

# LITHIUM – MADE IN THE USA

Building an American Source of Lithium Hydroxide to  
Power the Electric Vehicle Transition

 Nasdaq :PLL

 ASX :PLL







ARBN 647 286 360

June 2021

**LiOH**

# PIEDMONT AT A GLANCE

Building an American Source of Lithium Hydroxide  
to Power the Electric Vehicle Transition

	An American company – based in Gaston County, NC
	Strategic location on historic Carolina Tin-Spodumene Belt
	Only U.S. integrated spodumene-to-hydroxide project
	Industry leading sustainability profile
	Exceptional scale and economics
	Strategic investment in Quebec via Sayona
	Strong balance sheet to fund growth

## CORPORATE SNAPSHOT

### PIEDMONT LITHIUM INC.



Shares / CDIs (100 CDIs = 1 Share)	15.75 M	1,574.6 M
Price (@ 6/8/21)	\$68.64	A\$0.90
Average Daily Trading Volume (30-day)	\$29 M	A\$4 M
Market Cap (@ 6/8/21)	\$1,081 M	A\$1,397 M
Cash (@ 3/31/21)	\$167 M	A\$216 M

### BOARD OF DIRECTORS

Jeff Armstrong	USA	Chairman
Keith Phillips	USA	President & CEO
Jorge Beristain	USA	Director
Claude Demby	USA	Director
Todd Hannigan	Australia	Director
Susan Jones	Canada	Director

### RESEARCH COVERAGE

J.P.Morgan

EVERCORE ISI

CANACCORD Genuity

B RILEY Securities

ROTH Capital Partners

Loop Capital

BTIC

TUOHY BROTHERS  
INVESTMENT RESEARCH

FOSTER STOCKBROKING

# OUR PROJECTS



## CAROLINA LITHIUM (100% OWNERSHIP)

Key Project	Carolina Lithium Project
Project Stage	Scoping (DFS completion Q3 2021)
Mineral Resources	39.2Mt @ 1.09% Li <sub>2</sub> O
SC6 Production	248,000 t/y
LiOH Production	30,000 t/y
Project Life	20 Years



## SAYONA QUEBEC (39.84% ECONOMIC INTEREST<sup>1</sup>)

Key Project	Authier Lithium Project
Project Stage	DFS (Definitive Feasibility Study)
Ore Reserves	12.1Mt @ 1.00 Li <sub>2</sub> O
Mineral Resources	20.9Mt @ 1.01 Li <sub>2</sub> O
SC6 Production	113,000 t/y
LiOH Production	TBD
Project Life	13 Years

*Note 1: Piedmont owns a 19.79% stake in Sayona Mining via common shares and convertibles, and a 25.0% interest in Sayona Quebec, resulting in an effective economic interest of 39.84%.*

# EXCEPTIONAL ECONOMICS

**\$401MM**

Run-rate EBITDA

**\$1.9B**

After-tax NPV

**31%**

After-tax IRR

**30,000t/y**

LiOH Production

**\$2,943/t**

LiOH Cash Cost

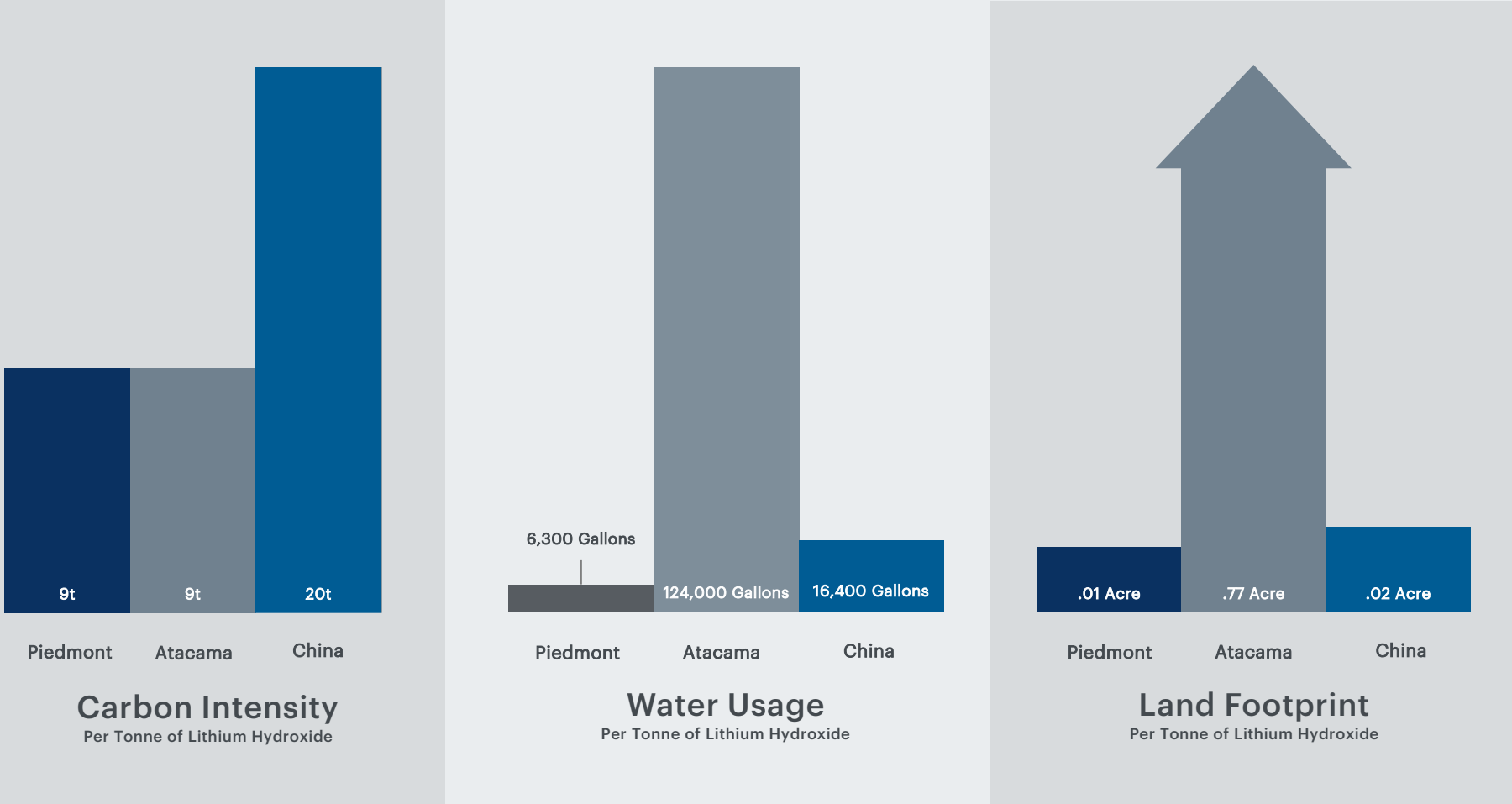
**20 year**

Project Life

## ECONOMIC BENEFITS OF NORTH CAROLINA LOCATION

- Ideal infrastructure
- Short transport distances
- Deep local talent pool
- Low-cost energy
- Integrated SC6-to-LiOH on a single site
- Proximity to local by-product markets
- Low royalties and taxes

