Albemarle (NYSE: ALB)

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Albemarle as a Major Player

Albemarle covers all aspects of its industry being the leading global developer, manufacturer, and marketer of highly-engineered specialty chemicals designed to meet the needs of customers across multiple end-markets

Albemarle Overview

Produces and develops lithium and bromine-based materials in addition to catalysts for a wide range of end-market consumers

Owns intellectual property including over **2100 patents** and more than **500 pending patents**

Vertically integrated across all aspects of the mining, production and conversion processes

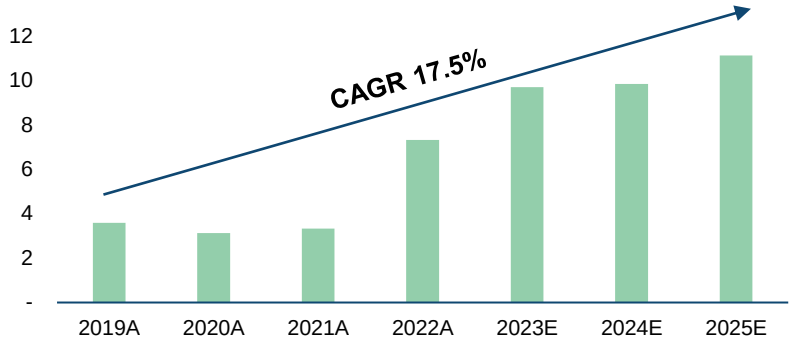
Operates R&D facilities that foster growth for new technologies focused on improving energy density and cutting costs

Highlighted Financial Information

Valuation Metrics	
Market Cap	$15.1B
EV/EBITDA	3.1x
P/E	4.6x

Operating Statistics	
Revenue	$9.8B
Adj. EBITDA	$3.5B
Adj. EBITDA Marg.	47.5%

Albemarle Revenue ($B)



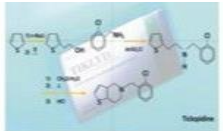
Segmentation Overview

Segment	Description	% of Sales	Key Industries Targeted
Energy Storage	Segment specializing in lithium-ion battery evolution and the global energy transition	64%	Lithium-ion batteries for Consumer Electronics and Electric Vehicles
Specialties	Segment focused on bromine and highly specialized lithium solutions	24%	Flame Retardants, Construction, Insulation, Circuit Boards, and Enclosures for Consumer Electronics
Ketjen (Catalysts)	Wholly-owned subsidiary that provides catalysts that convert heavy oil into distillable products	12%	Gasoline, Pharmaceuticals, Makeup, and Medical Devices

Sources: Company Filings

Key Lithium Applications

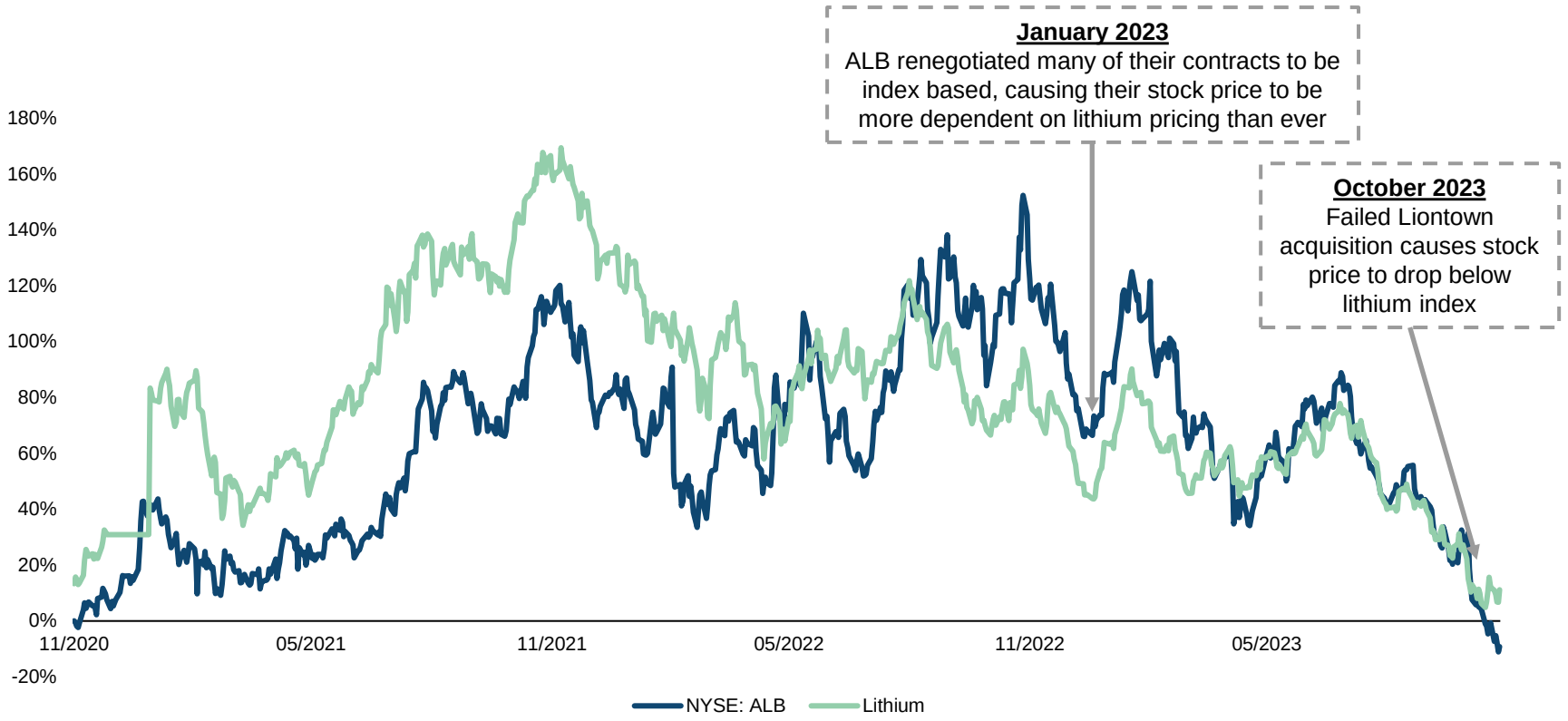
Albemarle's lithium products can be used for a wide array of applications beyond EV battery production

