PITT STREET RESEARCH

Piedmont Lithium

PLL locks deal with Tesla

Share Price: A$0.48

ASX: PLL

Sector: Materials

7 October 2020

Tesla to source spodumene concentrate from PLL

On 28 September 2020, PLL reported that it locked a binding sales agreement with Tesla Inc (NASDAQ: TSLA) to supply spodumene concentrate (SC6) to the leading electric vehicle company on fixed pricing arrangement for an initial five-year term. The agreement is subject to renewal of a second five-year term. In our view, this agreement marks a significant milestone for PLL and unlocks the potential for further offtake agreements for its lithium and by-products. In addition, the deal also highlights the strategic importance of PLL's unique American spodumene deposit as well as the nature of spodumene as the preferred feedstock for the lithium hydroxide required in high-nickel batteries.

Favourable LiOH test results mark significant milestone

In July 2020, PLL completed a bench-scale testwork programme to produce LiOH. This is a significant landmark as the study proved that the ore from PLL's acreage in North Carolina can be used to produce battery-grade LiOH. PLL can leverage this study results to pitch to potential customers.

ECP contractor secured

In our view, PLL's appointment of its experienced technical consultant, Primero Group, as its engineering, procurement and construction (EPC) contractor, will significantly mitigate execution risk relating to the lithium project. Additionally, the joint venture formed by PLL and Ion Carbon & Minerals for the marketing of by-products (quartz, mica and feldspar) and securing related offtake agreements will help further de-risk the lithium project.

Valuation upgraded to A$0.69 – A$1.26 per share

We continue to value PLL using a DCF analysis of the integrated model. Based on the re-rated stock price, we upgrade our valuation range to reflect the reduced dilutive impact of future equity raise required to fund the upfront capex of PLL's integrated project. We also revise our SC6 production and revenue modelling to incorporate PLL's latest deal with Tesla. Key risks we see are: 1) lithium pricing risk; 2) geological risk; 3) funding risk and 4) execution risk.

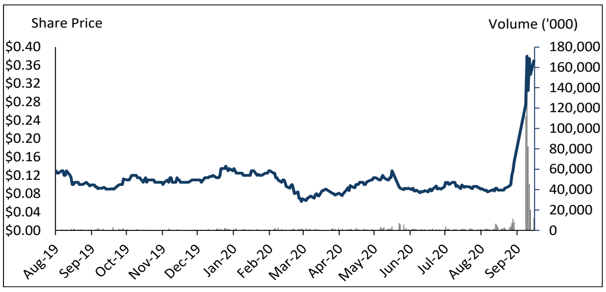
Year to June (A$)	2019A	2020A	2021F	2022F	2023F
Sales (m)	0.0	0.0	0.0	0.0	459.9
EBITDA (m)	(17.2)	(9.8)	(12.9)	(10.9)	322.3
Net Profit (m)	(17.0)	(9.8)	(12.5)	(10.5)	181.0
EBITDA Margin (%)	NM	NM	NM	NM	70.1%
EPS (cent)	NM	NM	NM	NM	9.7
EV/Sales	NM	NM	NM	NM	2.9x
EV/EBITDA	NM	NM	NM	NM	4.2x
P/E	NM	NM	NM	NM	4.9x

Source: Company, Pitt Street Research

Market Cap. (A$ m)	612.1
# shares outstanding (m)	1,275.3
# shares fully diluted (m)	1,294.4
Market Cap Ful. Dil. (A$ m)	621.3
Free Float	88.3%
52-week high/low (A$)	0.51 / 0.06
Avg. 12M daily volume ('1000)	2,784.1
Website	www.piedmontlithium.com

Source: Company, Pitt Street Research

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



Source: Refinitiv Eikon

Valuation metrics	
DCF fair valuation range (A$)	0.69 – 1.26
WACC	11.1%
Assumed terminal growth rate	None

