



# Superior Strategic Positioning

Corporate Presentation – December 2018



ASX: PLL | NASDAQ: PLL

ABN 50 002 664 495





# Lithium Market Update

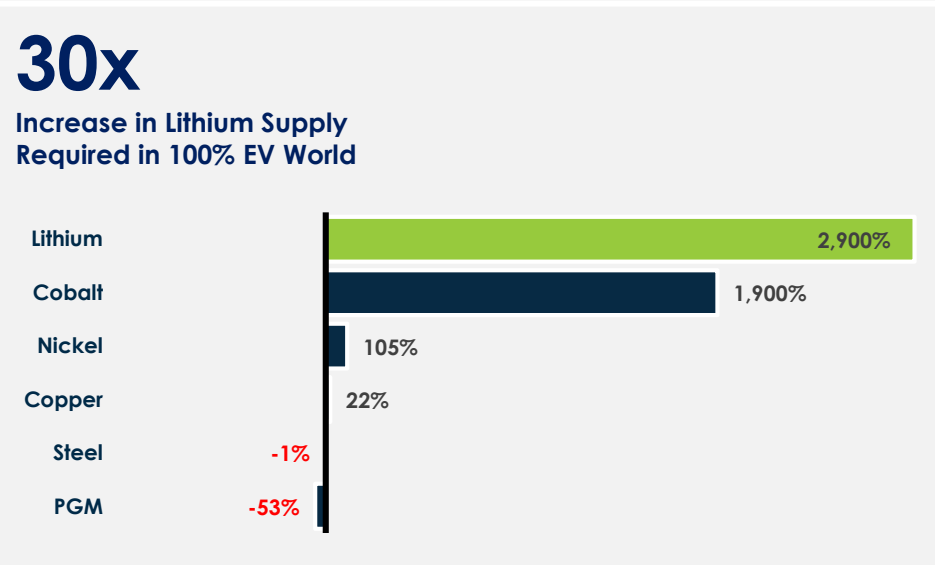
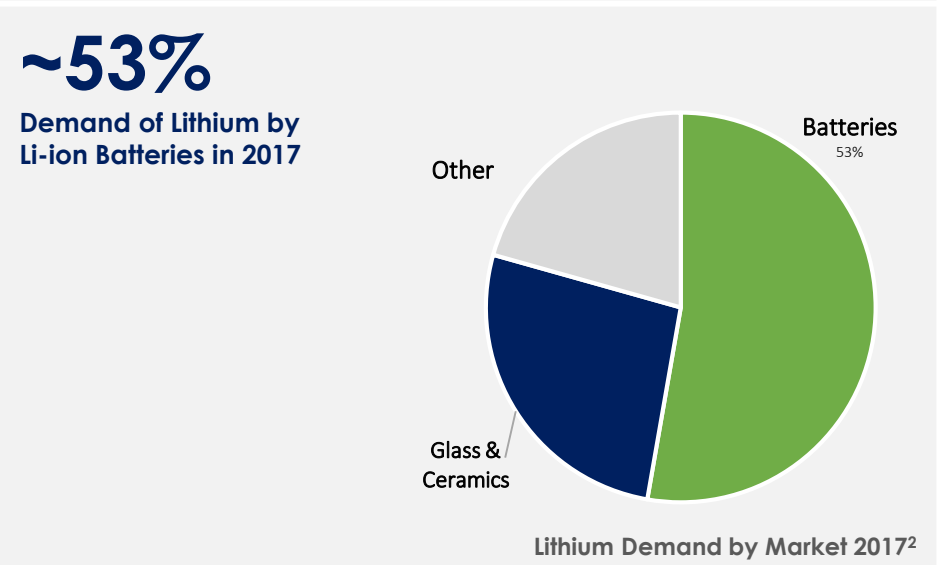
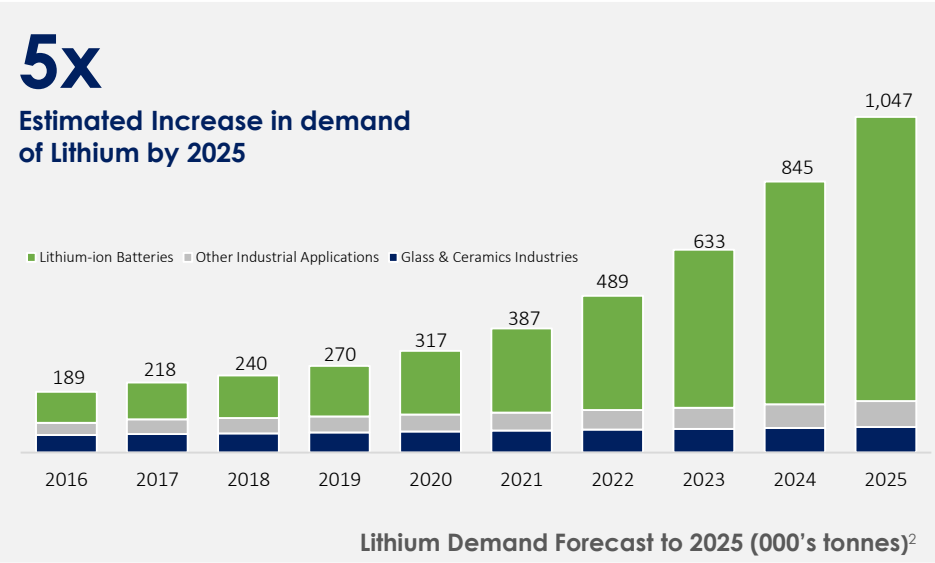
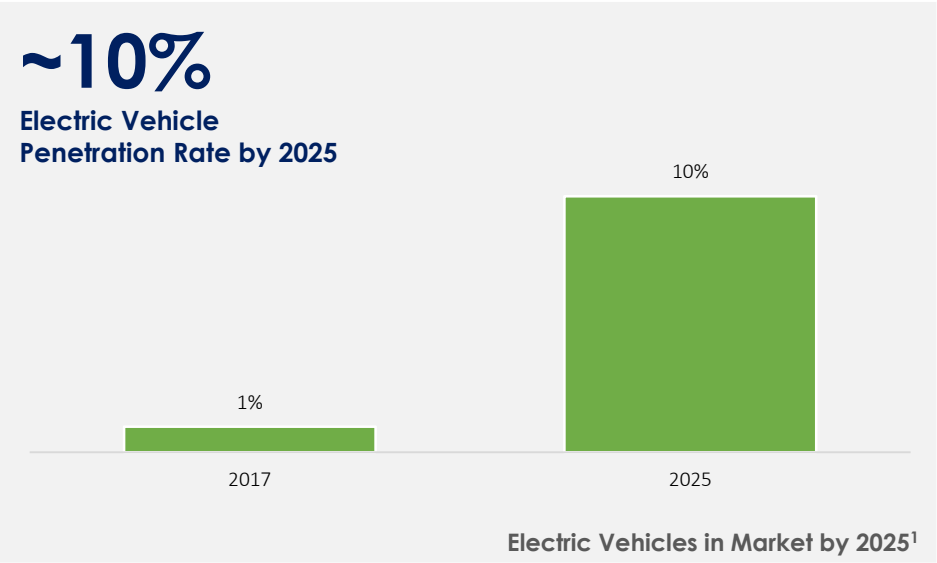
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*Demand Growth Accelerating and Supply Delays Persist*

# Lithium Market Commentary

<b>EV Demand Accelerating</b>	<ul style="list-style-type: none"><li>▪ Tesla Model 3 the #1 selling car in USA</li><li>▪ Wave of new models coming to market</li><li>▪ Cost parity has arrived</li></ul>
<b>Supply Below Expectations</b>	<ul style="list-style-type: none"><li>▪ Producers all under-performing expectations</li><li>▪ Big 4 producing nations face challenges</li></ul>
<b>Lithium Prices Remain Strong</b>	<ul style="list-style-type: none"><li>▪ China spot down from 2018 but contract prices high</li><li>▪ Albemarle and Livent contracting at record levels</li></ul>
<b>EV Market Shifting to Hydroxide</b>	<ul style="list-style-type: none"><li>▪ Required in high-nickel chemistry batteries</li><li>▪ Spodumene the low-cost source</li></ul>
<b>Positive Strategic Transactions</b>	<ul style="list-style-type: none"><li>▪ Albermarle's \$1.15bb investment in Wodgina</li><li>▪ Tianqi's \$4.1bb purchase of a 24% stake in SQM</li><li>▪ Posco's \$280mm purchase of lithium rights from Galaxy</li></ul>

