this market has reportedly grown by 20% CAGR since 2000 (driven by the growth in consumer electronics and phones), with upcoming growth largely due to the expected increase in sales of electric vehicles.
- ◆ This would result in the demand for LCE growing from ~220,000tpa currently to 400,000tpa by 2025.
- ◆ More aggressive forecasting by Roskill (9th Lithium Supply & Markets Conference, Montreal, 31st May 2017) has demand growing to between 800,000tpa and 1,600,000tpa LCE by 2026, a growth of between 15% and 23% CAGR, mainly driven by the growth in the electric vehicle market.
- ◆ On the more conservative side, Stormcrow, in their 2015 121 Hong Kong conference presentation, presented the possibility that by 2025 minimum additional LCE demand from batteries alone will be 104,000tpa, a 50% increase on current total LCE production and at a 4% CAGR.
- ◆ Even the most conservative forecast increase in demand should continue to support current prices of at or above US\$10,000/t LCE, and we could conceivably see further price increases.
- ◆ However there is the perceived ready potential for the current oligopoly to increase production to meet any demand increases, and also the potential to price new players that are considered a threat out of the market – just two upcoming expansion projects, Greenbushes and Albemarle's Salar de Atacama Project have the potential to add up to 100,000tpa LCE into the market.
- ◆ In addition, if Mt. Marion and Mt. Cattlin reach their combined targets of 537,000tpa spodumene concentrate they have the capacity to supply an additional 50,000tpa of LCE into the market, assuming average concentrate grades of 5.0% Li<sub>2</sub>O and metallurgical recoveries of 75%.
- ◆ Some commentators however doubt whether the full potential will be reached on the expansion projects.
- ◆ Our view is that we will continue to see strong demand increases and prices going forward, and thus there will be significant space for new players in the market.
- ◆ With average cash operating costs of US\$3,000/t LCE for brine projects, there is the potential for high margin projects to be developed.

## RISKS

- ◆ **Lithium regulatory environment:** Our view is that this is the key risk facing LPI given the current uncertainty in the lithium regulations in Chile, however there is a good possibility that the situation will improve. If it doesn't change there may be the risk that quotas are not allowed for Maricunga.
- ◆ **Permitting:** This is a risk facing any potential developer, however Chile has a well understood permitting environment; issues we see would may involve delays rather than failure to permit (except for that mentioned above), and also issues related to the National Park near which the Project is situated.
- ◆ **Resource:** This has been largely de-risked given recent results (including the MRE upgrade and well tests) with the potential of the upgraded MRE to support a long term operation.
- ◆ **Processing:** This is the key technical risk now, with the need to be able to produce lithium carbonate from the pilot scale tests currently underway.
- ◆ **Funding:** This may be an issue should the lithium market crash over the period that the PFS and BFS are being undertaken. The Company has 29 million A\$0.20 options with an expiry date of 24/6/2021 - these have the potential to bring in A\$5.8 million when exercised.

- ◆ **Political and business:** Presidential elections will be held in November this year, with the right of centre Sebastián Piñera expected to be elected, following on from the four year term of Michelle Bachelot, a member of the Socialist Party of Chile - the Chilean Constitution forbids Presidents from seeking immediate re-election following their four year term however may stand at a later date - Sebastián Piñera was previously President from 2010 from 2014, with Michelle Bachelot serving two terms, the first from 2006 to 2010 and the second from 2014 to present. The feeling in Chile is that, should he be elected, Sebastián Piñera will be positive for business and investor confidence, with Piñera running on a pro-business platform. Business confidence has fallen under Bachelot's watch (as has her popularity) due to tax and labour reforms (including strengthening union power), however the low copper price hasn't helped either. We are seeing confidence starting to increase in anticipation of the expected election result. A key risk here however would, unlikely that it may be, if radical left wing congressman Alejandro Guillier gets elected - he reportedly is considered the strongest rival to Sebastián Piñera.

## APPENDIX 1: PROJECT TIMELINE



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