Piedmont Lithium

New equity infusion

Share Price: A$0.09

ASX: PLL
Sector: Materials
23 June 2020

Piedmont Lithium (ASX: PLL) is a hard rock lithium play that owns 100% of the integrated project in North Carolina, USA. Recently, PLL released a pre-feasibility study (PFS) on its chemical plant, a specialty chemical facility that would convert spodumene concentrate (SC6.0) into battery-grade lithium hydroxide (LiOH) for use in the electric vehicles.

PLL receives new equity funding

In June 2020, PLL announced an equity raising of A$29M to support the development of its integrated project. To date, PLL has completed its US public offering component and raised gross proceeds of A$18.6M. PLL's contemporaneous Australian private placement is fully-allocated to raise another A$10.8M, with closing expected in late July 2020 after a shareholder vote. The combined proceeds are planned to be spent on ongoing project development including a Definitive Feasibility Study, testwork, permitting, ongoing land consolidation and general corporate purposes.

Merchant model vs Integrated model

Besides reinforcing the compelling economics of PLL's integrated project (i.e. mine/concentrator & chemical plant), the PFS highlighted a new investment case for the company's LiOH chemical plant when viewed as a stand-alone merchant SC6.0 conversion facility. In contrast to the integrated model where the mine/concentrator will supply the required SC6.0 to the plant for LiOH conversion, this merchant model would instead purchase SC6.0 from the global markets. Given the chemical plant's flexibility to externally source SC6.0 and thereby being able to function on its own, it is clear that the merchant model provides optionality to PLL, which we believe should limit the downside risk of the integrated project.

Valuation upgraded to A$0.33 – A$0.60 per share

We continue to value PLL on a DCF analysis of the integrated model. After re-aligning our assumptions with most of the scoping studies updates and factoring in the de-risking of the integrated project, our valuation range remains largely intact.

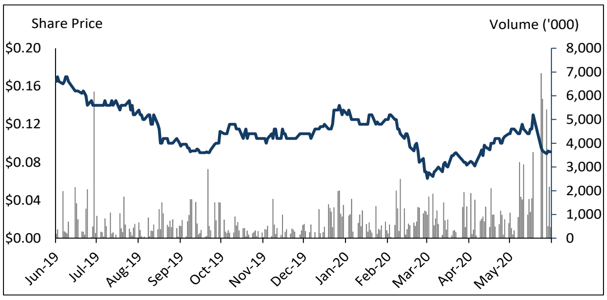
Year to June (A$)	2019A	2020F	2021F	2022F	2023F
Sales (m)	0.0	0.0	0.0	0.0	444.5
EBITDA (m)	(17.2)	(16.2)	(16.5)	(16.3)	328.9
Net Profit (m)	(17.0)	(16.1)	(16.0)	(15.8)	189.1
EBITDA Margin (%)	NM	NM	NM	NM	74.0%
EPS (cent)	NM	NM	NM	NM	4.4
EV/Sales	NM	NM	NM	NM	1.9x
EV/EBITDA	NM	NM	NM	NM	2.5x
P/E	NM	NM	NM	NM	2.0x

Source: Company, Pitt Street Research

Market Cap. (A$ m)	91.9
# shares outstanding (m)	1,032
# shares fully diluted	1,073
Market Cap Ful. Dil. (A$ m)	95.5
Free Float	91.7%
52-week high/low (A$)	0.17 / 0.06
Avg. 12M daily volume ('1000)	807.1
Website	piedmontlithium.com

Source: Company, Pitt Street Research

Share price (A$) and avg. daily volume (k, r.h.s.)



Source: Pitt Street Research

Valuation metrics	
DCF fair valuation range (A$)	0.33 – 0.60
WACC	11.1%
Assumed terminal growth rate	None

Source: Pitt Street Research

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Profit & Loss (US$M)	2018A	2019A	2020F	2021F	2022F	2023F	2024F	2025F
Sales Revenue	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**257.0**	**403.8**	**371.0**
Operating expenses	-10.1	-9.9	-9.4	-9.5	-9.4	-66.9	-116.4	-116.4
Adjusted EBITDA	**-10.1**	**-9.9**	**-9.4**	**-9.5**	**-9.4**	**190.1**	**287.4**	**254.6**
Depn & Amort	0.0	0.0	-0.1	-0.1	-0.1	-30.7	-45.2	-45.2
Adjusted EBIT	**-10.1**	**-10.0**	**-9.4**	**-9.6**	**-9.5**	**172.4**	**261.3**	**228.5**
Net Interest	0.0	0.0	0.0	0.0	0.0	-30.5	-30.5	-30.5
Profit before tax (before exceptional)	**-10.0**	**-9.8**	**-9.3**	**-9.2**	**-9.1**	**141.9**	**232.9**	**203.6**
Tax expense	0.0	0.0	0.0	0.0	0.0	-32.6	-53.5	-46.8
NPAT	**-10.0**	**-9.8**	**-9.3**	**-9.2**	**-9.1**	**109.3**	**179.4**	**156.8**