Source: Pitt Street Research

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Profit & Loss (US$M)	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F
Sales Revenue	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**265.8**	**290.5**	**276.9**
Operating expenses	-10.1	-9.9	-5.6	-7.5	-6.3	-79.5	-88.2	-88.2
Adjusted EBITDA	**-10.1**	**-9.9**	**-5.6**	**-7.5**	**-6.3**	**186.3**	**202.3**	**188.7**
Depn & Amort	0.0	0.0	-0.1	-0.1	-0.1	-34.7	-38.5	-38.5
Adjusted EBIT	**-10.1**	**-10.0**	**-5.7**	**-7.5**	**-6.4**	**166.3**	**180.0**	**166.5**
Net Interest	0.0	0.0	-0.2	0.0	0.0	-30.5	-30.5	-30.5
Profit before tax (before exceptional)	**-10.0**	**-9.8**	**-5.7**	**-7.2**	**-6.1**	**135.8**	**151.6**	**140.4**
Tax expense	0.0	0.0	0.0	0.0	0.0	-31.2	-34.8	-32.3
NPAT	**-10.0**	**-9.8**	**-5.7**	**-7.2**	**-6.1**	**104.6**	**116.8**	**108.1**

Cash Flow (US$M)	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F
Profit after tax	-10.0	-9.8	-5.7	-7.2	-6.1	104.6	116.8	108.1
Depreciation	0.0	0.0	0.1	0.1	0.1	20.1	22.3	22.3
Changes in working capital	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4
Other operating activities	2.4	0.0	-1.4	0.0	0.0	0.0	0.0	0.0
Operating cashflow	**-7.6**	**-9.8**	**-7.0**	**-6.7**	**-5.6**	**125.1**	**139.5**	**130.8**
Capex	0.0	0.0	-0.7	0.0	-544.6	-10.3	-10.3	-10.3
Other investing activities	-0.6	-1.5	-2.7	0.0	0.0	0.0	0.0	0.0
Investing cashflow	**-0.6**	**-1.6**	**-3.4**	**0.0**	**-544.6**	**-10.3**	**-10.3**	**-10.3**
Equity raised	12.5	8.8	27.4	7.8	163.4	0.0	0.0	0.0
Net proceeds from borrowings	0.0	0.0	-0.4	0.0	381.2	0.0	0.0	0.0
Other financing activities	-0.7	-0.5	-2.3	-0.5	-9.4	0.0	0.0	0.0
Net change in cash	3.6	-3.0	14.3	0.6	-15.0	114.8	129.2	120.5
Cash at End Period	7.2	4.4	18.9	19.5	4.5	119.3	248.5	369.0

Balance Sheet (US$M)	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F
Cash	7.2	4.4	18.9	19.5	4.5	119.3	248.5	369.0
Total Assets	8.1	6.8	27.7	28.3	557.9	663.1	780.4	889.0
Total Liabilities	2.0	2.1	3.6	4.1	385.8	386.3	386.8	387.3
Shareholders' Funds	6.1	4.6	24.0	24.2	172.1	276.7	393.5	501.6

Ratios	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F
Net debt/Equity	nm	nm	nm	nm	378.8%	163.7%	58.3%	4.2%
Total Cash / Total Assets	89.8%	65.3%	68.2%	68.8%	0.8%	18.0%	31.8%	41.5%
Return on Equity (%)	nm	nm	nm	nm	nm	46.6%	34.9%	24.2%

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PLL inks SC6 sales agreement with Tesla

In an update to the market on 28 September 2020, PLL announced that it has locked a binding sales agreement with Tesla Inc (NASDAQ: TSLA) to supply the leading electric vehicle company with spodumene concentrate (SC6) on fixed pricing arrangement for an initial five-year term. The agreement is subject to renewal of a second five-year term.

The Tesla deal would see PLL supplying almost 1/3 of its planned SC6 annual production for an initial five-year term

According to the company, its agreement with Tesla is expected to cover a fixed commitment equating to around 1/3 of PLL's planned SC6 production of 160ktpa for the initial five-year term. Consequently, we have updated our SC6 production and revenue modelling to be in line with this latest development (see valuation section for more detail).