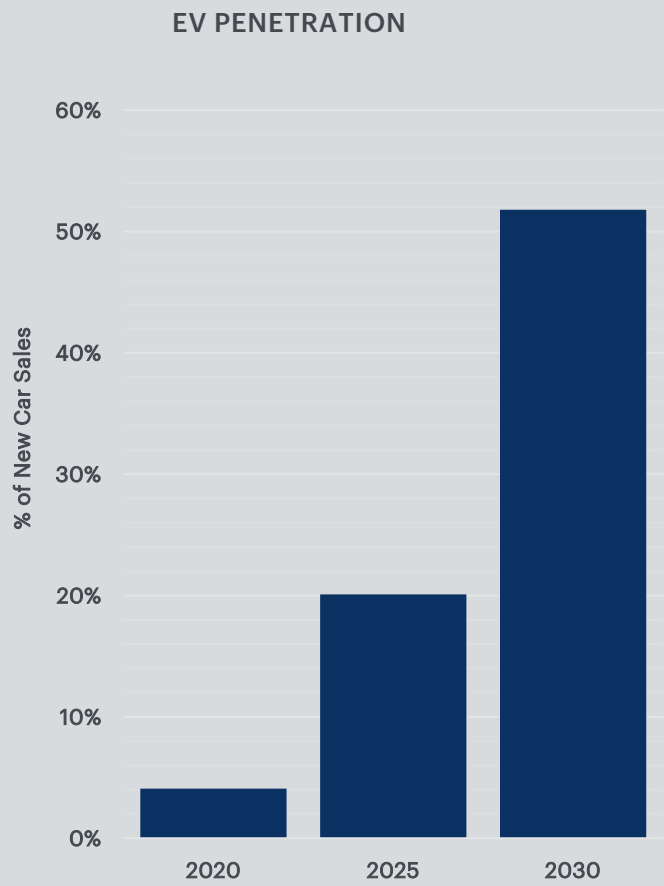
# INDUSTRY LEADING SUSTAINABILITY



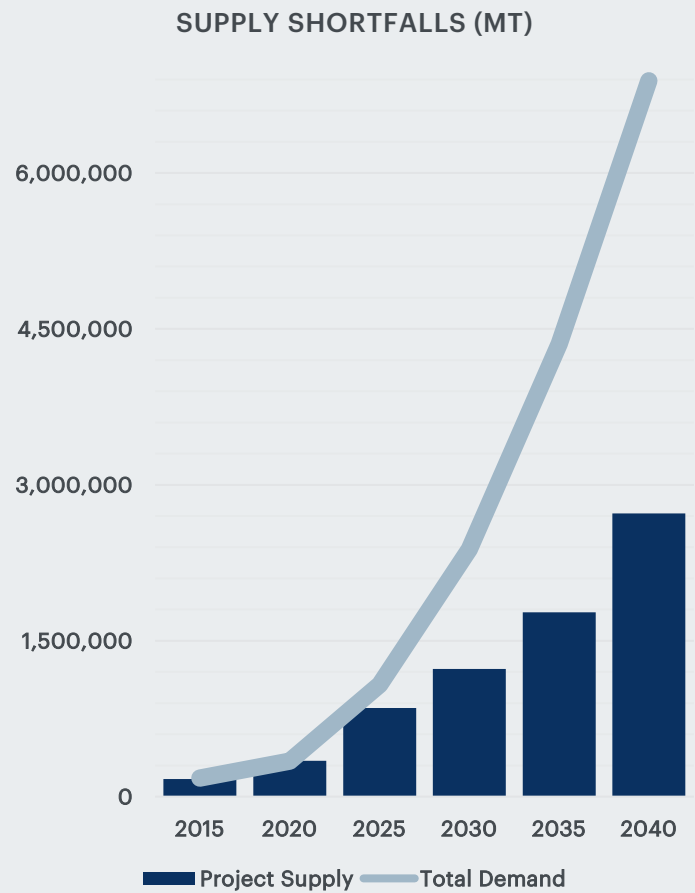
- ### SUSTAINABILITY BENEFITS OF CAROLINA LITHIUM PROJECT
- Vastly diminished 'quarry-to-EV' supply chain distances
  - Captive solar to power most operations
  - In-pit crushing and electric conveying to reduce emissions
  - By-product recovery minimizes waste
  - Metso-Outotec flowsheet reduces CO<sub>2</sub> emissions and reagent usage
  - Relatively low water usage

Sources: Minviro Reports and Company estimates

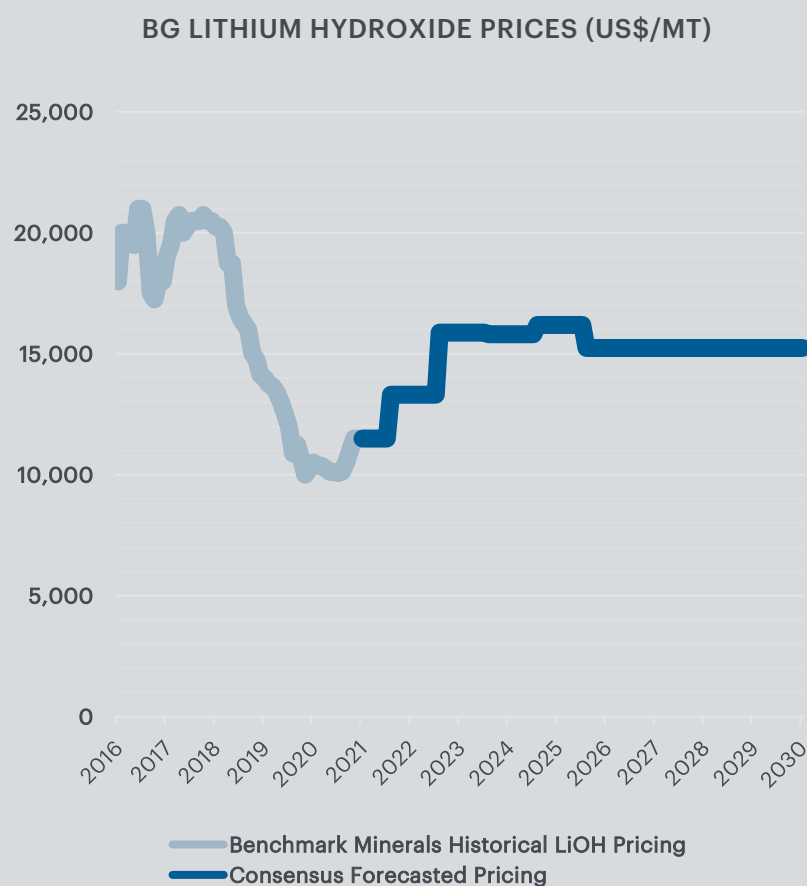
# STRONG LITHIUM MARKET OUTLOOK



Source: Bloomberg New Energy Finance  
<https://about.bnef.com/blog/behind-scenes-take-lithium-ion-battery-prices>



Source: Benchmark Mineral Intelligence – Lithium Forecast, Q1 2021



Source: Historical prices - Benchmark Mineral Intelligence  
Forecasted prices - Consensus estimates



# SUPPORTIVE INDUSTRY BACKDROP

**Department of Energy Takes Immediate Action to Shore Up Battery Supply Chain, U.S. Competitiveness and Spur Job Creation**