# Outstanding Lithium Demand Fundamentals



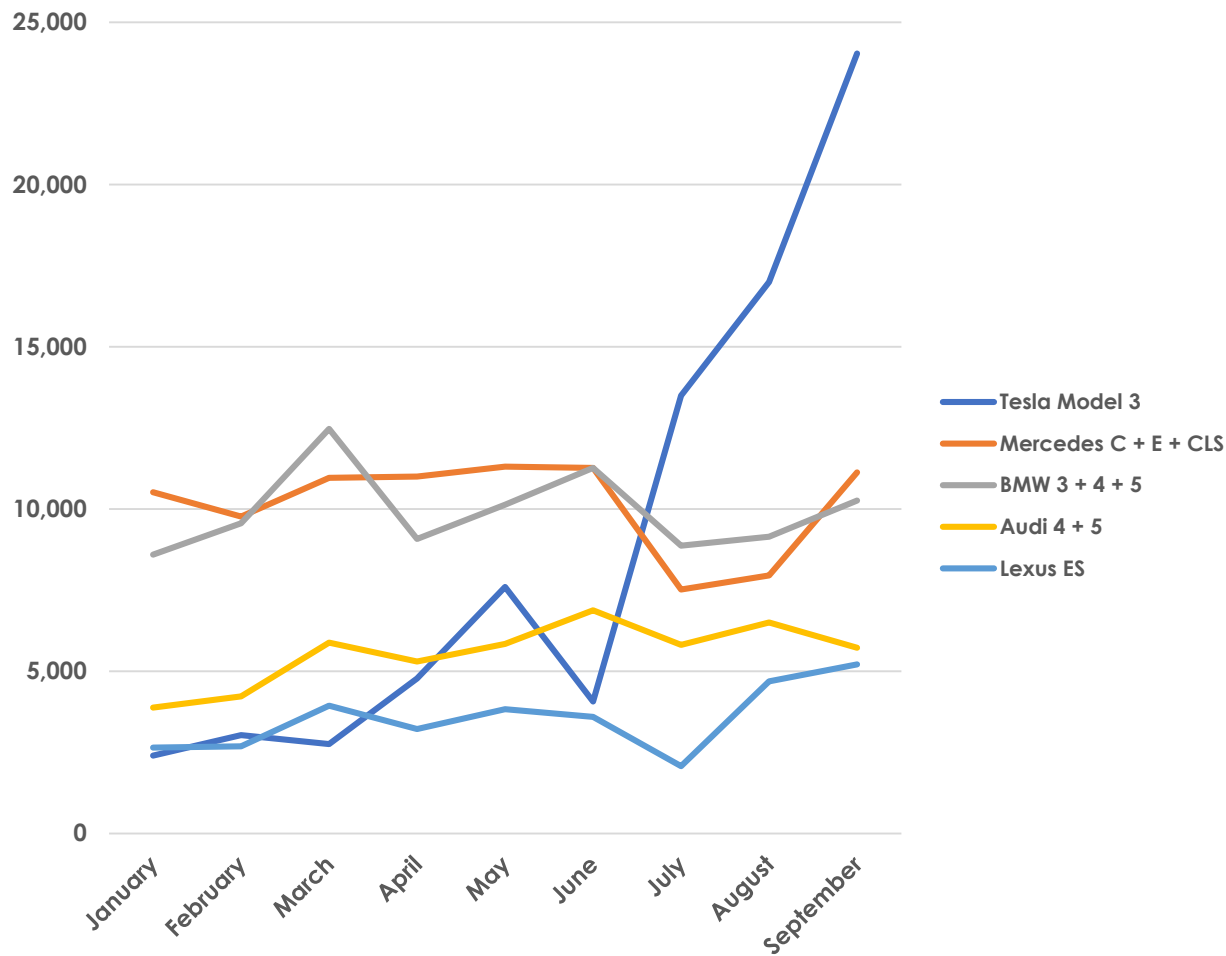
<sup>1</sup> Wall Street Consensus

<sup>2</sup> UBS Securities 2018 Research Report

# Wave of New EVs Driving Lithium Demand



*Tesla Outselling Audi, BMW and Mercedes Combined*



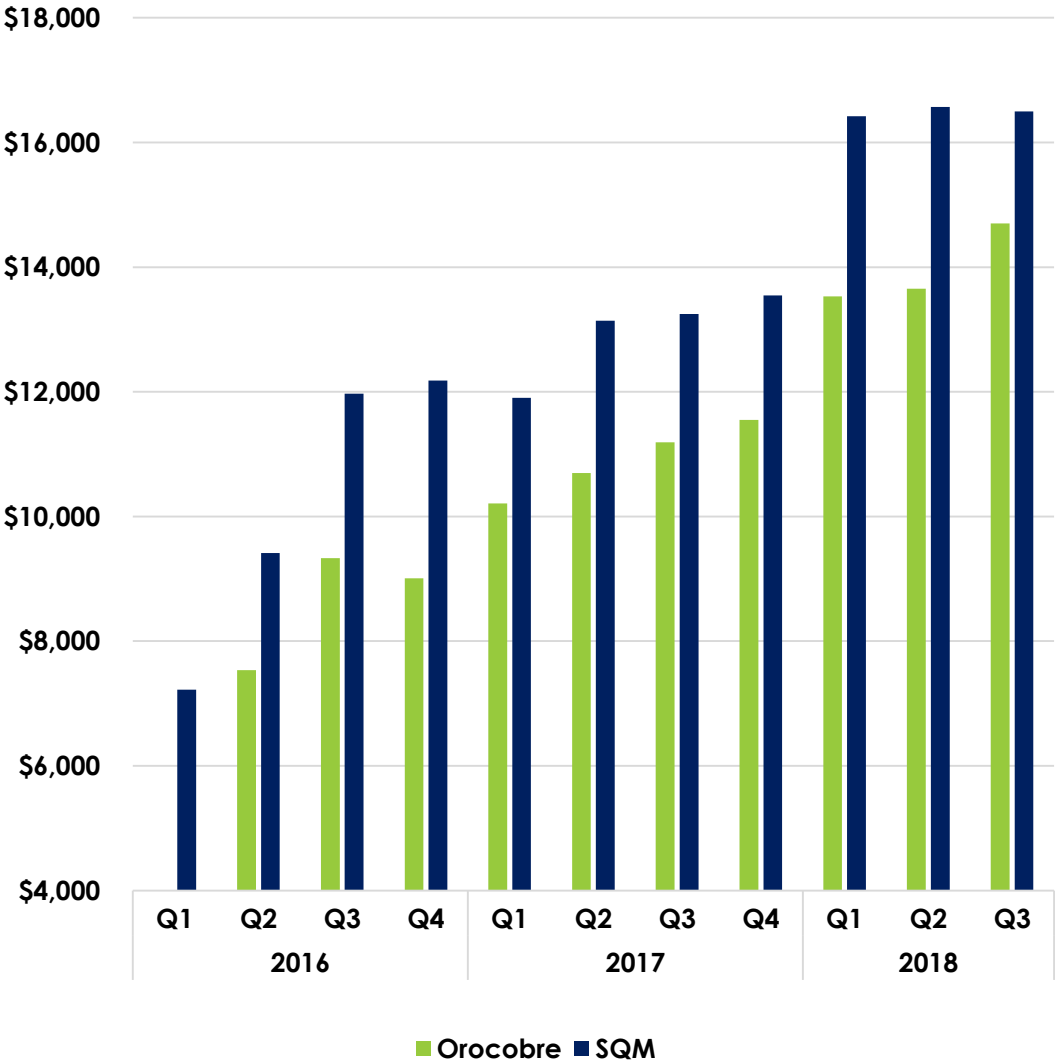
Source: CleanTechnica

# Lithium Prices Remain Very Strong

*“...contract prices in 2021 and 2025 are equal to or greater than the 2018 sales price with opportunities for price increases” – Luke Kissam, Albemarle CEO*

*“It’s almost impossible for me to see a meaningful decrease in lithium prices” – Paul Graves, Livent CEO*

*Reported Lithium Carbonate Prices*



# Cost Parity Has Arrived

*“In the entry-level luxury market, (the Model 3) offers a better product at a lower cost of ownership...”*

*“...In the mainstream sedan market, it offers a dramatically superior product at a similar cost of ownership.” - CleanTechnica*

	TESLA MODEL 3	AUDI S4 / BMW 340ix
CATEGORY	Luxury sport sedan	Luxury sport sedan
0-60 MPH	4.6 seconds	4.6 seconds
RANGE	310 miles	~400 miles
PRICE	\$55,000	\$55,000
5-YEAR FUEL <sup>1</sup>	\$2,549	\$10,194
5-YEAR MAINTENANCE <sup>1</sup>	\$3,018	\$9,551
5-YEAR INSURANCE <sup>1</sup>	\$4,430	\$4,513
TAX INCENTIVE <sup>2</sup>	~\$11,000	\$0
5-YEAR TCO <sup>3</sup>	\$65,497 / \$54,497 (pre- / post- incentive)	\$82,696

1. Source: Clean Technica and OEM websites

2. Reflects New Jersey – \$7,500 US tax credit plus waiver of 6.625% state sales tax

3. Includes insurance, Tesla shown pre-/post-tax benefits

# Lithium Supply Disappointments Continue in Q3 2018



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3 unplanned shutdowns; volume down 5%

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Carbonate expansion delay; volume down 15%

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6-month stage 2 expansion delay; volume down 36% vs. Q2

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Yield Optimization Project project delay; volume down 35%

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8-week delay due to late deliveries from OEM suppliers

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Flotation plant delays

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H2 production guidance cut 15%

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# Big 4 Producing Nations Face Challenges



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**40% royalties / 'war for water' / active government**

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**Hyperinflation / 'temporary' 8% export tax**

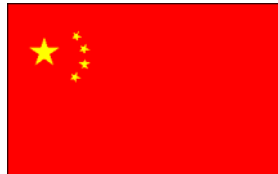
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**High cost power and transport / labor shortages**

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**Imported raw materials / 16% VAT on re-exports**

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**Low costs and taxes / large market / critical material**