In our view, PLL's agreement with Tesla marks a significant milestone for the company and unlocks the potential for further lithium and by-product offtake agreements. In addition, it also highlights the strategic importance of PLL's unique American spodumene deposit as well as the nature of spodumene as the preferred feedstock for the lithium hydroxide (LiOH) required in high-nickel batteries.

Favourable results of bench-scale LiOH testwork

In July 2020, PLL completed a bench-scale testwork for LiOH at SGS Canada's facility in Lakefield, Ontario. The results reaffirmed that battery-grade LiOH monohydrate can be produced using spodumene from PLL's project in North Carolina. The results compare favourably with the current industry specifications for battery quality LiOH and confirm the low-impurity profile of PLL's mineral resource (Figure 1).

Figure 1: Results of PLL's LiOH testwork compared with industry specifications

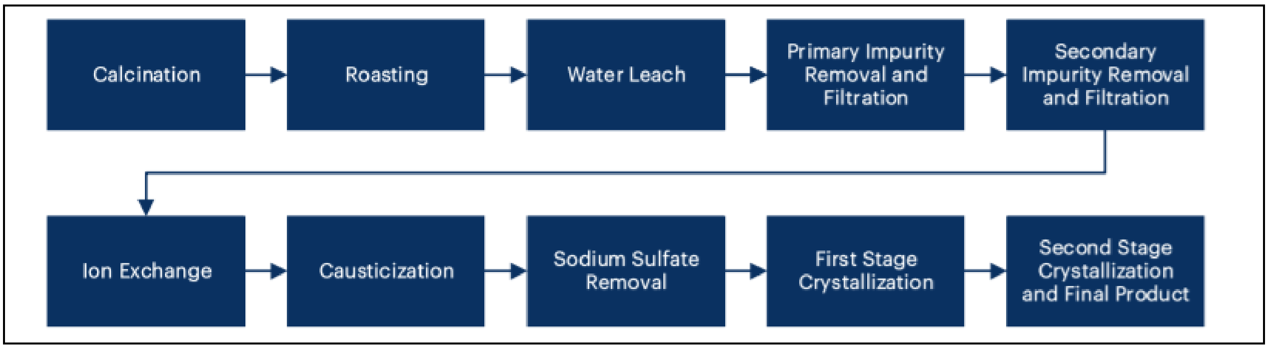
Product	Unit	PLL results	China Spec[1]	Livent Spec[2]	Ganfeng Spec[2]
LiOH	%	>56.5	≥56.5	56.5	56.5
Na	ppm	<20	≤80	20	20
K	ppm	<10	≤20	10	10
Fe	ppm	<2	≤8	5	5
Ca	ppm	<9	≤200	15	15
Cu	ppm	<1	-	5	5
Mg	ppm	<0.7	-	-	10
Si	ppm	8	-	30	30
Cl	ppm	<10	≤50	20	20
SO_4	ppm	<100	≤150	100	100
CO_2	%	0.48	0.40	0.35	0.50

Source: Company; [1]GB/T 8766-2013 (Chinese national standards for LiOH monohydrate); [2]Livent and Gangfeng are competitors from the US and China, respectively

The testwork complements the results obtained in the PFS

The testwork was carried out using the 'ore-to-hydroxide' conversion route (Figure 2), which is consistent with the process design of PLL's chemical plant. In May 2020, PLL had released a pre-feasibility study (PFS) on its proposed LiOH chemical plant located in Kings Mountain, North Carolina. One of the two scenarios of the PFS was the construction of an integrated 'mine-to-hydroxide' project, which will use the ore from PLL's mine in the Carolina Tin-Spodumene belt, and transport it to the chemical plant for conversion to LiOH. We believe that the testwork results confirm the project flow sheet that the company had set out initially, and by extension, the management's technical expertise.