Cash Flow (US$M)	2018A	2019A	2020F	2021F	2022F	2023F	2024F	2025F
Profit after tax	-10.0	-9.8	-9.3	-9.2	-9.1	109.3	179.4	156.8
Depreciation	0.0	0.0	0.0	0.0	0.0	17.7	26.2	26.2
Changes in working capital	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4
Other operating activities	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Operating cashflow	**-7.6**	**-9.8**	**-8.9**	**-8.8**	**-8.7**	**127.5**	**205.9**	**183.4**
Capex	0.0	0.0	0.0	0.0	-544.6	-10.3	-10.3	-10.3
Other investing activities	-0.6	-1.5	-3.0	0.0	0.0	0.0	0.0	0.0
Investing cashflow	**-0.6**	**-1.6**	**-3.0**	**0.0**	**-544.6**	**-10.3**	**-10.3**	**-10.3**
Equity raised	12.5	8.8	27.7	11.2	163.4	0.0	0.0	0.0
Net proceeds from borrowings	0.0	0.0	0.0	0.0	381.2	0.0	0.0	0.0
Other financing activities	-0.7	-0.5	-0.7	-0.6	-9.4	0.0	0.0	0.0
Net change in cash	3.6	-3.0	15.1	1.8	-18.1	117.2	195.7	173.1
Cash at End Period	7.2	4.4	19.5	21.3	3.2	120.4	316.1	489.2

Balance Sheet (US$M)	2018A	2019A	2020F	2021F	2022F	2023F	2024F	2025F
Cash	7.2	4.4	19.5	21.3	3.2	120.4	316.1	489.2
Total Assets	8.1	6.8	24.9	26.8	553.3	663.2	843.1	1,000.4
Total Liabilities	2.0	2.1	2.6	3.1	384.9	385.4	385.9	386.4
Shareholders' Funds	6.1	4.6	22.3	23.7	168.5	277.8	457.2	614.1

Ratios	2018A	2019A	2020F	2021F	2022F	2023F	2024F	2025F
Net debt/Equity	nm	nm	nm	nm	388.0%	162.4%	24.6%	nm
Total Cash / Total Assets	89.8%	65.3%	78.4%	79.6%	0.6%	18.2%	37.5%	48.9%
Return on Equity (%)	nm	nm	nm	nm	nm	49.0%	48.8%	29.3%

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PLL receives additional equity funding to advance its integrated mine-to-hydroxide project

In June 2020, PLL announced an equity raising of A$29M to support the development of its integrated mine-to-hydroxide project.

To date, PLL has completed its US public offering and raised gross proceeds of A$18.6M which included the exercise of underwriters' over-allotment option.

In addition to the public offering, there is also a private placement component attached to the equity raising which is expected to raise gross proceeds of A$10.8M. Completion of the private placement is subject to shareholder approval to be determined at a general meeting expected in late July 2020.

The expected A$29M equity proceeds will be used to continue funding the development of the integrated Piedmont project, including a Definitive Feasibility Study, testwork, permitting, ongoing land consolidation and for general corporate purposes.

PFS evaluates PLL's chemical plant as a stand-alone merchant spodumene converter

In May 2020, PLL released a pre-feasibility study (PFS) on its proposed lithium hydroxide (LiOH) chemical plant located in Kings Mountain, North Carolina, USA. The PFS considered two development scenarios, one which evaluated the chemical plant as a stand-alone merchant spodumene-to-LiOH converter, and the other which considered the chemical plant as part of an integrated mine-to-hydroxide project as initially envisaged in the prior scoping study released back in August 2019.

Updated scoping study reinforces robust economics for PLL's integrated project

As described in our initiation report, the integrated project will work off the basis that a mine/concentrator to be internally developed by PLL, will produce spodumene concentrate (SC6.0) in-house which will then be transported to the company's chemical plant for LiOH conversion.