**Ford plans to invest \$29B toward electric vehicles**

**Biden infrastructure plan proposes spending \$174B to boost America's EV market**

**Energy Secretary Granholm says U.S. needs to produce more EV minerals**

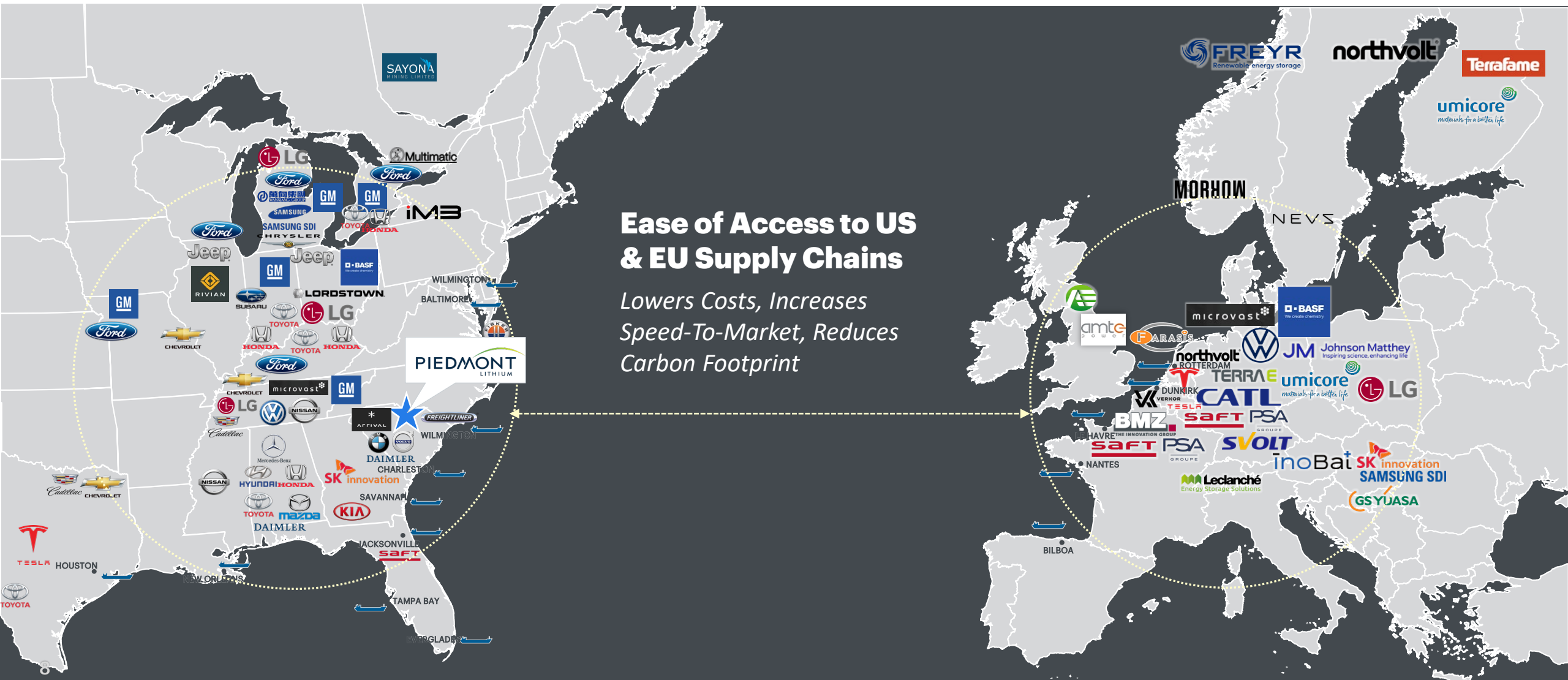
**GM Aims to Go All Electric by 2035**

**Biden Aims To Jolt Lagging Supply Chains**

**EVs Shifting into Overdrive: can commodity supply keep pace?**

**Volkswagen to 'get actively involved in the raw materials business'**

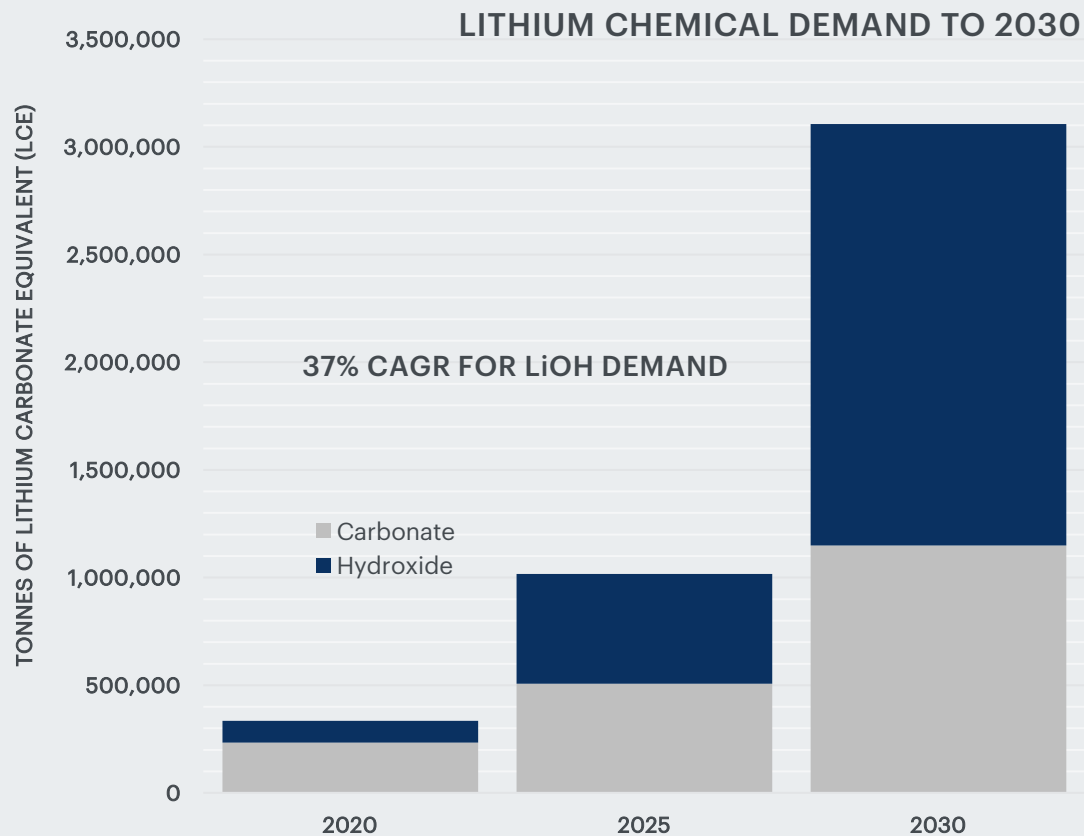
# ELECTRIFICATION DEMANDS REGIONALIZATION





# THE RIGHT LITHIUM MATERIALS

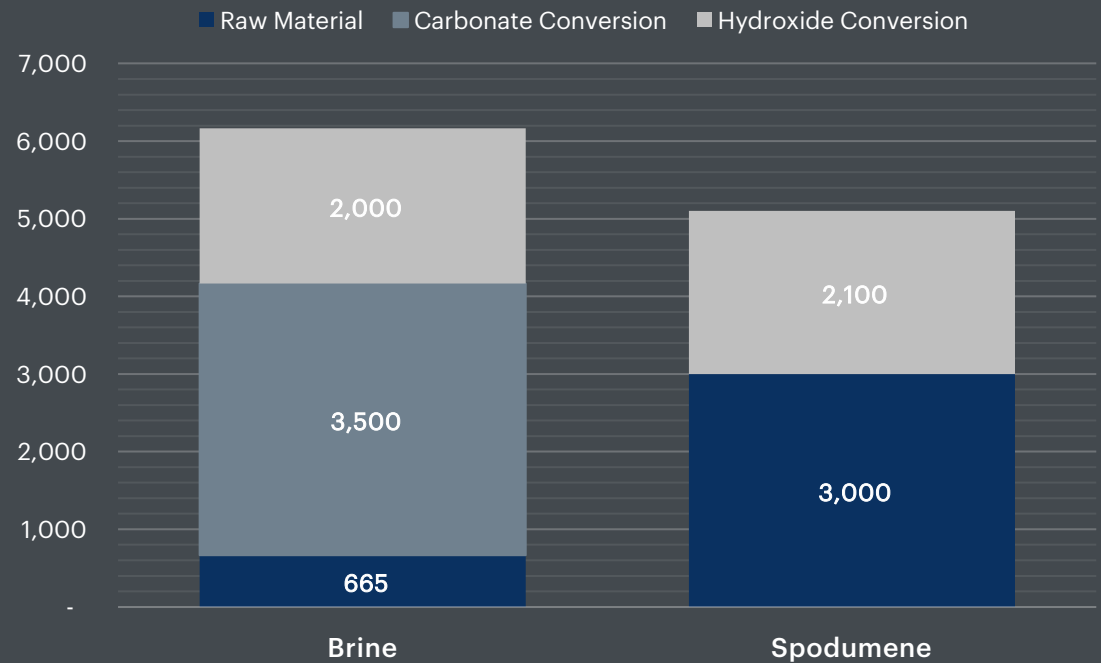
## LiOH Taking Market Share



Source: RK Equity

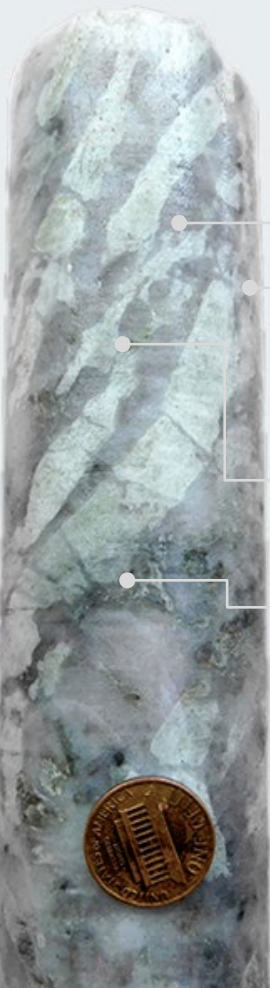
## SC6 the Preferred Feedstock

“Lithium extracted from mining ... is more stable to extract, easier to scale and generally more sustainable.” *Volkswagen*



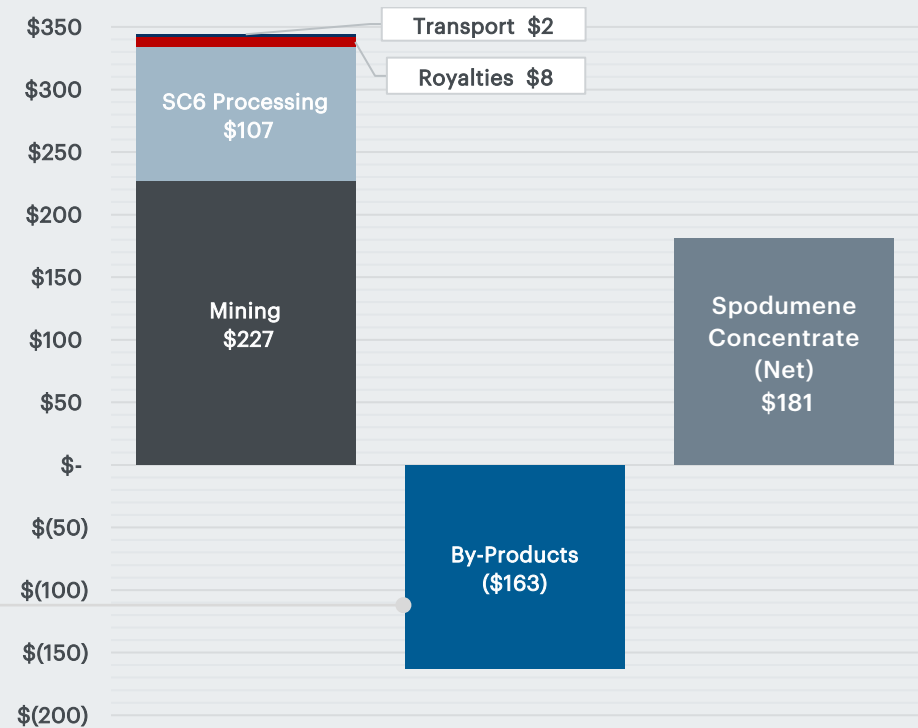
Source: McKinsey & Co., costs represent indicative 2025 costs for typical South American brine operations and typical Western Australian spodumene operations.