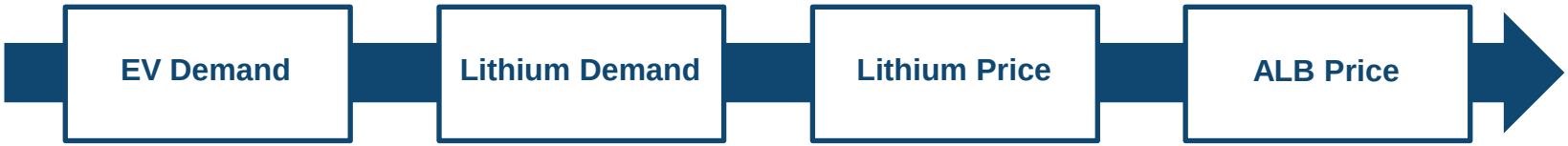
Key Products	Key Applications				
Lithium Carbonate		 Li-Ion Batteries	 Glass Ceramics	 Cement	 Aluminum
Lithium Hydroxide		 Li-Ion Batteries	 Grease	 CO_2 Absorption	 Mining
Lithium Metal		 Li Primary Batteries	 Pharmaceuticals	 Al-Alloys	
Organo-lithium		 Elastomers	 Pharmaceuticals	 Agrochemicals	 Electronics
Special Metals		 Scintillation	 Industrial Catalysts	 Airbag Ignition	

Sources: Albemarle Website

Lithium Price vs Albemarle Share Price

Albemarle's share price is closely tied to global lithium prices which have dropped more than 60% over fears of softening global EV demand





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Sources: Capital IQ, Bloomberg

Why Albemarle is a Buy

Thesis

Albemarle, as a mine-to-market company currently trading at a softened valuation, offers a compelling investment opportunity. With a looming lithium shortage as well as Albemarle's derisked approach, the company is well-positioned to meet the soaring demand for lithium and to thrive in the face of potential economic downturns.

Investment Rationale

1

Albemarle's Ability to Capitalize on Growing Lithium Demand

With a lithium shortage expected in 2025, Albemarle will be uniquely positioned to capitalize on this increase in demand relative to their competitors.

2

Albemarle is Derisked Compared to Competitors

Albemarle's diverse geographies and end markets, as well as the value proposition that they provide to customers helps ensure success throughout the lithium cycle

3

Softened Valuation Despite Financial Performance

Albemarle is currently trading at a discount compared to its peers and its historical relation to lithium prices

Price Target
$187.46
55.2% upside to current **$120.78**

1 Albemarle's Ability to Capitalize on Growing Lithium Demand

Lithium Demand Outpaces Supply

Driven by an increase in global EV demand and a shortage in new mining projects, there will be a supply shortage for lithium beginning in 2025 causing lithium prices to rise