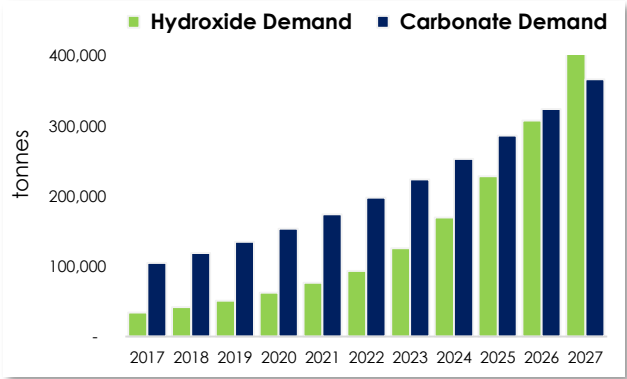
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# EV Market Shifting to Hydroxide

## Fast Growth...

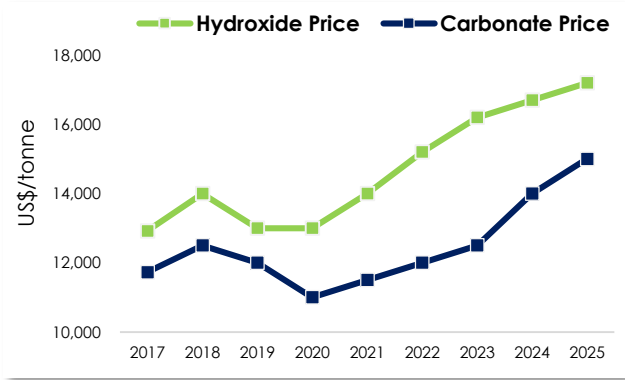
Hydroxide preferred for high-nickel chemistry batteries

Battery-grade hydroxide to grow from 20,000tpy to 400,000tpy by 2027



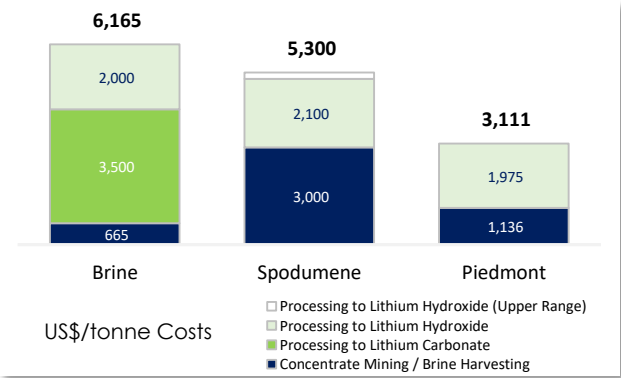
## ...Premium Prices...

“We assume the current ~\$2,000 premium for hydroxide remains constant” – Goldman Sachs & Co.



## ...and Low Production Costs

“Spodumene is 15% more cost-effective to produce lithium hydroxide than salt brine” – McKinsey & Co.



The background of the slide is a photograph of an electric vehicle (EV) being charged. A charging cable is plugged into the car's port, and the car is parked on a paved surface. The entire image is covered with a semi-transparent green overlay that is darker on the left and lighter on the right, creating a gradient effect.

# Piedmont Lithium

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*Superior Strategic Position*

# Superior Strategic Position

**Hard-Rock Base**

**+**

**Hydroxide Integration**

**+**

**North Carolina, USA Location**

**=**

**Superior Strategic Position**

- Conventional quarrying and processing
- Lower risk and faster ramp vs brine or soft-rock
- Integrated spodumene projects at low end of cost curve

- Nickel-intensive cathodes require hydroxide
- Hydroxide demand growing 35% per annum
- Premium pricing vs. carbonate

- 50+ years of lithium processing in North Carolina
- Abundant infrastructure and deep local talent pool
- Low operating costs, royalties and taxes

- Strategic US source of lithium hydroxide
- Low-risk and low-cost
- First-mover position as only US spodumene project

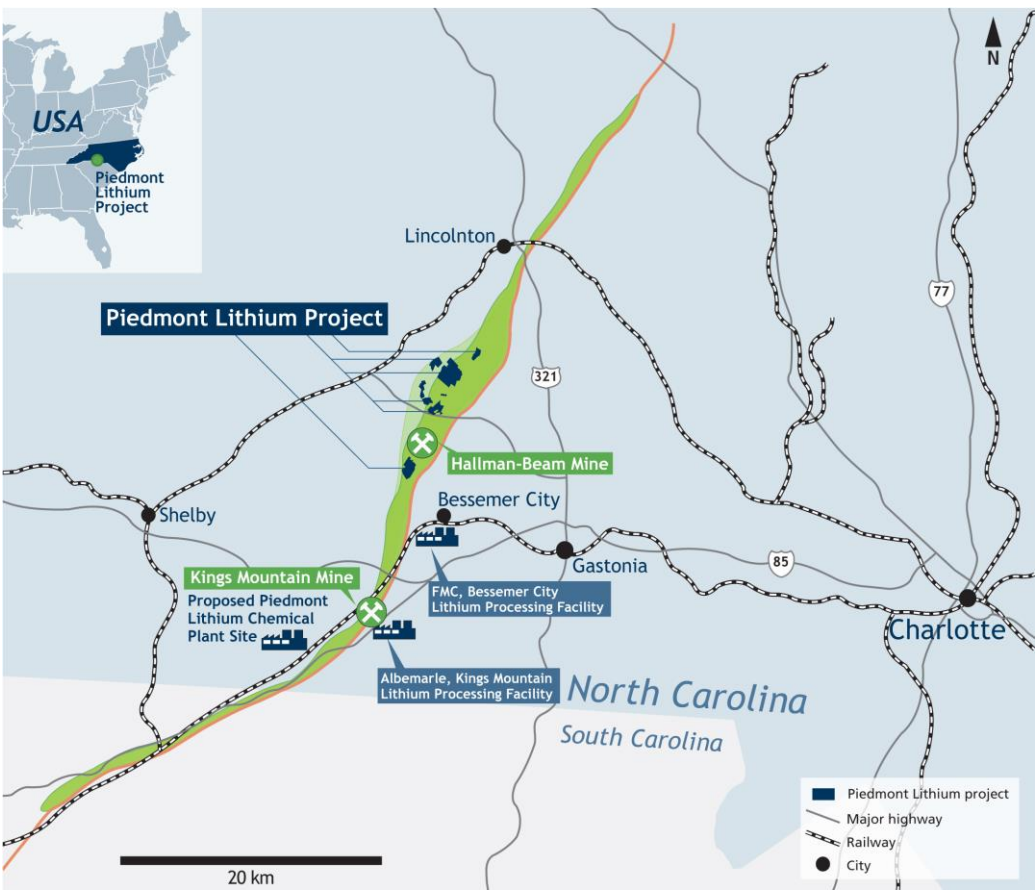
# Piedmont Ideally Located in North Carolina

# 1  
State for Business  
*Forbes 2017*

0%  
State Mining Royalties




23%  
Corporate Tax Rate

~100%  
Historic Lithium Production



# North Carolina Cost Advantage

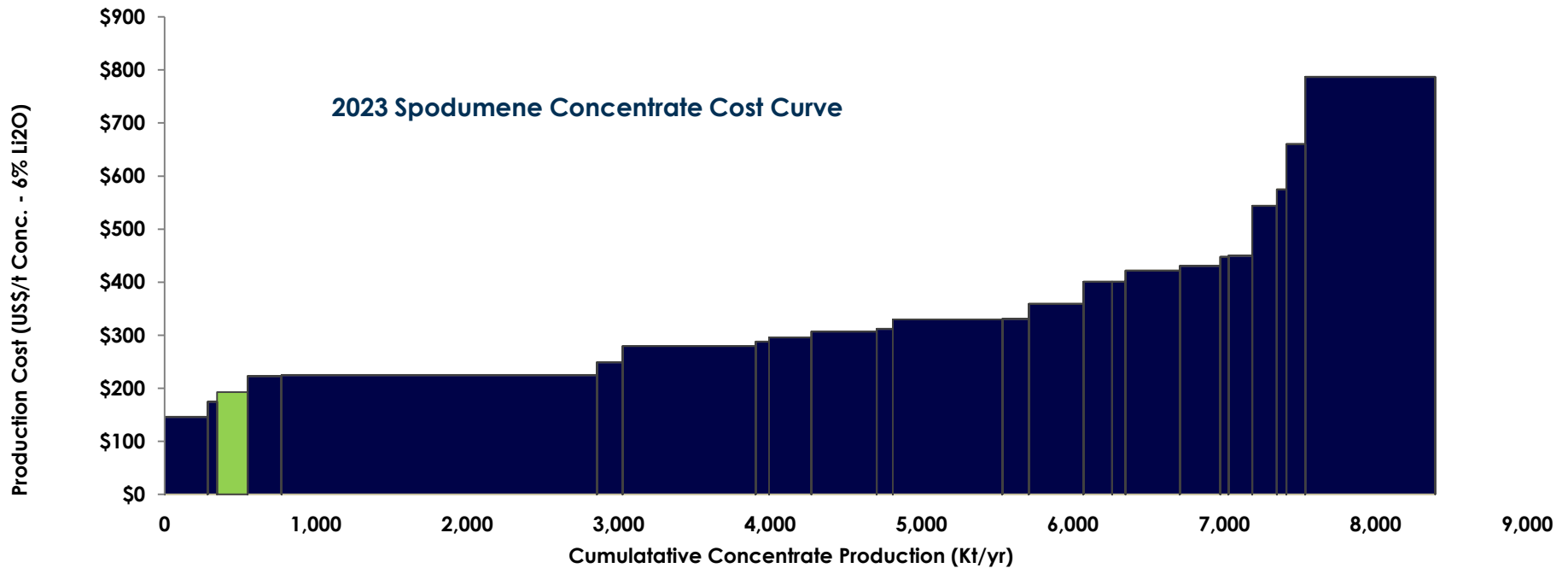
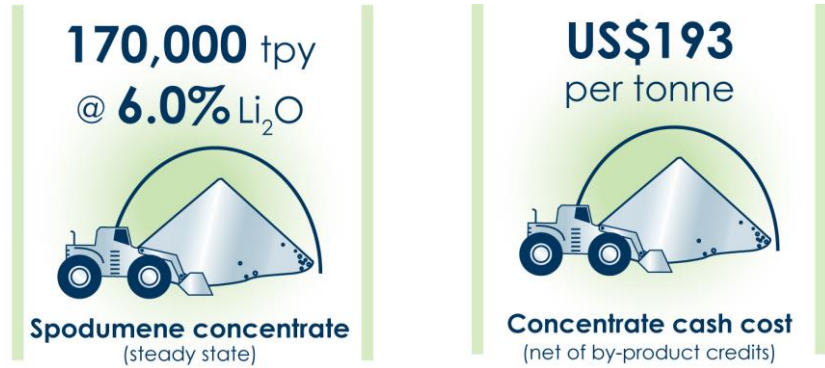
*Location drives 1<sup>st</sup> quartile cost position*