In comparison to the previous scoping study, the updates included:

- more conservative LiOH pricing of US$13,281/t (previous: US$16,345/t)
- a modest increase in capex, cash operating cost and sustaining capex of the chemical plant to US$376.7M, US$3,712/t, US$108.7M respectively
- bring-forward of the chemical plant construction schedule with first LiOH production expected in 2023 (single-phase integrated approach)
- Shortening of the LiOH production ramp-up schedule
- Reduction in SC6.0 third party sales from 697Kt to 142Kt

Overall, the updated scoping study still delivered compelling economics for the integrated project, which included an NPV_8 of US$1.1B (previous: US$1.4B), with the reduction mostly driven by the utilisation of a more conservative commodity price.

LiOH chemical plant viewed as a stand-alone SC6.0 converter

In addition to updating the integrated project scoping study, PFS also assessed the chemical plant on stand-alone basis and valued it at an NPV_8 of US$714M. Clearly, the value of the chemical plant when independently assessed is lower compared to the integrated project, with the difference in value attributable to a higher level of LiOH production cost required. Based off the PFS results, we argue the integrated project as a more cost-effective model due to the internal sourcing of SC6.0.

With the potential of PLL's chemical plant being a stand-alone merchant SC6.0 converter, we see additional upsides accruing to the company. Currently, China possesses most of the world's operating SC6.0 conversion plants from which global automotive companies source their LiOH production from. As more and more companies localise their supply chains, we expect them to increasingly seek lithium supply from nearby locations. Accordingly, we believe the establishment of an SC6.0 converting plant in North Carolina will prove attractive to ongoing and prospective lithium buyers given its proximity to major automotive markets in the US and Europe.

Optionality de-risks PLL's integrated project

We see the flexibility of PLL's chemical plant being an independent merchant model helps to limit funding risk for the integrated project as it would provide financiers with more confidence regarding the utilisation of the chemical plant. Additionally, we argue this optionality also mitigates execution risk for the integrated project since the chemical plant can potentially operate independently of the mine/concentrator. In the worst-case scenario that construction and development of the mine/concentrator do not execute as smoothly as anticipated, PLL can still source SC6.0 from external producers and utilise the commodity inputs inside its chemical plant.

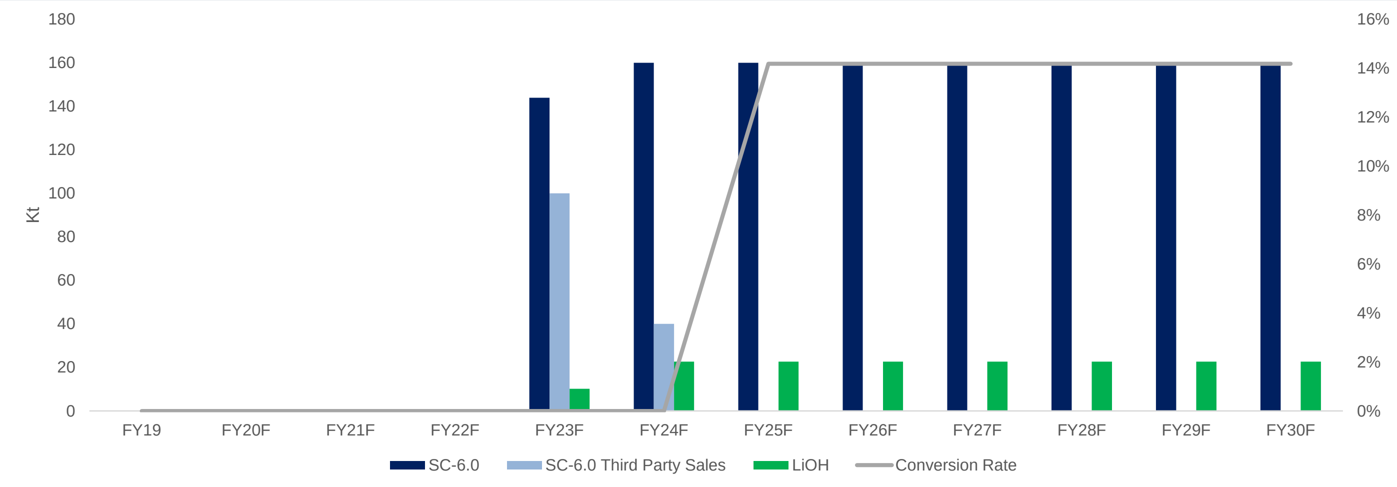
Overall, we argue the optionality presented by the chemical plant as a stand-alone SC6.0 converter would limit downside risk to the company's integrated mine-to-hydroxide project. In our valuation section below, we attempt to illustrate how this option value could be potentially incorporated into the NPV of PLL's integrated model.