# BY-PRODUCTS OFFER IMPORTANT CREDITS TO OPERATING COSTS

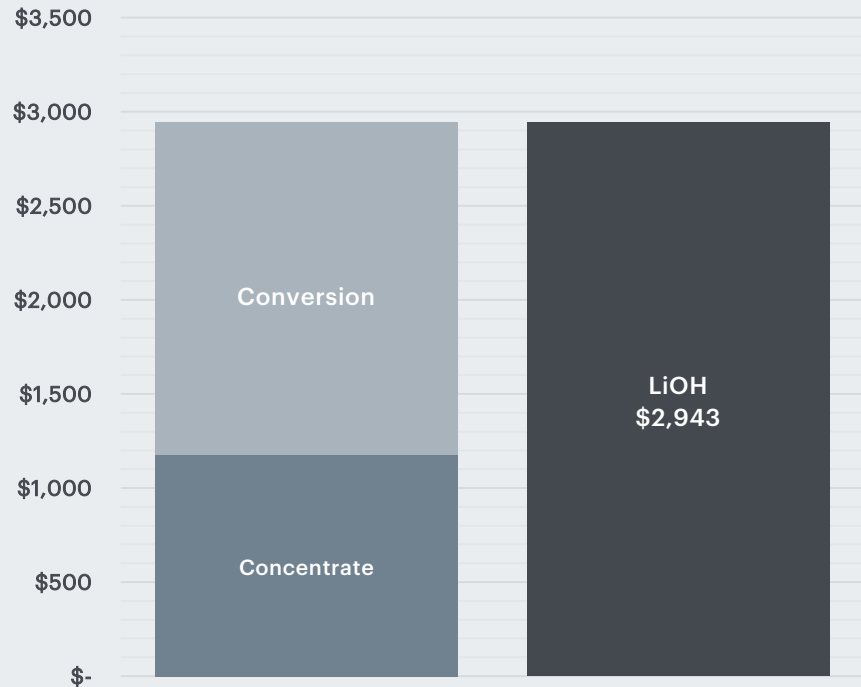


- SPODUMENE
- QUARTZ
- FELDSPAR
- MICA

Cash Cost of Spodumene Concentrate Production (\$/t)

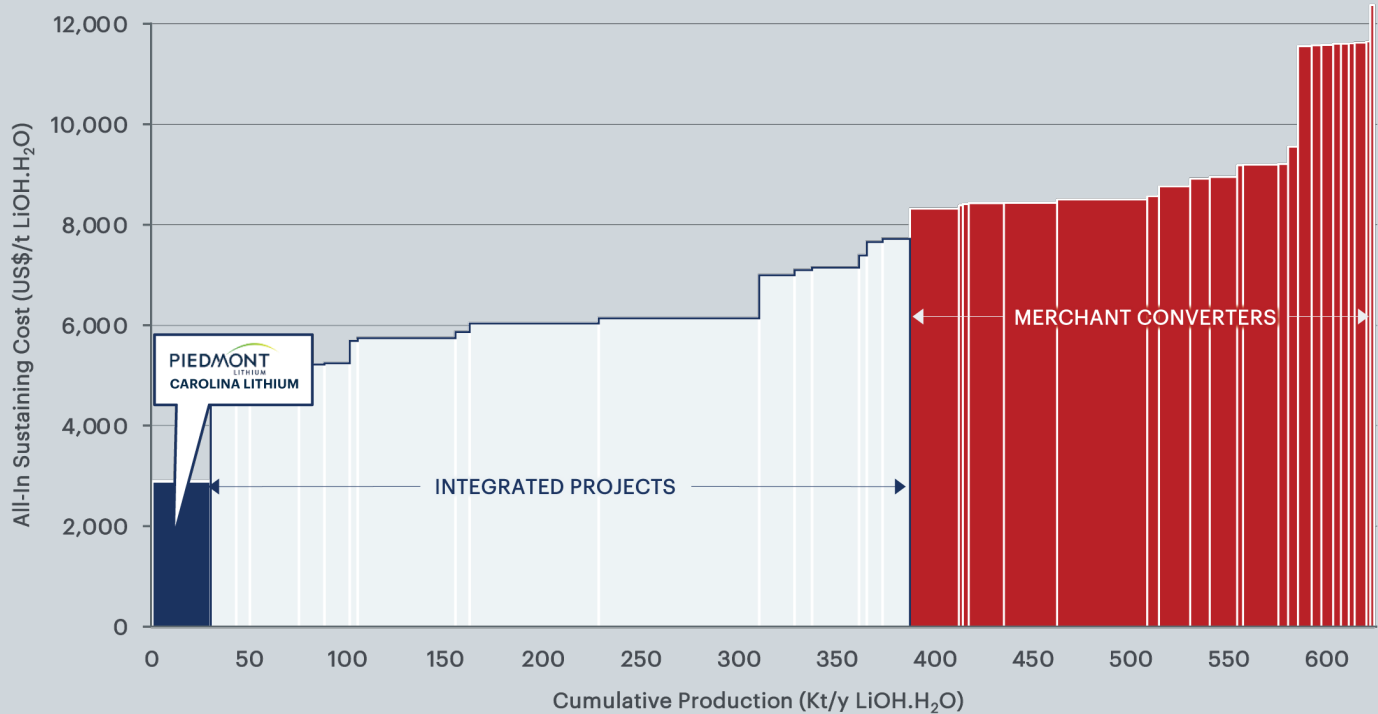


LiOH Integrated Project Production Cash Operating Costs - Life of project (\$/t) including Royalties



Source: Piedmont Carolina Lithium Scoping Study Update Dated June 9, 2021.

# LOCATION AND INTEGRATION DRIVE COST ADVANTAGES



Source: Roskill Lithium Cost Model Service - Extractive – 2028 Production and Cost Forecast  
All-In Sustaining Cost includes all direct and indirect operating costs related directly to the physical activity of producing lithium compounds, including mining/extraction, processing, refining and on-site general and administrative costs.

## PIEDMONT VS. AUSTRALIAN PRODUCERS



North  
Carolina



Western  
Australia



PLL Advantage  
Per LiOH Tonne

	North Carolina	Western Australia	PLL Advantage Per LiOH Tonne
Personnel (US\$/y avg.)	\$90,000	\$150,000	\$300
Electricity (kWh)	5.5c	17.0c	\$316
Natural Gas (GJ)	\$3.68	\$9.00	\$130
SC6 Transport (t)	\$2	\$71	\$483
LiOH Tailing Disposal (t)	\$0	\$50	\$350
State Royalties	0%	5%	\$225
By-product Credits (t)	\$163	\$0	\$1,141

Source: Company estimates. Assumes 7:1 SC6:LiOH ratio.

# PROVEN LEADERS



## Keith Phillips

*Chief Executive Officer*

30+ years advisory & financing experience with JPMorgan, Merrill Lynch & Goldman Sachs



## Patrick Brindle

*Chief Development Officer*

20+ years project global development experience



## Michael White

*Chief Financial Officer*

25+ years experience; most recently Chief Accounting Officer of Apergy Corporation



## Bruce Czachor

*Chief Legal Officer*

Former partner of Shearman & Sterling



## Brian Risinger

*VP – Corporate Communications*

25+ years IR & media; most recently with Sonoco



## Malissa Gordon

*Community & Government Relations*

13+ years at Gaston County Economic Development



## David Klanecky

*Chief Operating Officer*

25+ years lithium and chemical industry experience; former head of hard rock lithium hydroxide at Albemarle