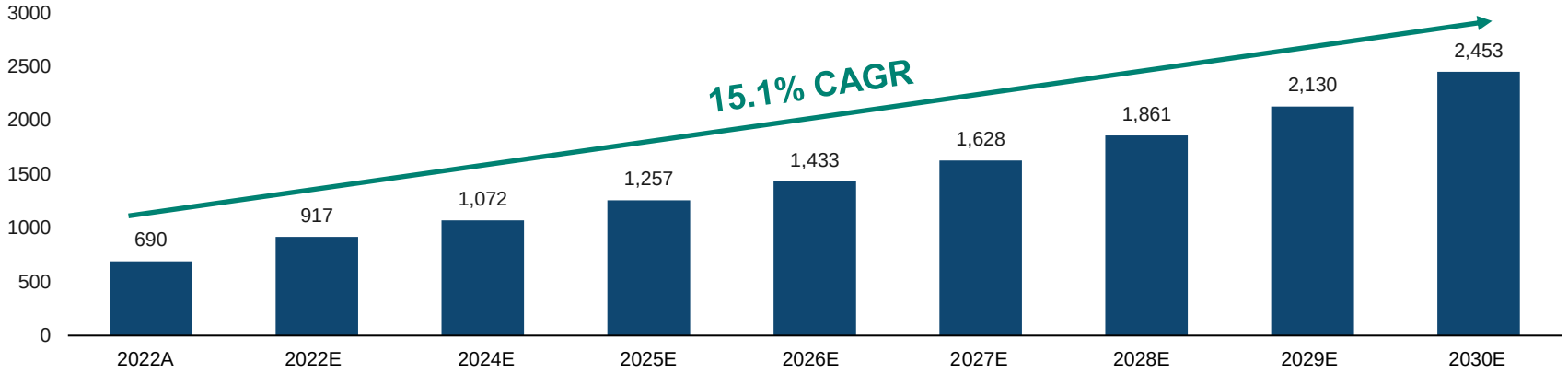
Lithium Demand Soars

Lithium demand is expected to more than **triple by 2030**

2030 demand of Lithium is expected to outpace supply by **55%,** with a **shortage expected as soon as 2025**

ALB is uniquely positioned to capture this growing demand due to their **diversified mining locations** and **large capacity**

Projected Lithium Demand (thousands of metric tons)



"We expect to see a modest deficit of around 40,000 to 60,000 tonnes of lithium carbonate by 2025, but a wider deficit amounting to 768,000 tonnes by the end of 2030" – *Corinne Blanchard, Deutsche Bank's Director of Lithium and Clean Tech*

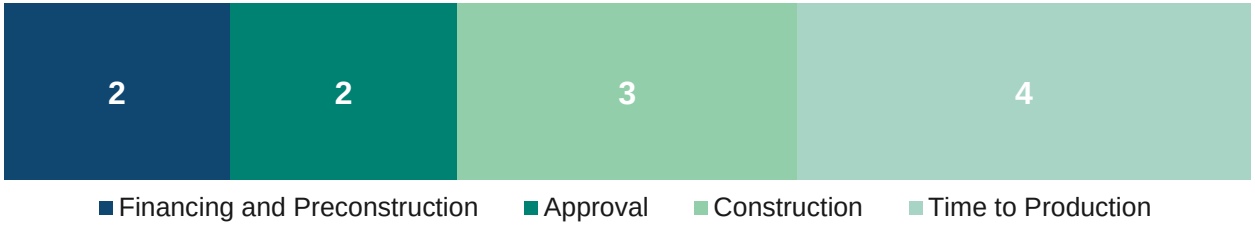
"In the next couple years regional supply imbalance is inevitable, the global battery supply chain may find lithium in shortfall again which could cause lithium prices to spike to their historic 2022 highs" – *Susan Zou, Rystad Energy Vice President*