			
	NORTH CAROLINA	WESTERN AUSTRALIA	CANADA
LABOR	\$42 / Hr	\$63 / Hr	\$65 / Hr
ELECTRICITY	6c / kWh	17c / kWh	4c / kWh
DIESEL	\$0.65 / L	\$1.02 / L	\$0.91 / L
NATURAL GAS	\$4.00 / Gj	\$6.57 / Gj	\$12.54 / Gj
TRANSPORTATION	\$6 / T	\$46 / T	\$50 / T
GOVERNMENT ROYALTIES	0%	5%	0%
EFFECTIVE TAX RATE	23%	30%	33%

Source: Public filings, Primero and Company estimates

# World-Class Spodumene Business

- + Low unit operating costs
- + Royalties <1%
- + Short transportation distances
- + By-product credits



Source: Roskill, Refined production cost includes all direct and indirect operating costs related directly to the physical activity of producing a refined lithium compounds, including feedstock costs (either from internal sources measured using the all-in sustaining cost of production (site operating plus other costs, as defined above), refining, on-site general and administrative costs and selling expenses. It does not include costs associated with corporate-level administrative expenses.



# Positive Impact of By-Products

*By-products were a large business for past lithium producers in NC*

*Strong local markets for quartz, feldspar and mica*

*Imports represent large market share due to US mine depletions*

*Initial offtake conversations underway with leading market participants*



By-product	Annual Volume (tpy)	Assumed Average Sales Price (US\$/t)	Markets
Quartz	99,000	\$100	Low-iron glass including solar panel cover glass, industrial ceramics
Feldspar	125,000	\$75	Glass, frit, and industrial ceramics
Mica	15,500	\$50	Specialty paints including automotive, filler uses, joint-compound



# Ultra-Low-Cost Hydroxide Producer

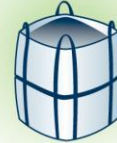
+ Low-cost spodumene supply

+ Low input costs

- Labor
- Electricity
- Natural Gas

22,700

tpy



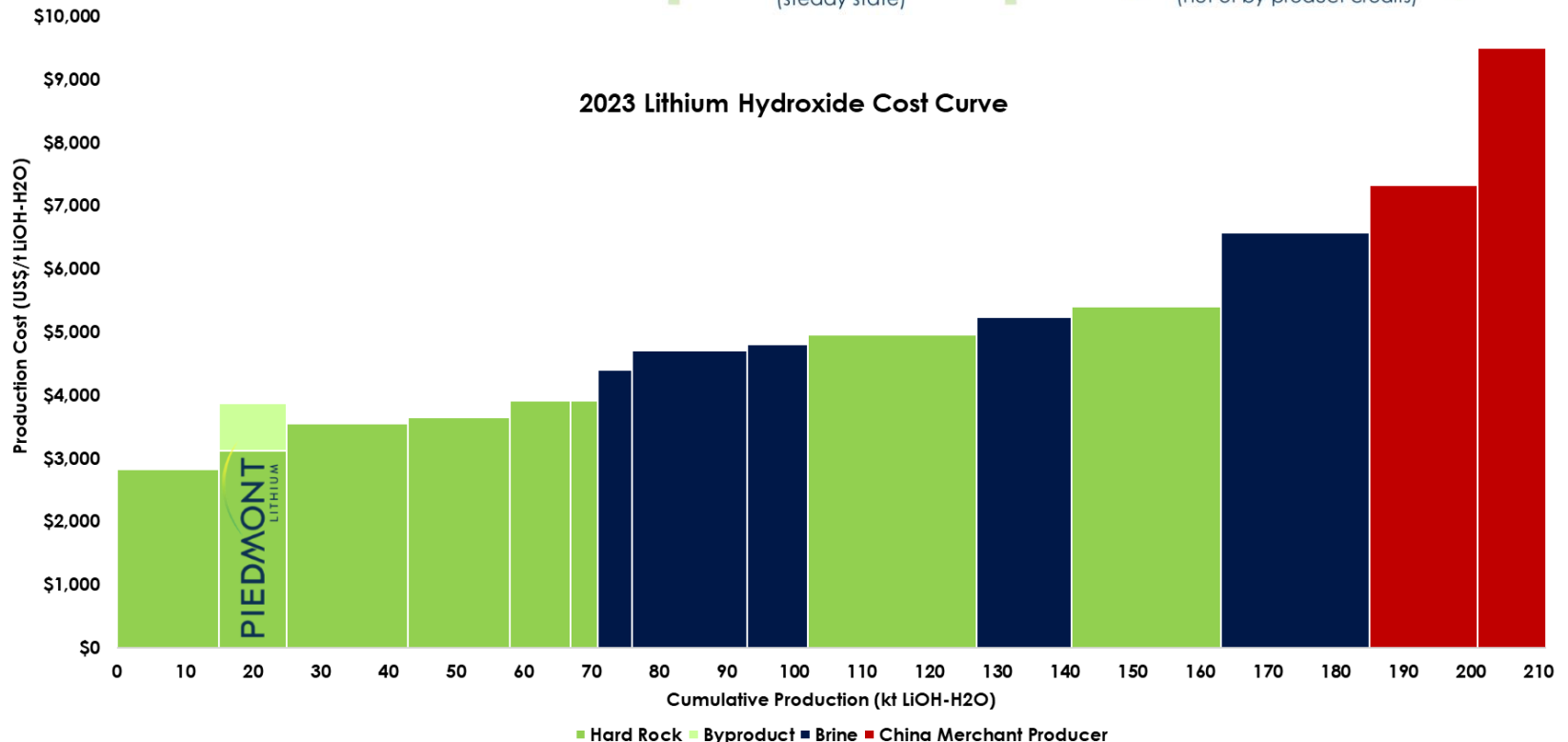
Lithium hydroxide  
(steady state)

US\$3,112

per tonne



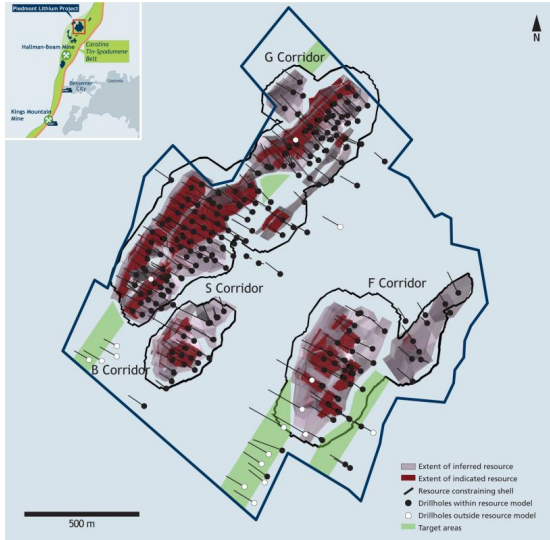
LiOH cash cost  
(net of by-product credits)