## Austin Devaney

*Chief Marketing Officer*

Former head of lithium sales for Albemarle



## Lamont Leatherman

*Chief Geologist*

25+ years experience; discovered the Piedmont Lithium Project



## Binh Meador

*Senior Project Manager - Chemical Ops*

20+ years chemical engineering with Fluor



## Jim Nottingham

*Senior Project Manager - Concentrate Ops*

30+ years mining construction & concentrator operations



## Pratt Ray

*Production Manager - Chemical Ops*

30+ years experience in lithium chemical production at Livent



## David Buckley

*Advisor - Process Engineering*

25+ years lithium conversion; ex-Livent and Albemarle

## WORLD-CLASS TECHNICAL PARTNERS

PRIMERO

Metso:Outotec



SGS

HR




# WHY PIEDMONT?

## The Industry's Premier Lithium Development Company

Large Market with High Growth	<ul style="list-style-type: none"><li>▪ Total Addressable Market for lithium exceeds \$50 billion for EV applications by 2030<sup>1</sup></li><li>▪ EV penetration expected to grow 10x from ~4% in 2020 to over ~40% by 2030</li><li>▪ Grid storage market potentially larger than EVs in the long term</li></ul>
The Right Lithium Materials	<ul style="list-style-type: none"><li>▪ Production of lithium hydroxide ("LiOH") from spodumene ("SC6")</li><li>▪ LiOH required in the long-range batteries needed by major OEMs</li><li>▪ Spodumene is the preferred feedstock for cost, sustainability and scalability</li></ul>
Ideal Locations	<ul style="list-style-type: none"><li>▪ North Carolina offers exceptional infrastructure, talent and low operating costs</li><li>▪ Sayona investment in Quebec capitalizes on low-cost, sustainable hydroelectricity</li><li>▪ 83% of the world's lithium hydroxide currently produced in China</li></ul>
Exceptional Scale and Economics	<ul style="list-style-type: none"><li>▪ Strategy to be the USA's #1 lithium hydroxide producer</li><li>▪ One of North America's largest spodumene resources; scalable via 3<sup>rd</sup> party spodumene supply</li><li>▪ Low operating costs driven by location, low power and transport costs, and by-product sales</li></ul>
Sustainable Business Model	<ul style="list-style-type: none"><li>▪ The lowest carbon, water and land footprint among conventional lithium projects</li><li>▪ Massive reduction in transport distances from quarry to customer</li><li>▪ Fully-integrated LiOH manufacturing and by-product credits drive lowest cost position</li></ul>
Proven Leadership Team	<ul style="list-style-type: none"><li>▪ Operational team with large company and project mining and chemical industry experience</li><li>▪ Highly experienced people in all senior staff functions</li><li>▪ Senior leadership focused on driving shareholder value in a responsible way</li></ul>