Sources: McKinsey, Goldman Sachs, Company Filings, BMI

Ahead of the Competition

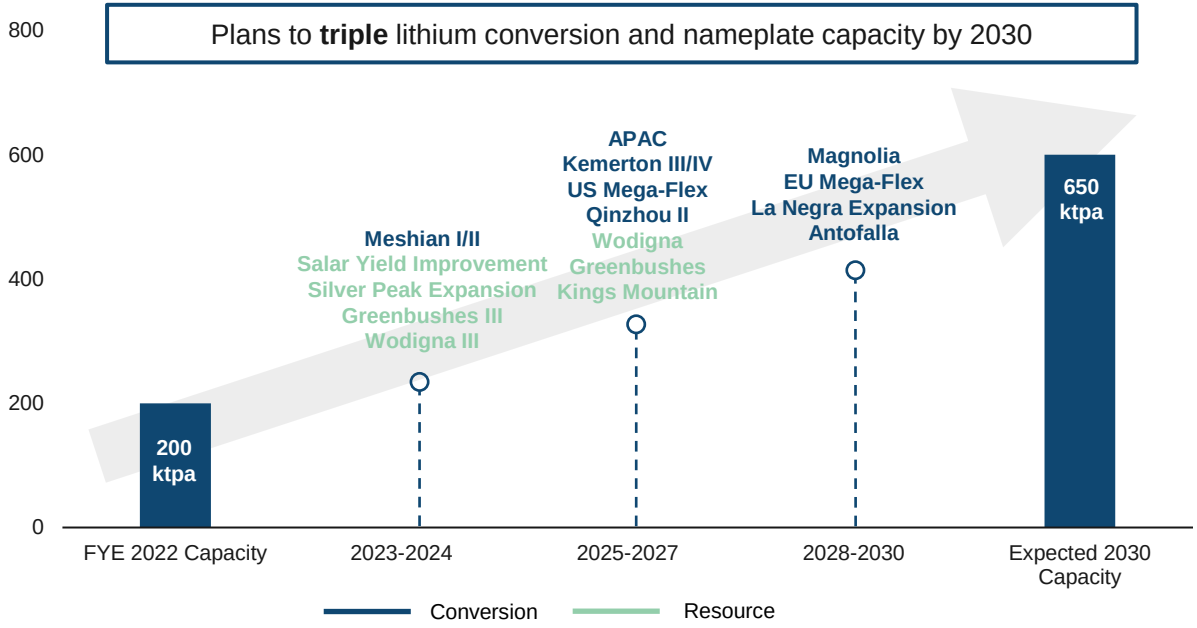
Albemarle's aggressive mining expansion, including their well-developed ten year plan uniquely positions it to outperform competitors

Construction of New Mines



The typical lithium mine takes over **10 years** before production and over **14 years** for integrated projects

Albemarle's Differentiated Expansion Plan



Project	Capacity
Meshian I/II	50 ktpa
Kemerton	100 ktpa
US Mega-Flex	100 ktpa
Qinzhou II	25 ktpa
Salar Yield	40 ktpa
Greenbushes	50 ktpa

Sources: Gerrit Fuelling (Rockwood Lithium), Albemarle Strategic Update

2 Albemarle is Derisked Compared to Competitors

Cost Savings

Albemarle's strategic geographic positioning in combination with its vertical integration strategy have allowed them to continuously drive costs down compared to their competition in a growing industry

Vertical Integration

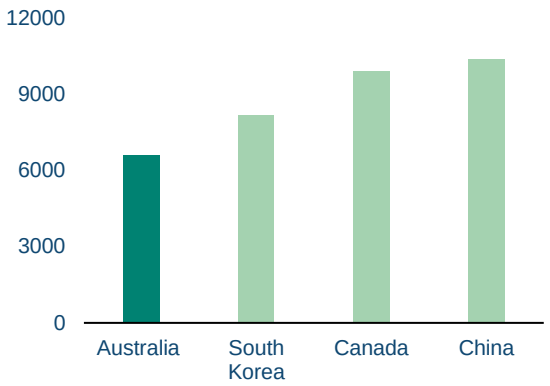
Resource Extraction

Conversion

Sale to End-Market

Geographic Advantage in Lithium Production

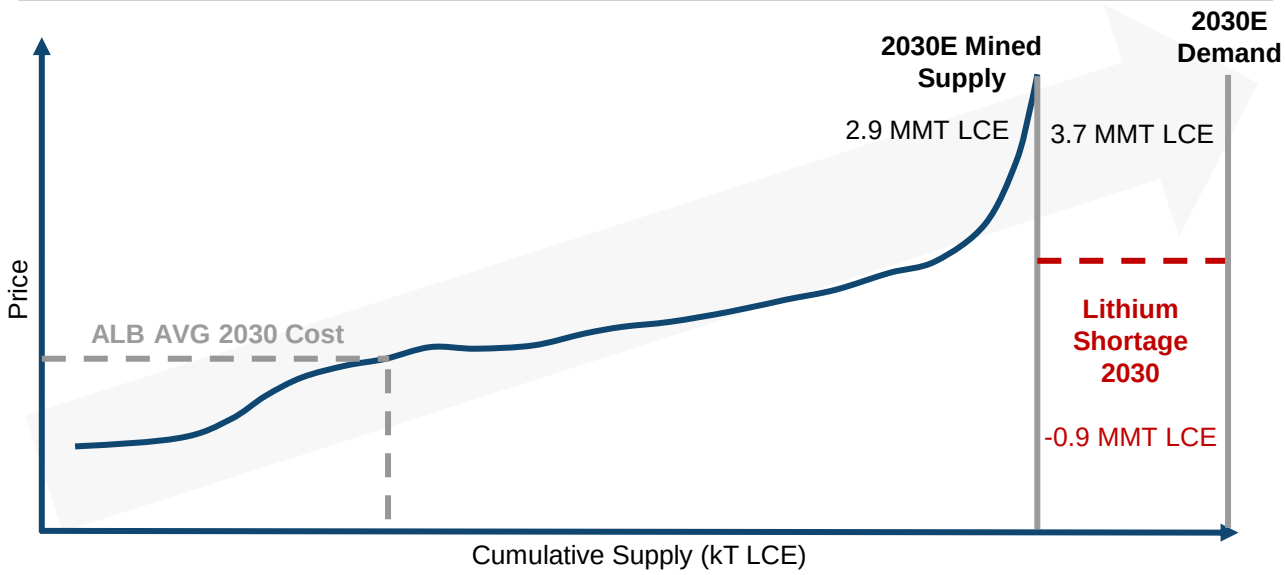
Production Cost per Ton ($)