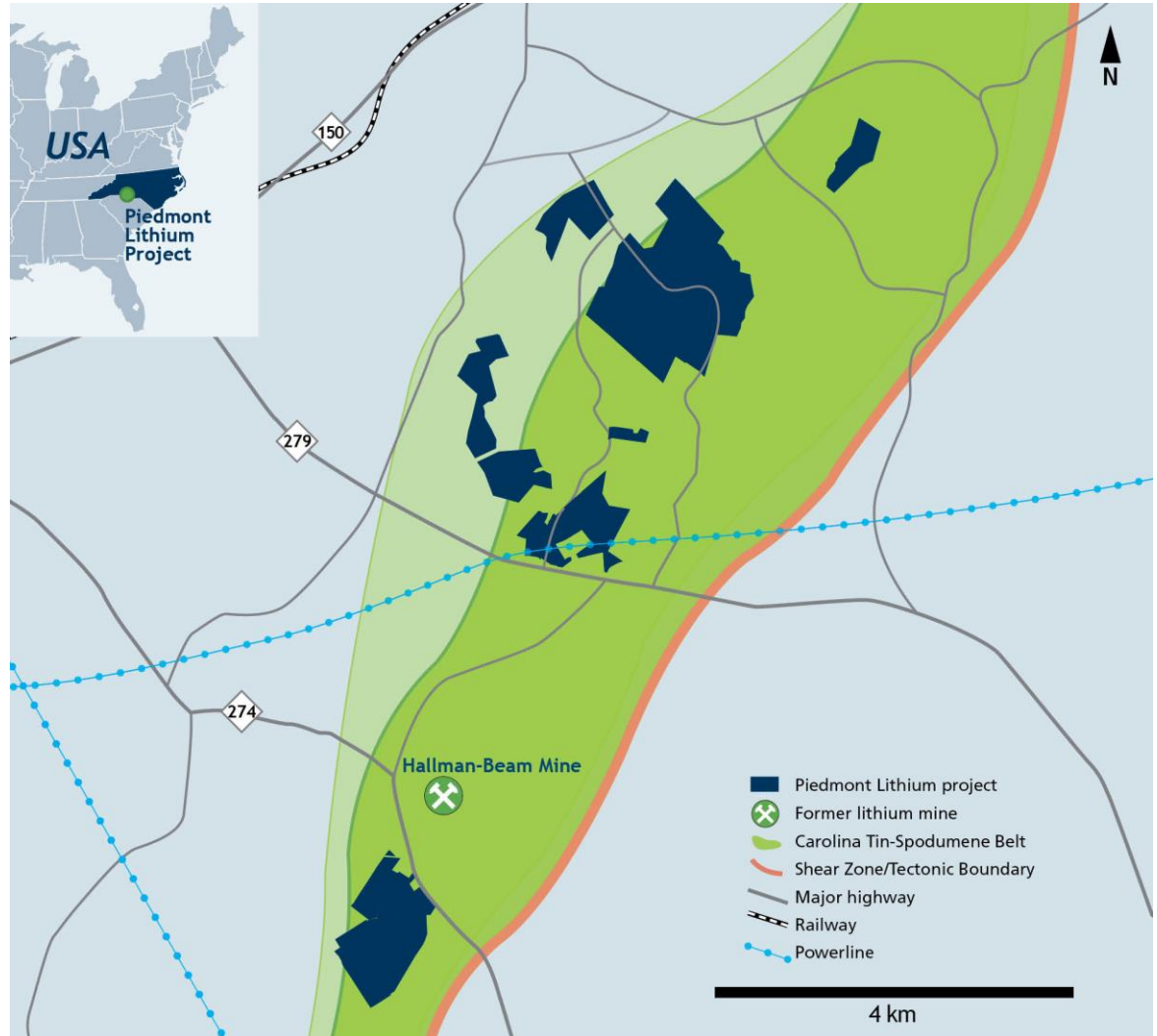
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# Vast Potential For Project Life Extension