# SCOPING UPDATE

 Nasdaq :PLL

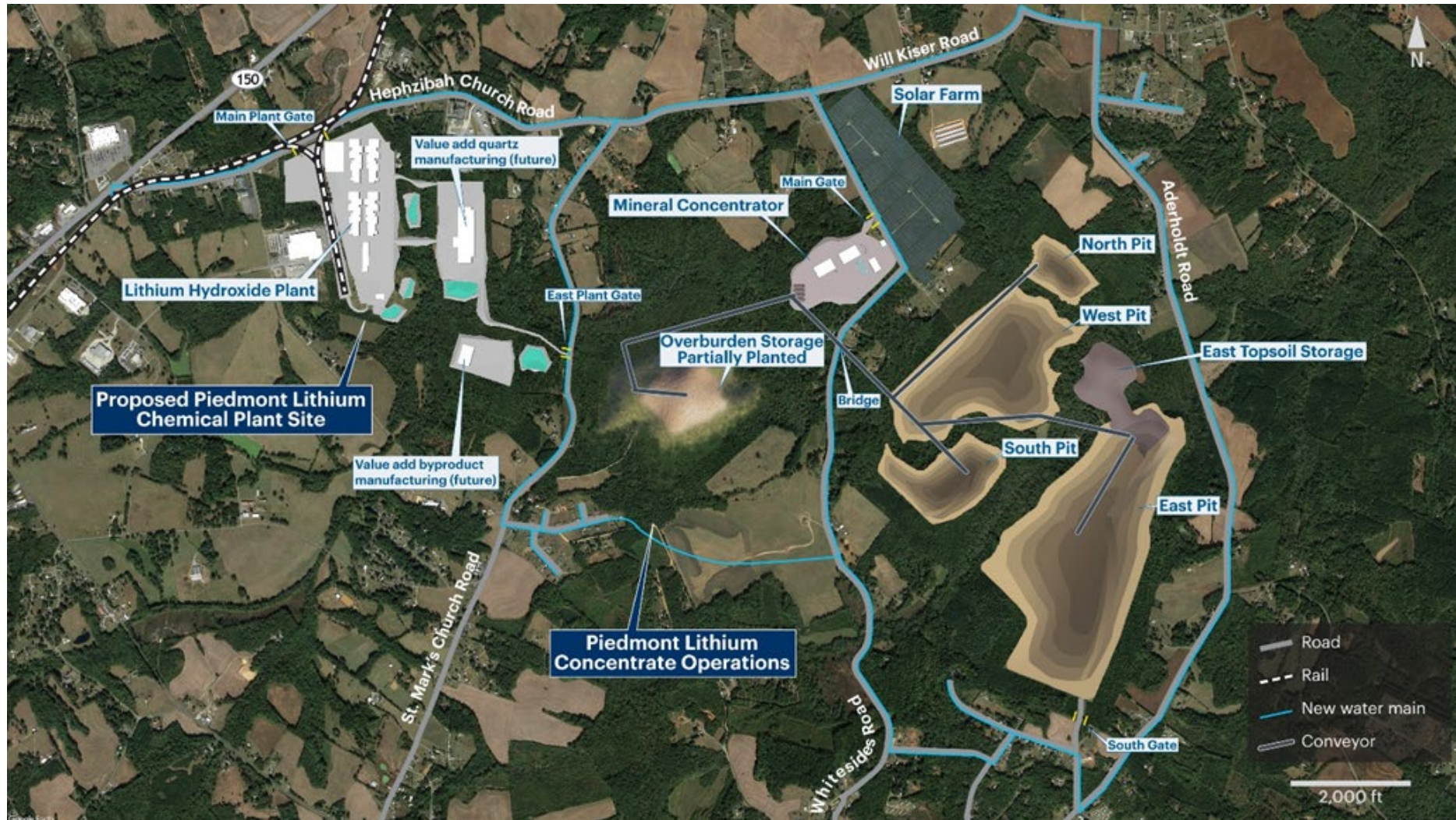
 ASX :PLL

ABN 50 002 664 495

**LiOH**



# SCOPING UPDATE – SITE PLAN

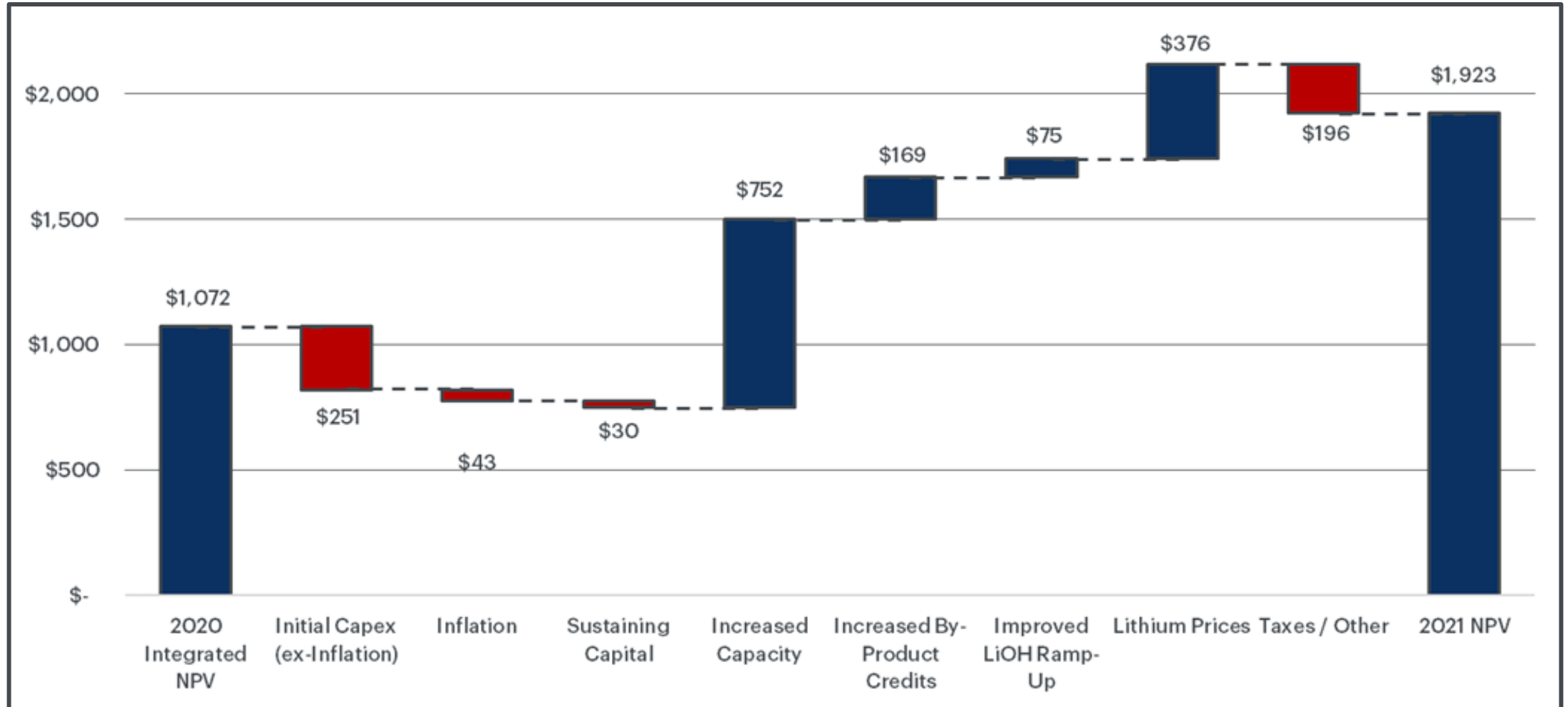


# SCOPING – 2021 VS. 2020 – KEY OUTCOMES

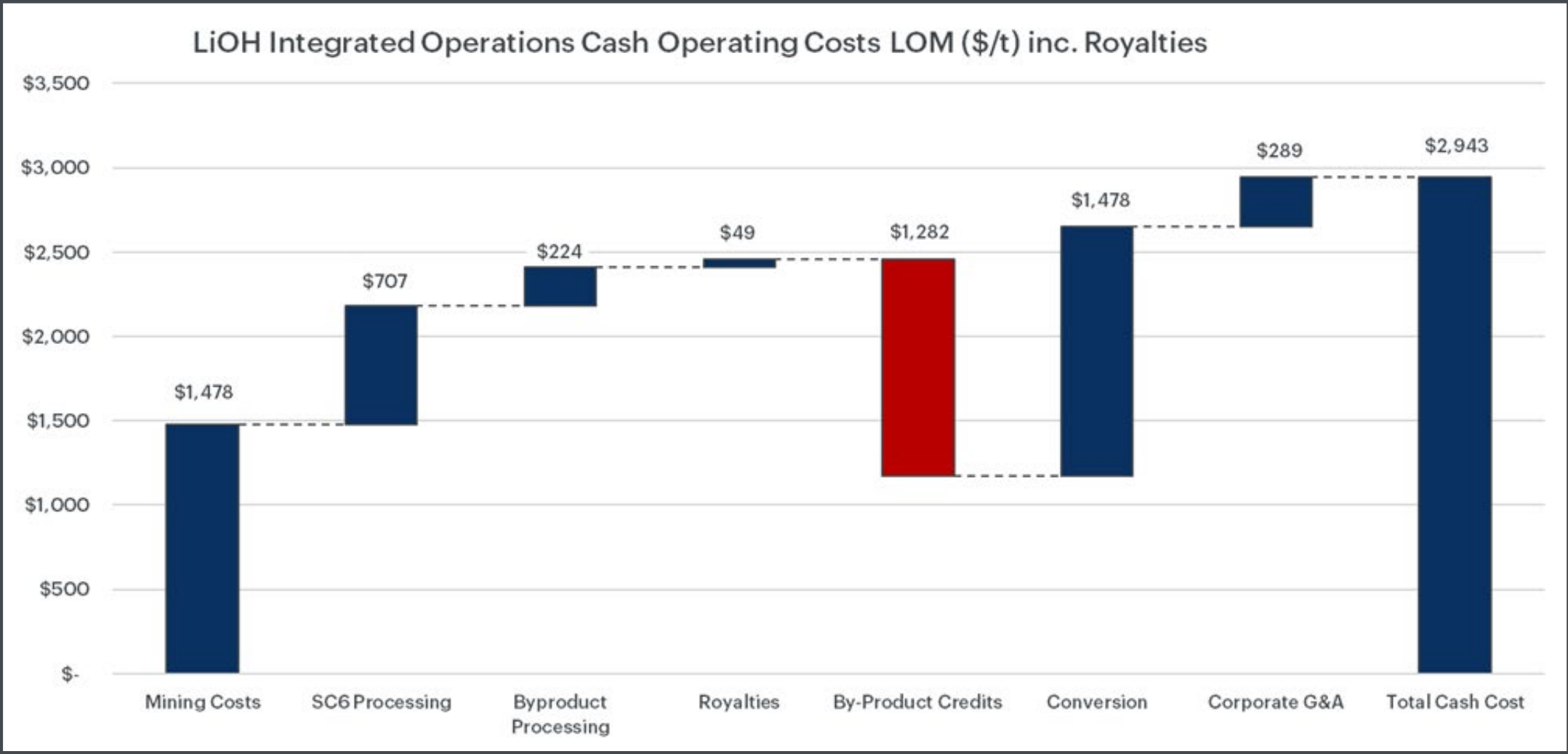
Table 1: Comparative Outcomes of 2021 and 2020 Scoping Studies

<i>Outcomes</i>	<i>Unit</i>	<i>2021 Study</i>	<i>2020 Study</i>
Project life	years	20	25
Steady-state average annual lithium hydroxide production	t/y	30,000	22,720
Steady-state average annual spodumene concentrate production	t/y	248,000	160,000
Steady-state average annual by-product production (all products)	t/y	714,000	224,000
Long term lithium hydroxide price	US\$/t	\$15,239	\$12,910
Long term spodumene concentrate price	US\$/t	\$762	\$564
Steady-state average cash cost of lithium hydroxide production	US\$/t	\$2,943	\$3,712
Steady-state average cost of spodumene concentrate production	US\$/t	\$181	\$201
Initial capital cost (including contingency)	US\$MM	\$838	\$545
Steady-state average annual EBITDA	US\$MM/y	\$401	\$218
After tax NPV @ 8% discount rate	US\$MM	\$1,923	\$1,071
After tax IRR	%	31%	26%
Payback from start of operations	years	2.92	3.23