Tons of Reserves (thousands)

Chile's new mining initiative grants the government control over lithium projects, positioning ALB advantageously with a contract until **2043**, compared to competitor SQM's expiring in **2030**

Lithium Cost Outlook



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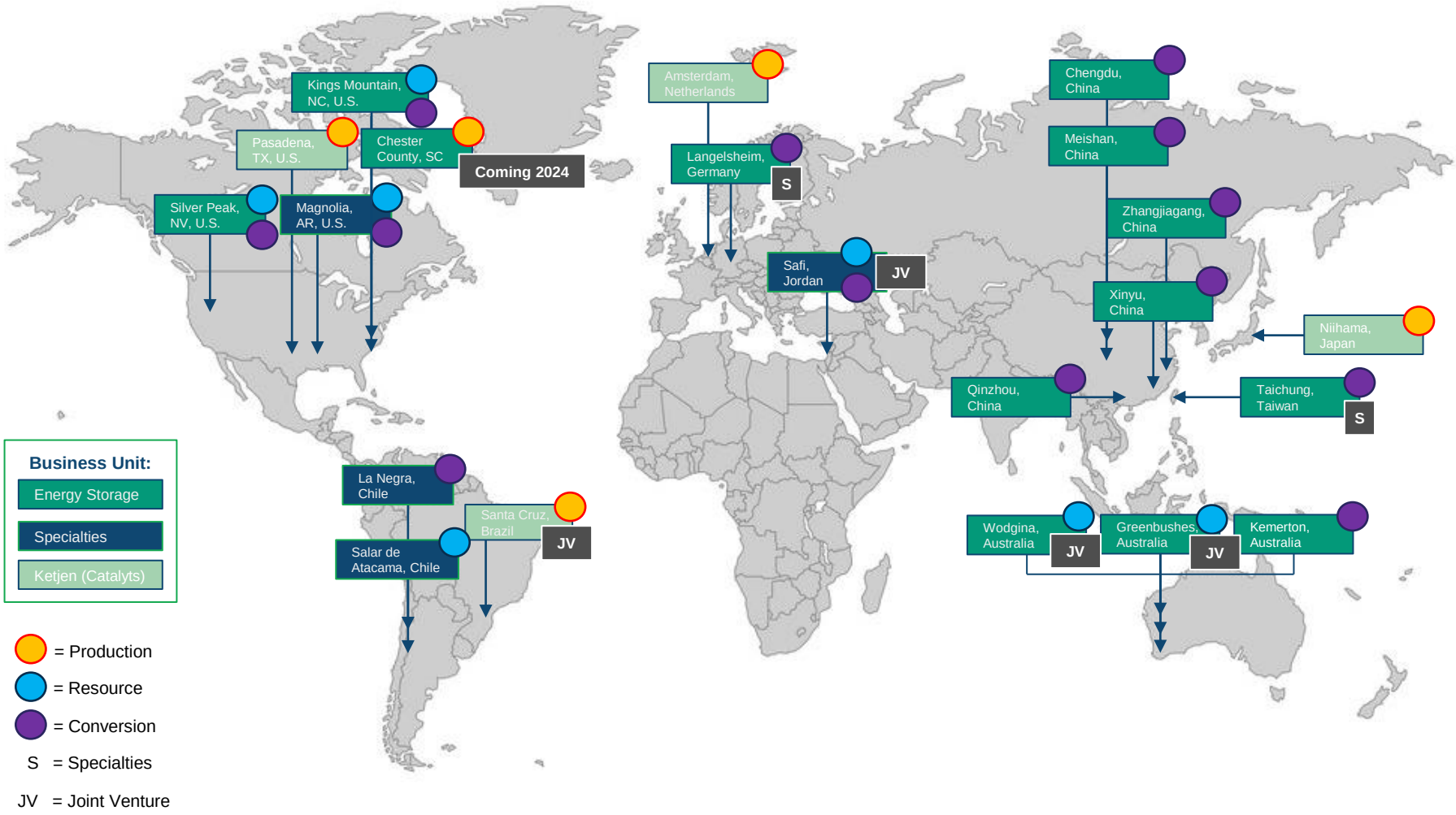
Sources: ALB Investor Presentation, McKinsey, Natural Resources Canada