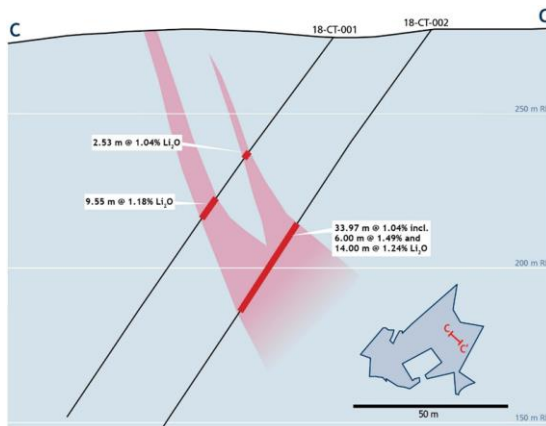
## Drilling the Exploration Target



## Consolidating Land on the TSB

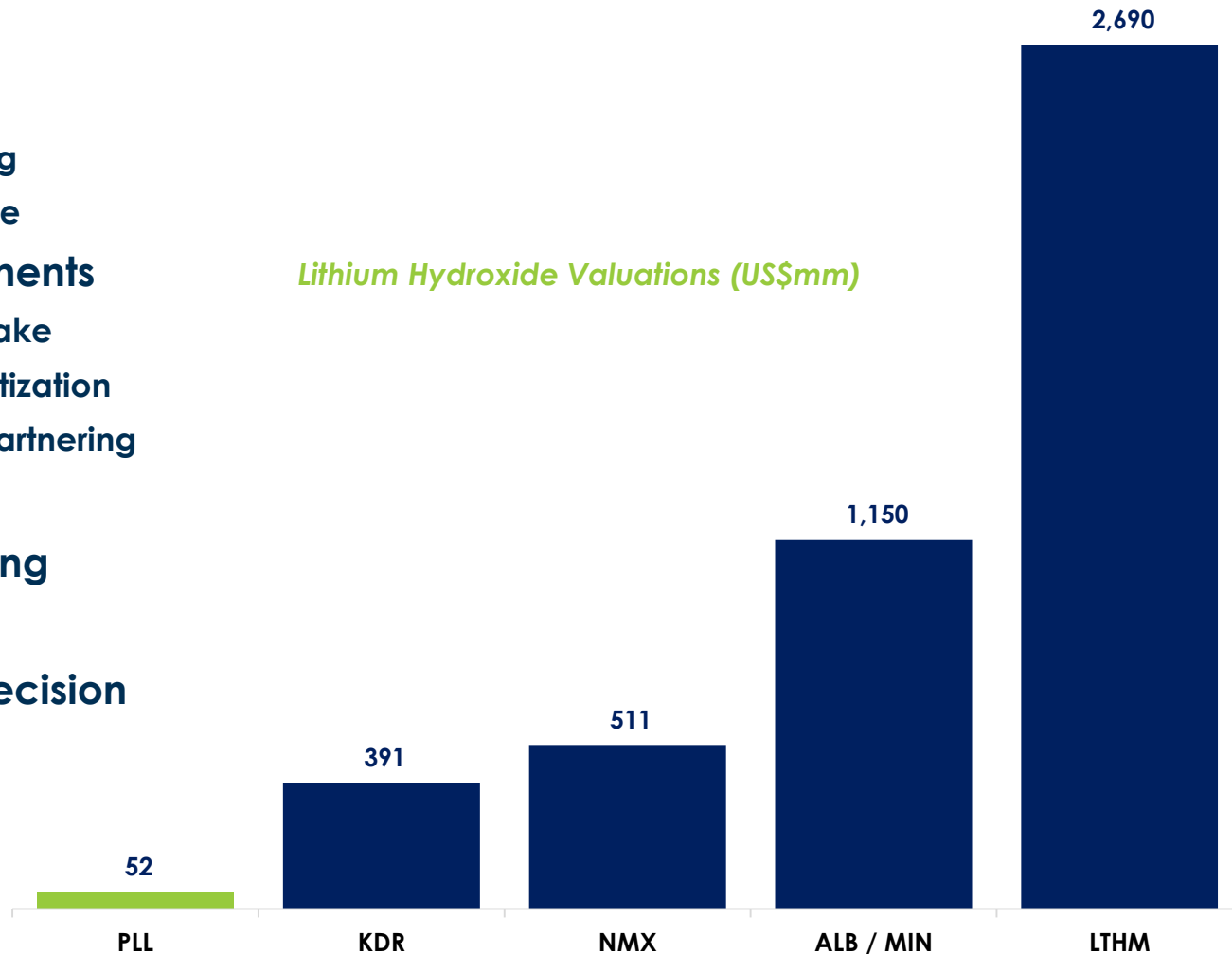


## Follow-up at Central & Sunnyside

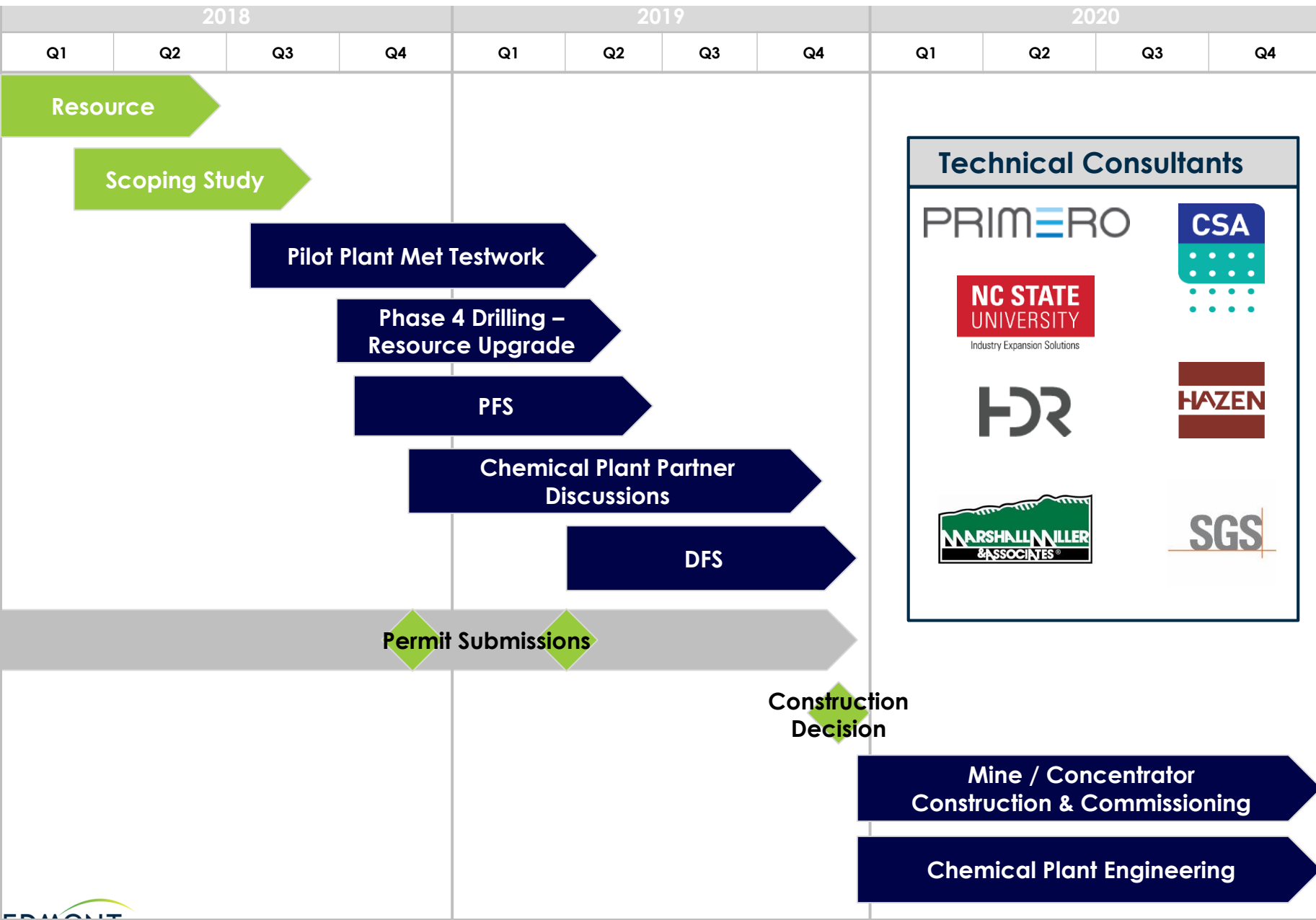


# 2019 Catalysts Should Drive Re-Rating

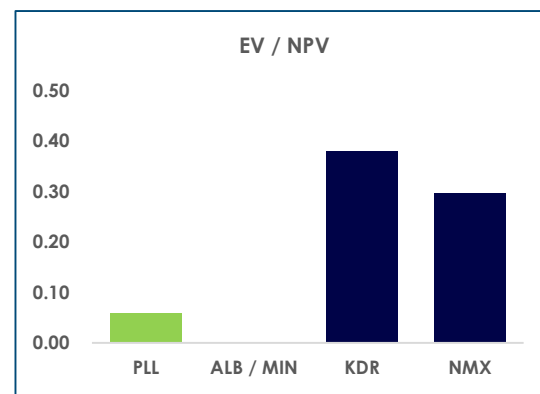
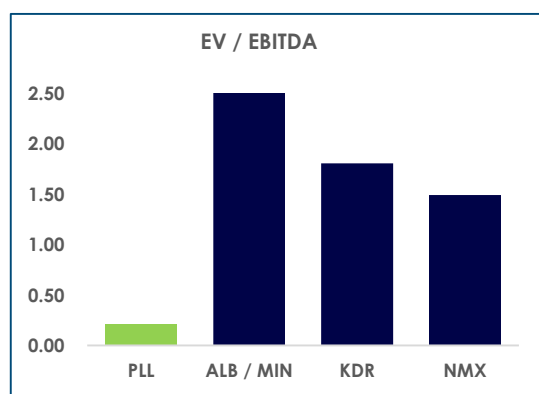
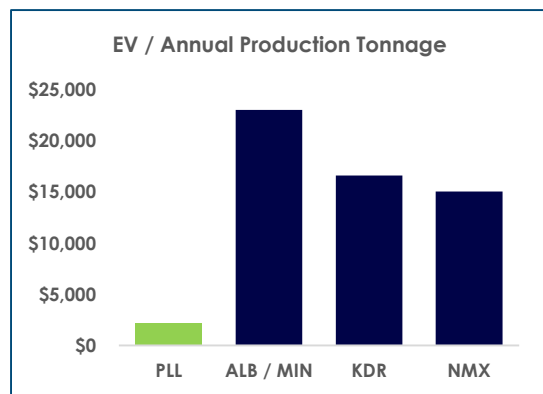
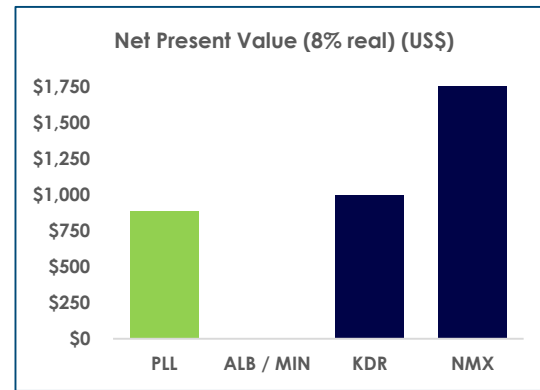
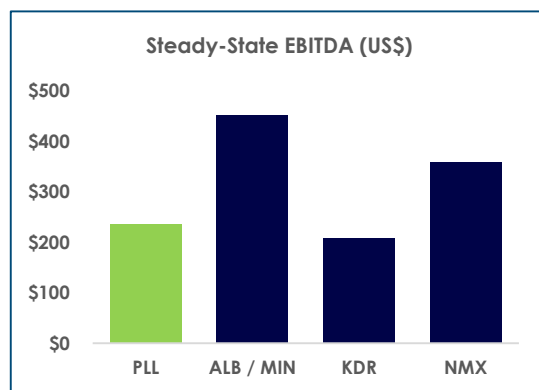
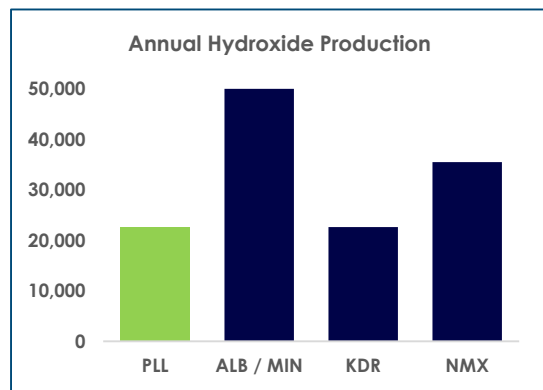
- **Mine Life Extension**
  - Land Acquisition
  - Exploration Drilling
  - Resource Upgrade
- **Strategic Arrangements**
  - Concentrate Offtake
  - By-Product Monetization
  - Chemical Plant Partnering
- **Permitting**
- **PFS / DFS Engineering**
- **Project Financing**
- **Final Investment Decision**



# Indicative Development Timeline



# Benchmarking Shows Deep Undervaluation



	Region	Annual LiOH Production (Mtpy)	Mine Life	Enterprise Value (US\$mm)	Production Cost per Tonne	Steady-State EBITDA (US\$mm)	Net Present Value (US\$mm)
Piedmont Lithium (PLL)	USA	22,700	13	\$50	\$3,112	\$235	\$888
Albemarle / MinRes JV (ALB / MIN)	WA	50,000	30	\$1,150	\$4,952	\$452	NA
Kidman Resources (KDR)	WA	22,627	47	\$383	\$5,406	\$208	\$993
Nemaska Lithium (NMX)	CAN	32,000	33	\$569	\$2,811	\$358	\$1,800

# Corporate Snapshot

Piedmont Lithium Limited	
Shares outstanding	669.0 mm
ADRs effective	6.69 mm
Share price <sup>2</sup> (ASX:PLL)	A\$0.125
ADR price <sup>1,2</sup> (Nasdaq:PLLL)	US\$9.23
Market capitalization <sup>2</sup>	A\$83.6 mm
Cash (@ September 30, 2018) <sup>3</sup>	A\$16.6 mm

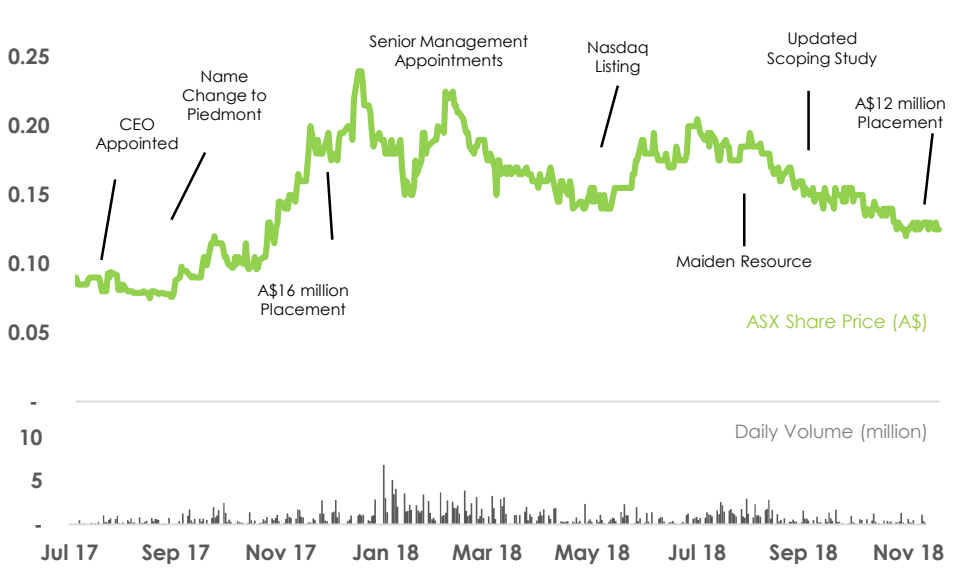
Key Shareholders <sup>3</sup>	
AustralianSuper Pty Ltd	13.2%
Directors	11.6%

## Research Coverage









Board of Directors		
Ian Middlemas	Australia	Chairman
Keith D. Phillips	USA	CEO
Anastasios Arima	USA	Executive Director
Jeff Armstrong	USA	Director
Jorge Beristain	USA	Director
Levi Mochkin	Australia	Director

The background of the slide is a photograph of an electric vehicle (EV) being charged. A charging cable is plugged into the car's port, and the cable lies on the ground. The image is heavily overlaid with a green-to-yellow gradient, which is darker on the left and lighter on the right. The text 'Background Materials' is centered in white, bold font, with a thin white horizontal line underneath it.