Figure 2: Flow diagram of LiOH conversion testwork programme



Source: Company

In our view, these test results indicate a significant milestone for PLL on its route to market. With the establishment of the potential to produce battery grade LiOH at its proposed chemical plant, PLL will now commence pitching its samples to potential customers and this is where the role of its newly appointed VP of sales and marketing, Austin Devaney, will become crucial.

Joint venture for marketing by-products to focus on securing offtake agreements

In its June 2020 quarterly report, PLL announced it was entering into a joint venture (JV) with its marketing partner Ion Carbon & Minerals. In October 2019, Ion Carbon & Minerals and PLL entered into a letter of intent (LoI) to partner on the marketing of quartz, feldspar and mica produced at the company's project.

The JV – Pronto Minerals LLC – will act as the sales and marketing agent for PLL's by-products for an initial period of five years. Pronto Minerals will build upon the initial work undertaken by Ion Carbon & Minerals on the sales discussions with North American customers. Notably, the potential sales discussions for quartz have advanced the most, with multiple product samples being delivered to solar glass manufactures located in Eastern US. Consequently, the near-term plans for Pronto Minerals include working towards securing offtake commitments from such potential customers. Additionally, Pronto Minerals will be sending samples of feldspar and mica, which have been produced in partnership with SGS Canada at its Ontario facility.

We believe securing offtake agreements for by-products will help de-risk the PLL project by lowering its overall funding requirement. Notably, the three by-products have a host of applications in highly lucrative end markets. While mica is used extensively in integrated circuits and automotive parts, quartz finds applications in glassmaking and electronics industries, such as semiconductors, radios and watches. Further, feldspar is a common ingredient in the glass and ceramics industries, where it is used as a fluxing agent to increase strength and durability.

Appointment of EPC contractor mitigates execution risk

PLL has signed a memorandum of understanding (MoU) with the Primero Group, under which Primero will act as the engineering, procurement and construction (EPC) contractor for the proposed spodumene concentrator. Primero has been PLL's lead engineering consultant since 2018 and is already familiar with the latter's work on the project, having provided it a host of services such as scoping studies, concentrator design and metallurgical testwork management.

Under the MoU, Primero will work with PLL on the definitive feasibility study (DFS), front-end engineering design, EPC delivery, commissioning and ramp-up. Further, once the construction of the spodumene concentrator is completed, Primero will operate it on a contract basis for a period of up to six years.

PLL can leverage Primero's extensive technical know-how to mitigate execution risk

Primero is a leader in design, construction and contract operations of spodumene projects, with a proven track record. It has extensive experience in providing engineering services to companies such as Sigma Lithium, Savannah Resources and Core Lithium. Primero is also engaged in providing services to the current operations of Pilbara Minerals, Altura, Alliance Minerals and Galaxy.

In our view, the current EPC agreement between PLL and Primero is a logical extension of their existing partnership and a proven expert such as Primero should help mitigate the execution risk for PLL's project.