Albemarle is Everywhere

Albemarle's expanding global footprint not only mitigates dependence on a single mining site but also positions the company to effectively meet the surging demand for lithium



Sources: Company Filings

More than Lithium

Although their specialties segment pales in comparison to energy storage, Albemarle's specialties are not neglected and thus are well positioned to deliver on near and long-term targets

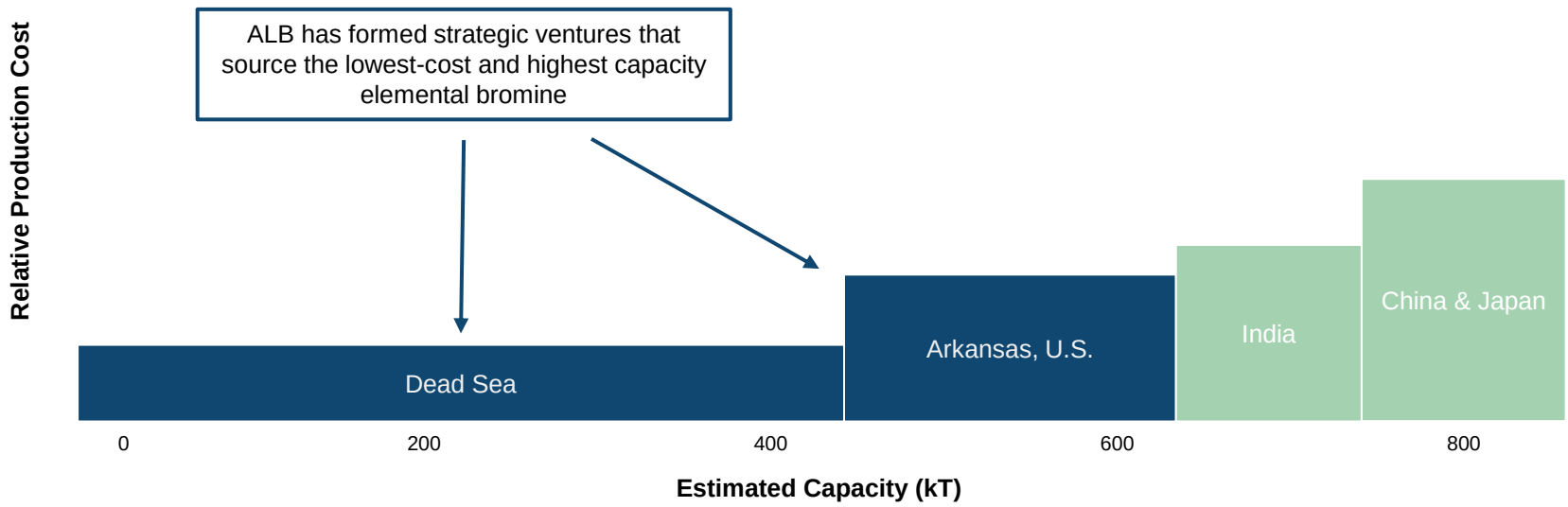
Financial Outlook

- 2023E EBITDA of $3.6B, up 270% versus 2019 and up an additional $1.5B by 2027
- Five-year EBITDA CAGR of 9.7% at **37-43% EBITDA margin** is appealing when compared broadly against most chemical businesses

Growth & Cost Strategies

- Arkansas and Jordan acquisitions also happen to be lowest-cost and highest capacity bromine for industrial use