Valuation remains largely intact

We continue to value PLL on a DCF analysis of the integrated project. Our revised valuation range remains largely intact at A$0.33 – A$0.60 per share (previous: A$0.34 – 0.62) based on some of the revised inputs from the updated scoping study and the optionality provided by the merchant SC6.0 converter model. On LiOH long-term price outlook, we retain our initial pricing of approximately US$16,000/t as we remain positive on the medium-term outlook for lithium.

Figure 1 illustrates our revised base case production outlook for SC6.0 and LiOH, which now assumes a single-phase construction for the integrated mine-to-hydroxide project that commences in FY22F, with first production of both SC6.0 and LiOH in FY23F. We have modelled approximately 100Kt of SC6.0 to be sold to third parties in FY23F followed by another 40Kt in FY24F.

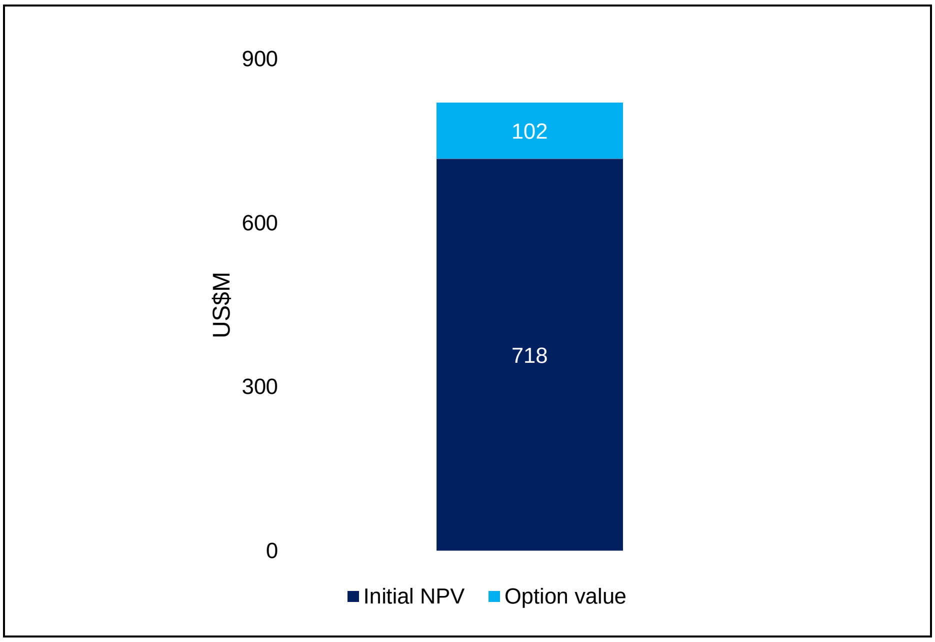
Figure 1: Base case production outlook for PLL's integrated project



Source: Pitt Street Research, Company Report

Figure 2 shows our revised base case NPV of US$820M for the integrated mine-to-hydroxide project, with the incremental increase of US$102M attributable to the optionality delivered by the stand-alone SC6.0 converter model. We derive this option value through a reduction of our discount rate by 100bps to 11.1% as we argue the optionality provided by the stand-alone conversion plant de-risks PLL's integrated project.

Figure 2: NPV break-up analysis



Source: Pitt Street Research

Figure 3 shows our revised valuation summary for PLL's integrated project. The midpoint of our valuation range is A$0.48 per share. Included within our valuation is an assumed US$174.6M equity raising between FY21F and FY22F, which would lift share counts to 4,343m base case and 3,349m optimistic case. The revised increase in the number of shares that need to be raised is due to the need of a larger upfront capital to fund the construction and development of the mine/concentrator and the chemical plant, following an expected reduction in the amount of SC6.0 to be sold to third parties.

Figure 3: Valuation summary for PLL's integrated project

Valuation (Post Equity Financing)	Base	Optimistic
NPV of integrated Piedmont project	820.9	1,151.1
Net debt/(cash)	(19.5)	(19.5)
Minority Interest	-	-
Other Investments	-	-
Equity value (US$M)	**840.5**	**1,170.6**
Diluted shares (M) (Post equity raising)	4,343.3	3,349.5
Implied price (US$ per share)	0.19	0.35
Exchange rate	1.73	1.73
Implied price (A$ per share)	**0.33**	**0.60**
Current price (A$ per share)	0.09	0.09
Upside (%)	276.1%	579.3%

Source: Pitt Street Research

PLL adds one of the world's leading lithium marketers to its senior management team

In June 2020, PLL announced its appointment of Mr. Austin Devaney as Vice President – Sales & Marketing.