Well-funded for achieving near-term milestones

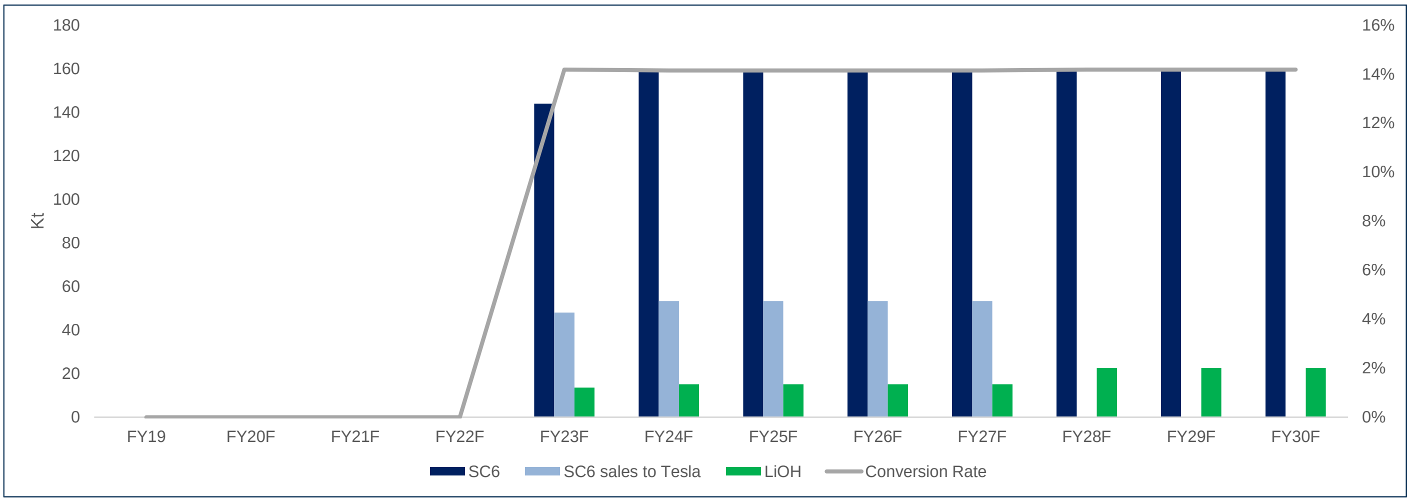
As part of the previously announced equity raising programme, PLL completed a private placement of A$10.8M on 10 August 2020. In June 2020, the company had announced an equity raising programme of A$29M to support the development of its integrated mine-to-hydroxide project. In the same month, PLL completed a US public offering, raising gross proceeds of A$18.6M which included the exercise of underwriters' over-allotment option.

This infusion of cash should help PLL achieve its near-term milestones, such as the completion of the DFS. The proceeds will also help fund other activities that are part of the development process, such as testing, permitting and ongoing land consolidation.

Valuation upgraded to A$0.69 – A$1.26 per share

We continue to value PLL using a DCF analysis of the integrated model. Based on the re-rated stock price, we upgrade our valuation range to reflect the reduced dilutive impact of future equity raise required to fund the upfront capex of PLL's integrated project. We also revise our SC6 production and revenue modelling to incorporate PLL's latest deal with Tesla (Figure 3).

Figure 3: Base case production outlook for PLL's integrated project



Source: Pitt Street Research

Other recent positive developments – resumption of drilling to improve mineral resources within the Carolina Tin-Spodumene Belt region, favourable testwork results for LiOH, signing of the EPC contractor and completion of equity raising programme – engender confidence in the company's progress on its planned milestones.

Figure 4 shows our valuation summary for PLL's integrated project. The midpoint of our valuation range is A$0.97 per share. Included within our valuation is an assumed US$163.4M of equity raising for FY22F, which would lift share count to 1,879M base case and 1,683M optimistic case.

Figure 4: Valuation summary for PLL's integrated project

Valuation (Post Equity Financing)	Base	Optimistic
NPV of integrated Piedmont project	725.8	1,207.0
Net debt/(cash)	(18.9)	(18.9)
Minority Interest	-	-
Other Investments	-	-
Equity value (US$M)	**744.7**	**1,225.9**
Diluted shares (M) (Post equity raising)	1,878.8	1,682.6
Implied price (US$ per share)	0.40	0.73
Exchange rate	1.73	1.73
Implied price (A$ per share)	**0.69**	**1.26**
Current price (A$ per share)	0.48	0.48
Upside (%)	42.8%	162.6%

Source: Pitt Street Research

Re-rating PLL

We believe the following events will further drive a re-rating of the stock:

1) Further binding offtake agreements with partners for the production of LiOH and/or its by-products at its chemical plant.
2) Completion of the DFS for the integrated project (chemical plant + mine and concentrator) would substantially de-risk the project.
3) Further value engineering studies by Hatch and Primero Group or continuous improvement initiatives to increase project economics.

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 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 has 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 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. Although the signing of Primero as PLL's EPC partner mitigates this risk to an extent, there is still risk associated with the management's ability to secure offtake partners for its LiOH product.

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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