# Background Materials

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# Outstanding Scoping Study Results

**US\$3,112**  
per tonne



**LiOH cash cost**  
(net of by-product credits)

**US\$193**  
per tonne



**Concentrate cash cost**  
(net of by-product credits)

**US\$888mm**  
(A\$1,250mm)



**After-tax NPV**

**US\$225-245mm**  
(A\$315-345mm)



**EBITDA**  
(steady-state)

**46%**



**IRR**

**16.2Mt**  
@ **1.12%**  $\text{Li}_2\text{O}$



**Mineral resource estimate**

**170,000 tpy**  
@ **6.0%**  $\text{Li}_2\text{O}$



**Spodumene concentrate**  
(steady state)

**22,700 tpy**



**Lithium hydroxide**  
(steady state)

**99,000 tpy**  
quartz production

**125,000 tpy**  
feldspar production

**15,500 tpy**  
mica production

**13**  
year



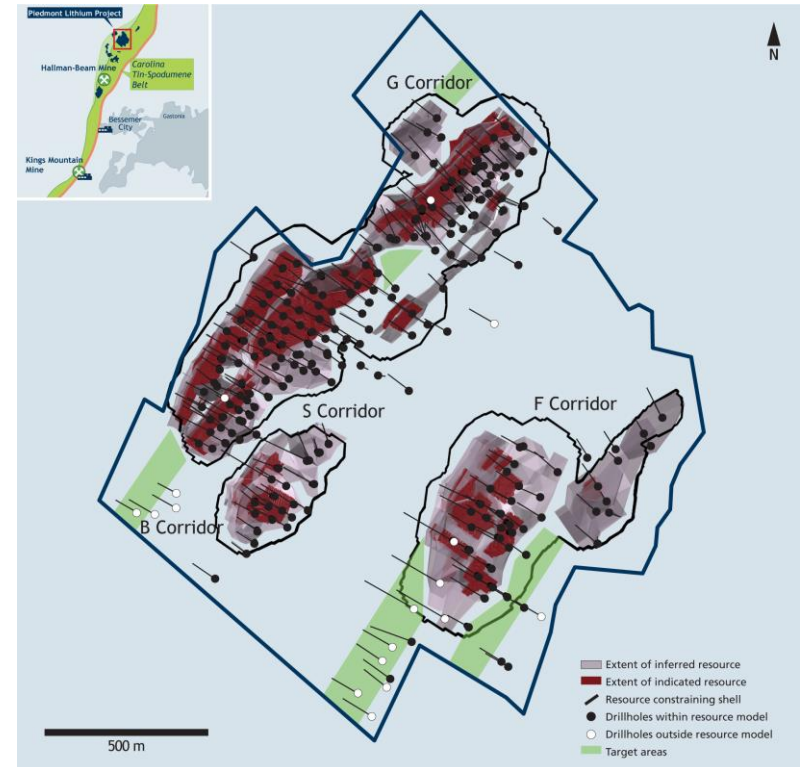
**Project life**



# Maiden Resource on Core Property

**16.2 Mt @ 1.12% Li<sub>2</sub>O**

- ✓ 450,000 tonnes of contained LCE
- ✓ Shallow open pit mine design
- ✓ 231 core holes in 35,300 meters of drilling
- ✓ Open along strike and at depth



**Mineral Resource Estimate – Piedmont Lithium Project**

Category	Tonnes (Mt)	Li <sub>2</sub> O		Quartz		Feldspar		Mica	
		Grade (%)	Tonnes (t)	Grade (%)	Tonnes (Mt)	Grade (%)	Tonnes (Mt)	Grade (%)	Tonnes (Mt)
Indicated	8.50	1.15	98,000	30.3	2.57	43.5	3.69	4.4	0.38
Inferred	7.69	1.09	84,000	30.0	2.31	44.4	3.41	4.5	0.34
<b>Total</b>	<b>16.19</b>	<b>1.12</b>	<b>182,000</b>	<b>30.1</b>	<b>4.88</b>	<b>43.9</b>	<b>7.11</b>	<b>4.5</b>	<b>0.72</b>

# Strong Recovered Grade

## Competitive Resource Grade...

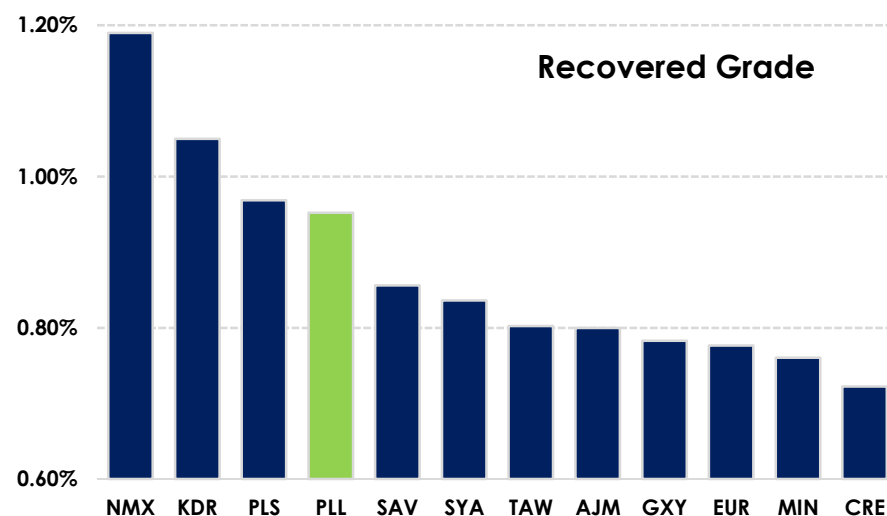
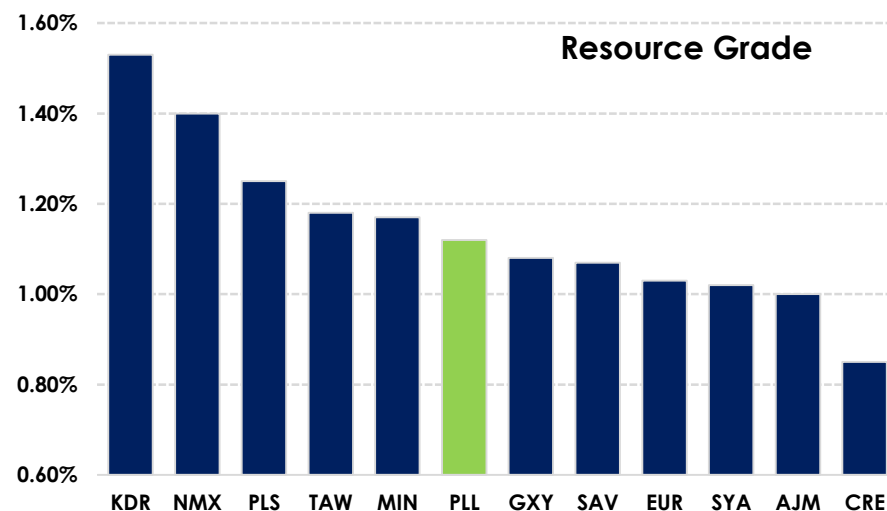
*1.12% Resource Grade*

## ...and Positive Met Recoveries...

*85% recoveries...based on bench scale tests and in line with historical precedent in North Carolina*