Mr. Devaney has a chemical engineering background and held senior sales and marketing roles with Albemarle Corporation, the world's no.1 lithium producer, for most of the past decade. He also served as Global Product Manager in LiOH and National Sales Manager in battery products for Albemarle's predecessor, Rockwood Lithium. Before Albemarle, Mr. Devaney worked for several US chemical companies including Occidental Chemical Corporation, Kemira and Fuchs Lubricants in senior marketing and operational capacity. He received a Bachelor of Science in Chemical Engineering from Clemson University and an MBA from South Methodist University.

Notably, Mr. Devaney harnessed deep relationships with many important industry participants in the global EV supply chain, which in our view will significantly enhance PLL's ability to secure potential LiOH offtake agreements with quality customers.

Mr. Devaney will join PLL on 1 July 2020 and will be based in North Carolina.

Re-rating PLL

PLL's stock is currently trading below our base case valuation. The primary factors that will support a re-rating of the stock are as follows:

1. Results of the LiOH bench-scale testwork expected in Q2 2020.
2. Binding offtake agreements with other partners for the production of LiOH at its chemical plant.
3. Further value engineering studies by Hatch and Primero Group or continuous improvement initiatives to increase project economics.
4. Completion of the Definitive Feasibility Study (DFS) for the integrated project (chemical plant + mine and concentrator) would substantially de-risk the project. PLL plans to complete the DFS by the end of 2020.

Risks

We see four main risks related to PLL's investment thesis:

1. **Pricing risk**: Prices of lithium have recently come under pressure due to the excess capacity built over the previous year. While PLL is at a relatively advantageous position to supply low-cost product quickly to end clients, any further decline in prices could prove to be detrimental to its funding and expansion plans.
2. **Geological risk**: The resource statistics for the Piedmont Lithium project are estimates, and it is possible that their characteristics may differ. There could be a risk of insufficient resources getting re-categorised as reserves.
3. **Funding risk**: Initially, PLL had planned to utilise the proceeds from spodumene concentrate sales to fund the construction of its chemical plant. However, now with the accelerated LiOH strategy, PLL decided to eliminate its spodumene concentrate sale to the Chinese market to ensure feed for its chemical plant. As a result, the company would need substantial funding in order to carry out its development plans for the vertically integrated project.
4. **Execution risk**: As the project is still in the development stage, there is an inherent risk associated with timely construction and development of the mine/concentrator and chemical plant. The ability of the management to secure offtake partners for its LiOH product also poses a risk.

Please see https://www.pittstreetresearch.com/ for our initial coverage report on PLL.

Appendix I - Analyst Qualifications

Stuart Roberts, lead analyst on this report, has been an equities analyst since 2002.

- Stuart obtained a Master of Applied Finance and Investment from the Securities Institute of Australia in 2002. Previously, from the Securities Institute of Australia, he obtained a Certificate of Financial Markets (1994) and a Graduate Diploma in Finance and Investment (1999).
- Stuart joined Southern Cross Equities as an equities analyst in April 2001. From February 2002 to July 2013, his research specialty at Southern Cross Equities and its acquirer, Bell Potter Securities, was Healthcare and Biotechnology. During this time, he covered a variety of established healthcare companies such as CSL, Cochlear and Resmed, as well as numerous emerging companies. Stuart was a Healthcare and Biotechnology analyst at Baillieu Holst from October 2013 to January 2015.
- After 15 months in 2015 and 2016 doing Investor Relations for two ASX-listed cancer drug developers, Stuart founded NDF Research in May 2016 to provide issuer-sponsored equity research on ASX-listed Life Science companies.
- In July 2016, with Marc Kennis, Stuart co-founded Pitt Street Research Pty Ltd, which provides issuer-sponsored research on ASX-listed companies across the entire market, including Life Science companies.
- Since 2018 Stuart has led Pitt Street Research's Resources Sector franchise, spearheading research on both mining and energy companies.

Cheng Ge is an equities research analyst at Pitt Street Research.

- Cheng obtained a B.Com in Finance and LL.B from University of New South Wales, in 2013, and has passed all three levels of the CFA Program.
- Prior to joining Pitt Street Research, he has worked for several financial services firms in Sydney, where his focus was on financial advice.
- He joined Pitt Street Research in January 2020.

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