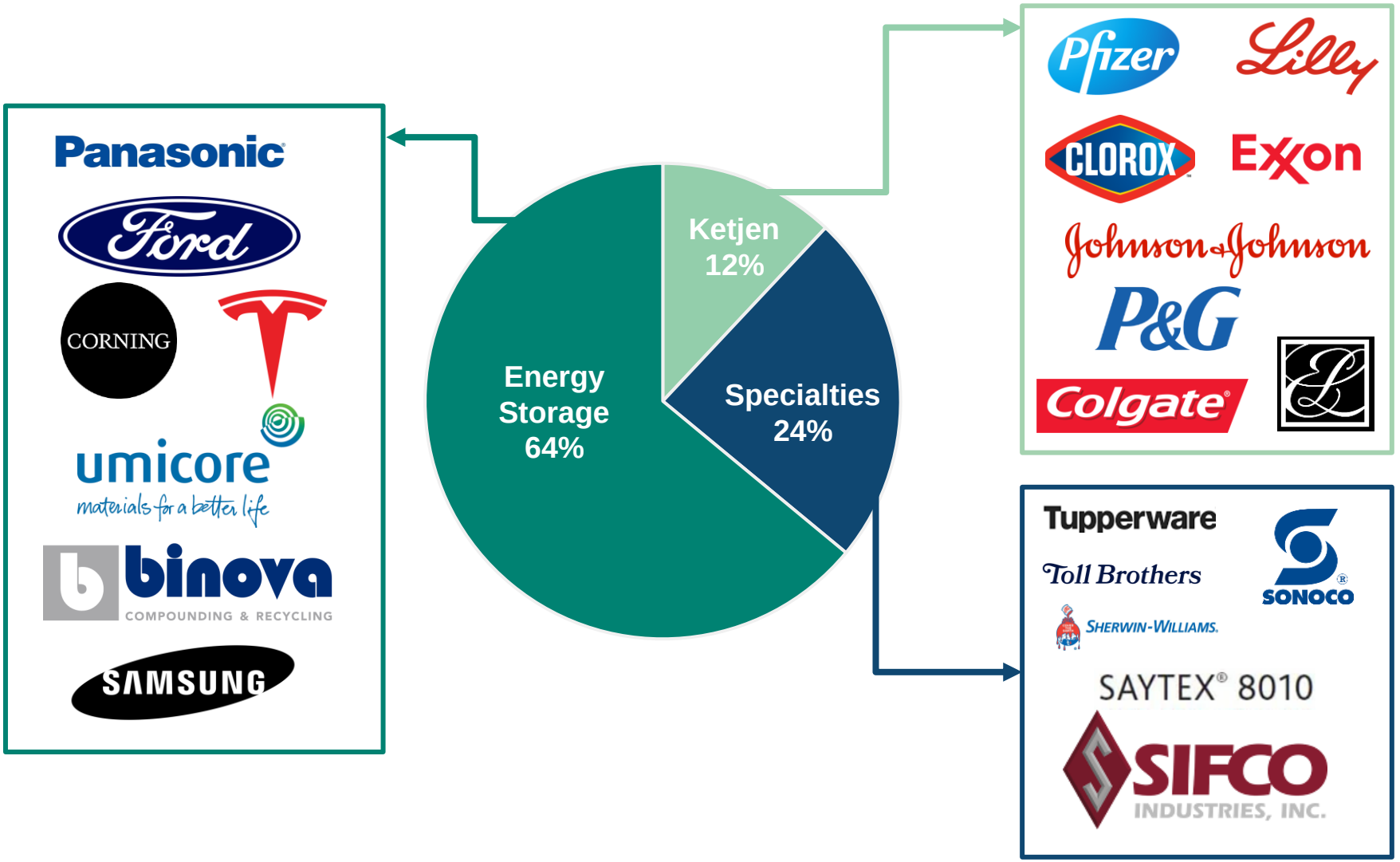
Industrial Cost Curve for Elemental Bromine



Sources: ALB Investor Presentation, ALB Company Filings, Bloomberg

Let's Put a Face to the Name

Within these redefined segments, Albemarle has a wide array of well-recognized customers in multiple industries, allowing Albemarle to remain successful and limit their susceptibility to the risks associated with being in a single industry