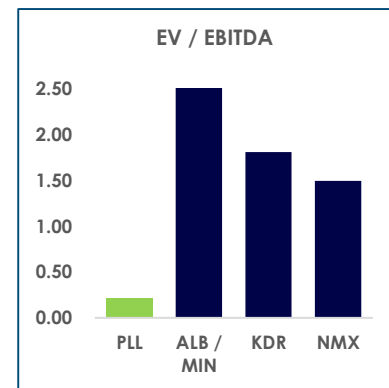
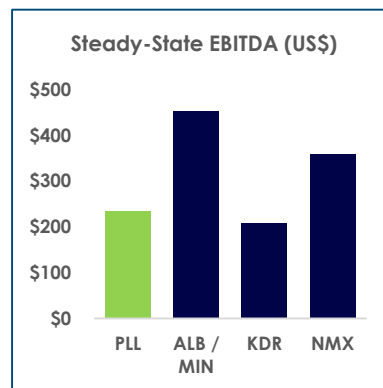
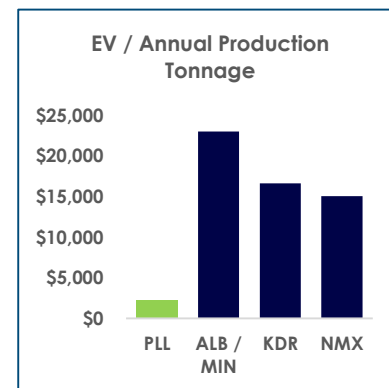
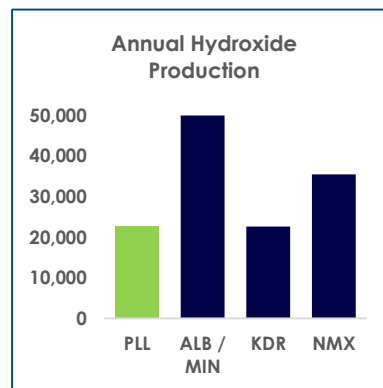
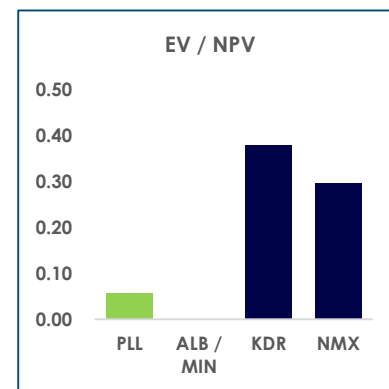
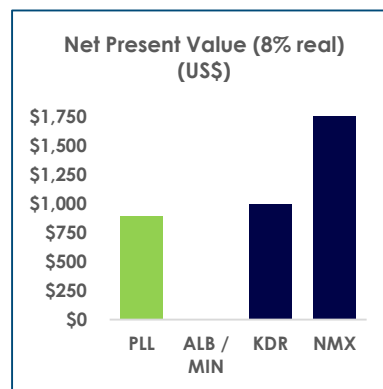
## ...Lead to Strong Recovered Grade

*Driving strong project economics*



# Benchmarking Shows Deep Undervaluation

	Unit	Piedmont Lithium	Albemarle / MinRes JV	Kidman Resources	Nemaska Lithium
Project		Piedmont	Wodgina	Mt. Holland	Whabouchi
Ownership	%	100%	50%	50%	100%
Project Location		USA	Australia	Australia	Quebec
Resource / Reserve	Mt	16.2	76.0	94.5	37.0
Resource Grade	% Li2O	1.12%	1.17%	1.53%	1.40%
Recoveries	%	85%	65%	75%	85%
Recovered Grade	% Li2O	0.95%	0.76%	1.15%	1.19%
Spod Con Grade Modeled	%	6.00%	6.00%	6.20%	6.25%
Annual Spod Con Production	tpy	170,000	416,500	182,402	213,000
Spod Con Production Cost	US\$/t	\$193	\$296	\$293	\$257
Annual LiOH Production	tpy	22,700	50,000	22,627	32,000
LiOH production Cost	US\$/t	\$3,112	\$4,952	\$5,406	\$2,811
Effective Royalties	%	<1.0%	5.0%	5.0%	8.7%
Mine Life	years	13	30	47	33
Spod Con Start-Up		H1 2021	H2 2019	H2 2020	H2 2019
LiOH Start-Up		H1 2023	tbd	H1 2021	H2 2020
Net Present Value (US\$mm)	US\$mm	\$888	NA	\$993	\$1,800
Run-Rate EBITDA (US\$mm)	US\$mm	\$235	\$452	\$208	\$358
Market Cap (US\$mm)	US\$mm	\$49	\$1,150	\$364	\$515
Enterprise Value (US\$mm)	US\$mm	\$46	\$1,150	\$661	\$574
EV / NPV	x	0.05	NA	0.67	0.32
EV / EBITDA	x	0.20	2.54	3.18	1.60
EV / LiOH Production	\$/t	\$2,026	\$23,000	\$29,197	\$17,931



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Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause actual events, results, performance or achievements to be materially different from events, results, performance or achievements expressed or implied by the forward-looking statements. Such factors include, among others, the risk that we will be unable to commercially extract mineral deposits, that our properties may not contain expected reserves, risks and hazards inherent in the mining business (including risks inherent in developing mining projects, environmental hazards, industrial accidents, weather or geologically related conditions), uncertainty about our ability to obtain required capital to execute our business plan, our ability to hire and retain required personnel, changes in the market prices of lithium, changes in technology or the development of substitute products, the uncertainties inherent in exploratory, developmental and production activities, including risks relating to permitting and regulatory delays, uncertainties inherent in the estimation of lithium resources, risks related to competition, as well as other uncertainties and risk factors set out in filings made from time to time with the Australian Stock Exchange and the U.S. Securities and Exchange Commission, including our most recent Form 20-F. Actual events, results, performance and achievements could vary significantly from the estimates presented in this presentation. Readers are cautioned not to put undue reliance on forward-looking statements. We disclaim any intent or obligation to update publicly such forward-looking statements, whether as a result of new information, future events or otherwise. Additionally, we undertake no obligation to comment on analyses, expectations or statements made by third parties in respect of Piedmont, its financial or operating results or its securities.

## Cautionary Note to United States Investors Concerning Estimates of Measured, Indicated and Inferred Resources

The information contained in this presentation has been prepared in accordance with the requirements of the securities laws in effect in Australia, which differ from the requirements of U.S. securities laws. The terms "mineral resource", "measured mineral resource", "indicated mineral resource" and "inferred mineral resource" are Australian terms defined in accordance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code"). However, these terms are not defined in Industry Guide 7 ("SEC Industry Guide 7") under the U.S. Securities Act of 1933, as amended (the "U.S. Securities Act"), and are normally not permitted to be used in reports and filings with the U.S. Securities and Exchange Commission ("SEC"). Accordingly, information contained herein that describes Piedmont's mineral deposits may not be comparable to similar information made public by U.S. companies subject to reporting and disclosure requirements under the U.S. federal securities laws and the rules and regulations thereunder. U.S. investors are urged to consider closely the disclosure in Piedmont's Form 20-F, a copy of which may be obtained from Piedmont or from the EDGAR system on the SEC's website at <http://www.sec.gov/>.

## Competent Persons Statements

The information in this presentation that relates to Exploration Results is extracted from the Company's ASX announcements dated August 23, 2018, July 19, 2018, June 14, 2018, June 7, 2018, May 17, 2018, May 10, 2018, April 9, 2018, 4 April 2018, 15 March 2018, 1 December 2017, 2 November 2017, 27 September 2017, 23 May 2017, 3 April 2017, and 18 October 2016 which are available to view on the Company's website at [www.piedmontlithium.com](http://www.piedmontlithium.com). The information in this presentation that relates to Exploration Targets and Mineral Resources is extracted from the Company's ASX announcement dated June 14, 2018 which is available to view on the Company's website at [www.piedmontlithium.com](http://www.piedmontlithium.com). The information in this presentation that relates to Metallurgical Testwork Results is extracted from the Company's ASX announcements dated September 4, 2018 and July 17, 2018 which are available to view on the Company's website at [www.piedmontlithium.com](http://www.piedmontlithium.com). The information in this presentation that relates to Process Design, Process Plant Capital Costs, and Process Plant Operating Costs is extracted from the Company's ASX announcements dated September 13, 2018 and July 19, 2018 which are available to view on the Company's website at [www.piedmontlithium.com](http://www.piedmontlithium.com). The information in this presentation that relates to Mining Engineering and Mine Schedule is extracted from the Company's ASX announcements dated September 13, 2018 and July 19, 2018 which are available to view on the Company's website at [www.piedmontlithium.com](http://www.piedmontlithium.com).

Piedmont confirms that: a) it is not aware of any new information or data that materially affects the information included in the original ASX announcements; b) all material assumptions and technical parameters underpinning Mineral Resources, Exploration Targets, Production Targets, and related forecast financial information derived from Production Targets included in the original ASX announcements continue to apply and have not materially changed; and c) the form and context in which the relevant Competent Persons' findings are presented in this report have not been materially modified from the original ASX announcements.

## Exploration Target

The Exploration Target is based on the actual results of Piedmont's previous drill programs. To determine potential tonnage and grade ranges at the deposit, Li<sub>2</sub>O assay values and density values from drilling have been applied to the volume estimates. For the 80% of assays within pegmatite models that are above a 0.4 % Li<sub>2</sub>O cut off, an average grade of 1.10 % Li<sub>2</sub>O is estimated. For the 70% of assays that are above a 0.6% Li<sub>2</sub>O cut off, an average grade of 1.20 % Li<sub>2</sub>O is estimated. Applying these assay frequency proportions to the modelled volumes outside the Mineral Resource results in estimated volume ranges from 1.75 million cubic meters to 2 million cubic meters for spodumene bearing pegmatite with economically interesting grades. A density value of 2.71 g/cm<sup>3</sup> is applied to derive tonnage values. Using this methodology an Exploration Target of between 4.5 to 5.5 million tonnes at a grade of between 1.10% and 1.20% Li<sub>2</sub>O is approximated for the Piedmont Lithium Project deposit. The potential quantity and grade of this Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

# Piedmont Lithium Limited

## Superior Strategic Positioning

Corporate Presentation – December 2018

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