# SCOPING – 2021 VS. 2020 – NET PRESENT VALUE

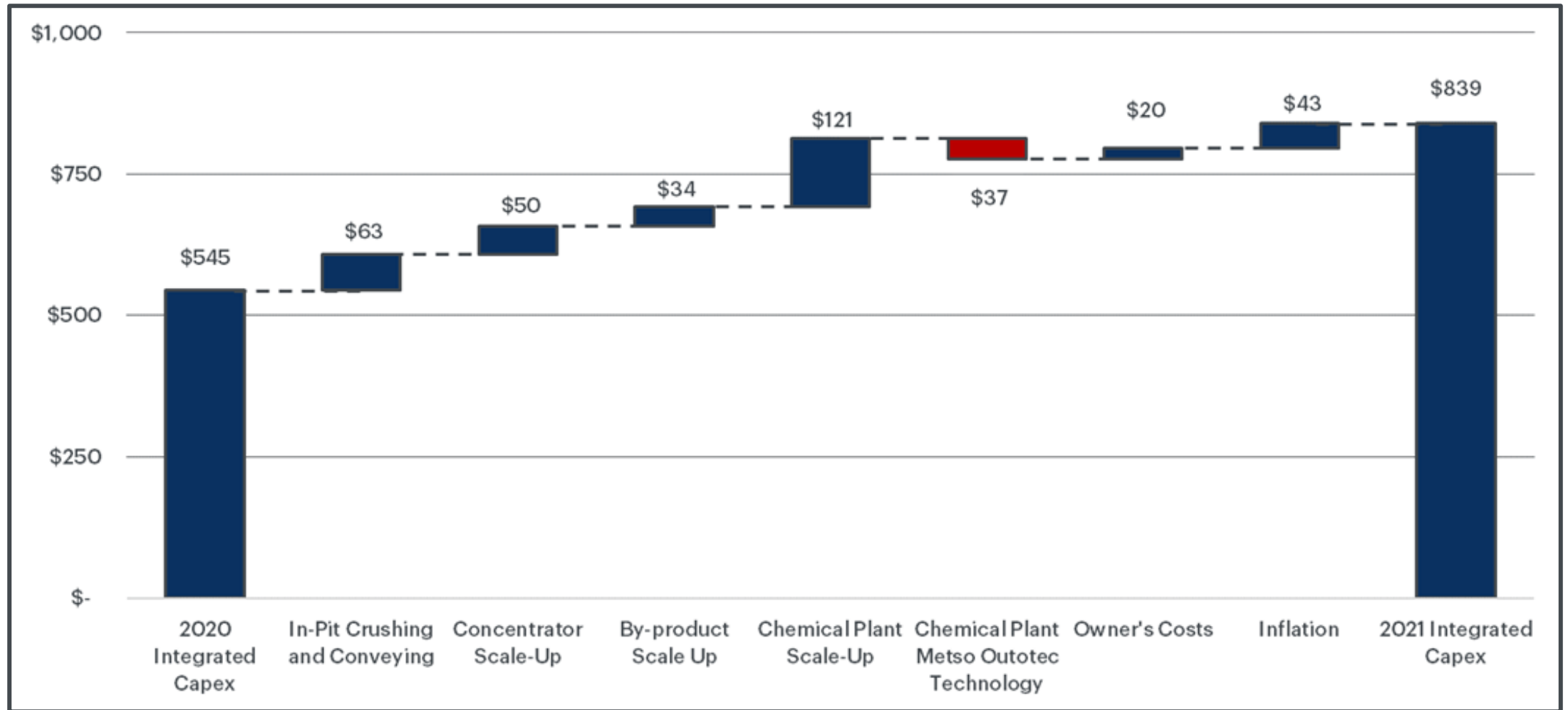


# SCOPING – 2021 VS. 2020 – CASH COSTS





# SCOPING – 2021 VS. 2020 – INITIAL CAPITAL



# SCOPING UPDATE – INITIAL CAPITAL

**Table 1: Estimated Capital Costs**

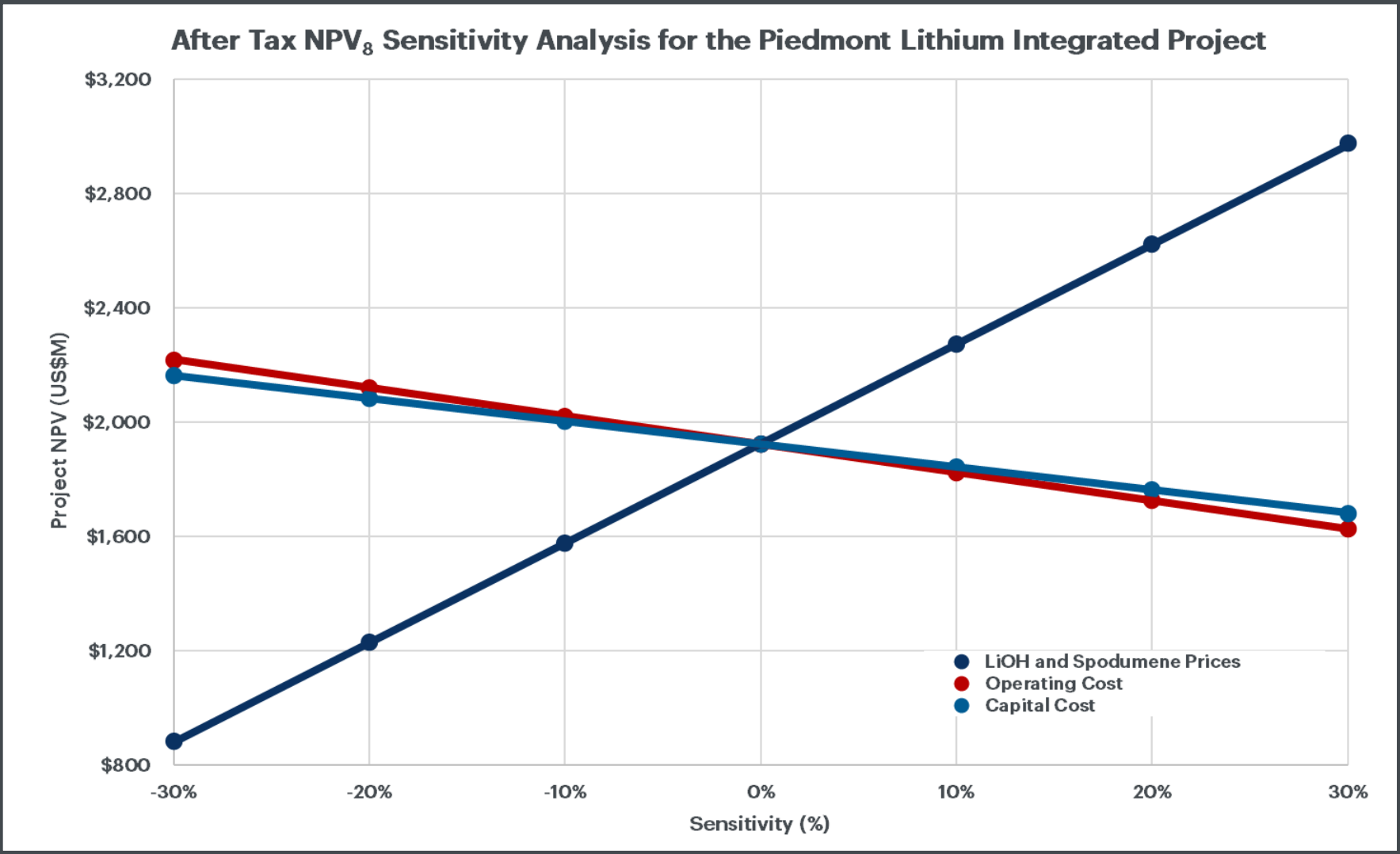
Cost Center	Life-of-mine total (US\$ million)
Mine establishment and infrastructure direct costs	\$67.0
In-pit crushing and conveyors	\$52.1
Spodumene concentrator	\$115.2
By-products plant	\$39.0
Chemical plant	\$277.3
Project indirects	\$88.4
<b>Total</b>	<b>\$639.0</b>
Land acquisition	\$28.0
Other owner's costs	\$43.8
<b>Total Initial Capital (Excluding Contingency)</b>	<b>\$710.8</b>
Contingency	\$127.8
<b>Total Development Capital</b>	<b>\$838.6</b>
Deferred and sustaining capital	\$337.9
Working capital	\$48.3

# SCOPING UPDATE – MILESTONES

**Table 1: Piedmont Carolina Lithium Project Milestone Schedule – Lithium Hydroxide Operations**

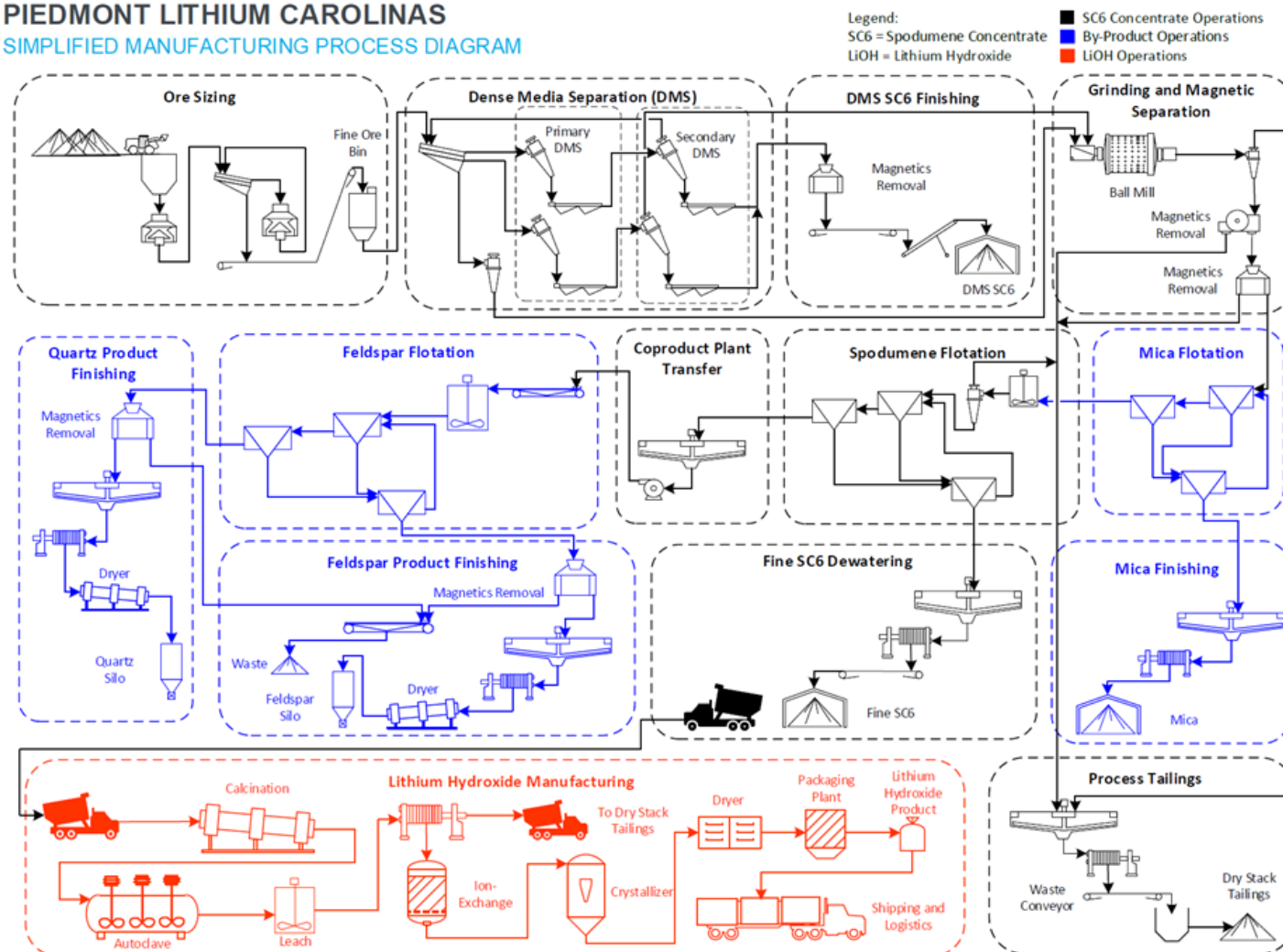
Milestone Description	Milestone Date
Complete Integrated DFS	September 2021
Financial Investment Decision (“FID”)	December 2021
Start Detailed Design Engineering	January 2022
Commence Long Lead Equipment Awards	January 2022
Start Construction	April 2022
Pre-Operational Testing Start	July 2023
Mechanical Completion	October 2023
Pre-Operational Testing Completion	November 2023
Commissioning Start	December 2023

# SCOPING UPDATE – SENSITIVITY ANALYSIS



# SCOPING UPDATE – FLOW SHEET

## PIEDMONT LITHIUM CAROLINAS



PRIMEIRO



# RESERVES AND RESOURCES

## Global Ore Reserves & Mineral Resources – Piedmont Lithium and Sayona Mining – 100% Basis

Category	Piedmont Lithium <sup>1</sup>				Sayona Mining <sup>2</sup>			
	Tonnes (Mt)	Grade (Li <sub>2</sub> O%)	Li <sub>2</sub> O (kt)	LCE (kt)	Tonnes (Mt)	Grade (Li <sub>2</sub> O%)	Li <sub>2</sub> O (kt)	LCE (kt)
<b>Ore Reserves</b>								
Proven	-	-	-	-	6.1	0.99	60.4	149.4
Probable	-	-	-	-	6.0	1.02	61.2	151.3
<b>Total Reserves</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>12.1</b>	<b>1.00</b>	<b>121.6</b>	<b>300.7</b>
<b>Mineral Resources</b>								
Measured	-	-	-	-	6.6	1.02	67.1	165.9
Indicated	21.6	1.12	241.0	597.0	10.6	1.00	107.1	264.9
Inferred	17.6	1.03	181.0	449.0	3.8	0.98	36.8	91.0
<b>Total MRE</b>	<b>39.2</b>	<b>1.09</b>	<b>422.0</b>	<b>1,046.0</b>	<b>20.9</b>	<b>1.01</b>	<b>211.0</b>	<b>521.8</b>

Note 1: Piedmont Lithium Mineral Resources as of April 7, 2021

Note 2: Sayona Mining ASX announcement reporting Ore Reserves, and Mineral Resources dated September 24, 2018

# DISCLAIMERS

## Forward Looking Statements

This presentation contains forward-looking statements within the meaning of or as described in securities legislation in the United States and Australia, including statements regarding exploration and development activities; plans for Piedmont's mineral projects; projections of market demand and prices; statements about the timing and amount of reserve and resource declarations; and statements about the timing and ability to complete scoping studies and feasibility studies.

Such forward-looking statements involve substantial and known and unknown risks, uncertainties and other risk 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 risk factors include, among others: (i) that Piedmont will be unable to commercially extract mineral deposits, (ii) Piedmont's properties may not contain expected reserves, (iii) risks and hazards inherent in the mining business (including risks inherent in developing mining projects, environmental hazards, industrial accidents, weather or geologically related conditions), (iv) uncertainty about Piedmont's ability to obtain required capital to execute its business plan, (v) Piedmont's ability to hire and retain required personnel, (vi) changes in the market prices of lithium, (vii) changes in technology or the development of substitute products, (viii) the uncertainties inherent in exploratory, developmental and production activities, including risks relating to permitting and regulatory delays, (ix) uncertainties inherent in the estimation of lithium resources, (x) risks related to competition, and (xi) other uncertainties and risk factors set out in filings made from time to time with the U.S. Securities and Exchange Commission and the Australian Securities Exchange, including Piedmont's most recent Annual Report on Form 20-F. The forward-looking statements, projections and estimates are given only as of the date of this presentation and actual events, results, performance and achievements could vary significantly from the forward looking statements, projections and estimates presented in this presentation. Readers are cautioned not to put undue reliance on forward-looking statements. Piedmont disclaims any intent or obligation to update publicly such forward-looking statements, projections and estimates, whether as a result of new information, future events or otherwise. Additionally, Piedmont, except as required by applicable law, undertakes 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 Project's Core Property Mineral Resource of 25.1Mt @ 1.09% Li<sub>2</sub>O comprises Indicated Mineral Resources of 12.5Mt @ 1.13% Li<sub>2</sub>O and Inferred Mineral Resources of 12.6Mt @ 1.04% Li<sub>2</sub>O. The Central Property Mineral Resource of 2.80Mt @ 1.34% Li<sub>2</sub>O comprises Indicated Mineral Resources of 1.41Mt @ 1.38% Li<sub>2</sub>O and 1.39Mt @ 1.29% Li<sub>2</sub>O.

Because Piedmont is listed on the Australian Securities Exchange, 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"). Comparable terms are now also defined by the U.S. Securities and Exchange Commission ("SEC") in its newly adopted Modernization of Property Disclosures for Mining Registrants as promulgated in its S-K 1300 standards. While the guidelines for reporting mineral resources, including subcategories of measured, indicated, and inferred resources, are largely similar for JORC and S-K 1300 standards, documentation is ongoing with respect to the S-K 1300 Technical Report Summary template to formally categorize Piedmont's mineral holdings as both JORC and S-K 1300 compatible. While the competent persons responsible for this announcement do not foresee any challenges in categorizing the resources delineated in this announcement as S-K 1300 compliant, information contained herein that describes Piedmont's mineral deposits is not fully 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 Piedmont's disclosure in its SEC filings, copies of which may be obtained from Piedmont or from the EDGAR system on the SEC's website at [www.sec.gov](http://www.sec.gov).

## Competent Persons Statements

The information in this presentation that relates to Exploration Results is based on, and fairly represents, information compiled or reviewed by Mr. Lamont Leatherman, a Competent Person who is a Registered Member of the 'Society for Mining, Metallurgy and Exploration', a 'Recognized Professional Organization' (RPO). Mr. Leatherman is an employee of the Company. Mr. Leatherman has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Leatherman consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this presentation that relates to lithium Mineral Resources is extracted from our announcement entitled "Piedmont Increases Lithium Resources by 40%" dated April 8, 2021. The information in this announcement that relates to by-product Mineral Resources is extracted from our announcement entitled "Piedmont Focused on Increased Sustainability with 40% Increase in Quartz, Feldspar, and Mica Mineral Resources" dated June 8, 2021. Both announcements are available to view on the Company 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 announcements; b) all material assumptions and technical parameters underpinning the Mineral Resources in the original announcements continue to apply and have not materially changed; and c) the form and context in which the Competent Person's findings are presented in this announcement have not been materially modified from the original announcements.

The information in this presentation that relates to Process Design, Capital Costs, and Operating Costs is based on, and fairly represents, information compiled or reviewed by Mr. Alexandre Roy, a Competent Person who is a Registered Member of 'Ordres des Ingenieurs du Quebec', a 'Recognized Professional Organization' (RPO). Mr. Roy is a full time employee of Primero Group. Mr. Roy has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Mineral Resources and Ore Reserves'. Mr. Roy consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information in this presentation that relates to Mining Engineering and Mining Schedule is based on information compiled by Mr. Chris Scott and reviewed by Dr. Steven Keim, both of whom are employees of Marshall Miller and Associates (MM&A). Dr. Keim takes overall responsibility as Competent Person for the portions of the work completed by MM&A. Dr. Steven Keim is a Competent Person who is a Registered Member of the 'Society for Mining, Metallurgy & Exploration Society', a 'Recognized Professional Organization' (RPO). Dr. Keim has sufficient experience, which is relevant to the style of mineral extraction under consideration, and to the activity he is undertaking, to qualify as Competent Person in terms of the JORC Code (2012 Edition). Dr. Keim has reviewed this document and consents to the inclusion in this report of the matters based on his information in the form and context within which it appears.

**LiOH**



# **LITHIUM – MADE IN THE USA**

**Powering America's Clean Energy Transition**

**June 2021**

Keith D. Phillips – President and CEO

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[www.piedmontlithium.com](http://www.piedmontlithium.com)