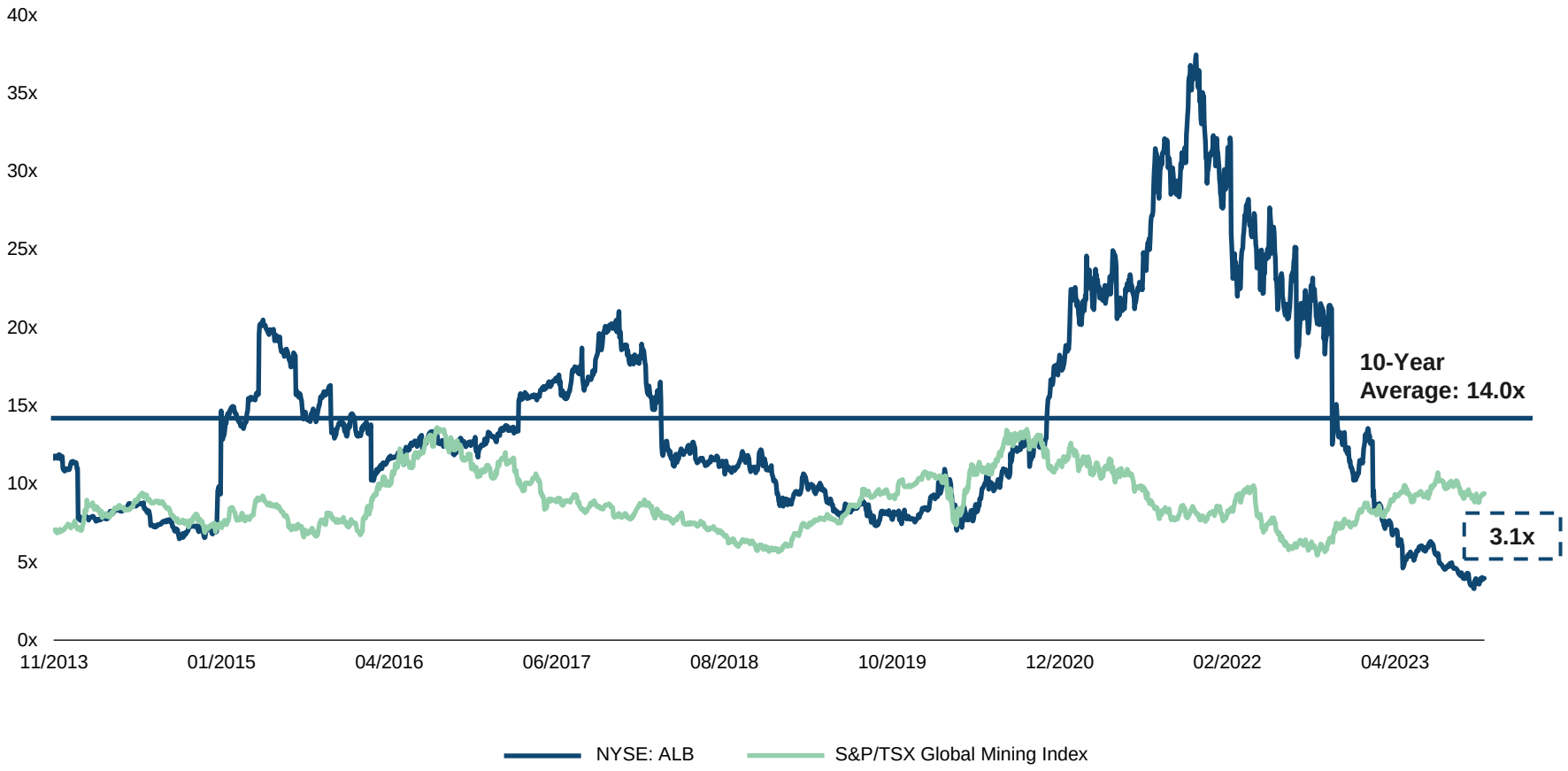


Sources: CSI Market, Company Filings

3 Softened Valuation Despite Financial Performance

A Unique Opportunity to Buy

Since the drop in lithium prices, Albemarle's EV/EBITDA multiple has been trading far below its historical average, presenting a unique opportunity to buy at this low valuation



Sources: Bloomberg

Regression Analysis

A regression analysis was performed on historical lithium and ALB stock price data to explain the correlation between the two variables. The output suggests that Albemarle should be trading at $152.35, a 26.1% increase from its current share price

Adj R Squared: 0.77
df: 199

Lithium Price Index	$10.00	$20.00	$30.00	$40.00	$50.00	$60.00	$70.00	$80.00	$90.00	$100.00	$110.00	$120.00	$130.00	$140.00	$150.00
ALB Price	$10.74	$32.83	$54.91	$77.00	$99.08	$121.17	$143.25	$165.34	$187.42	$209.51	$231.59	$253.68	$275.76	$297.85	$319.93

Current Lithium Price: $75.63
Current ALB Price: $120.78

Sources: Bloomberg

Why Do Investors Fear A Decrease In Demand?

Market Belief: Macroeconomic downturns/subsidy cuts in China and the West have decreased discretionary spending, and as a result, EV demand will decrease

Steady EV Outlook

Counter 1: China

29.2%

YOY EV sales growth in China after a cut in government subsidies

Counter 2: Cheap EVs

EVs set to reach price parity with combustion vehicles by the end of the decade

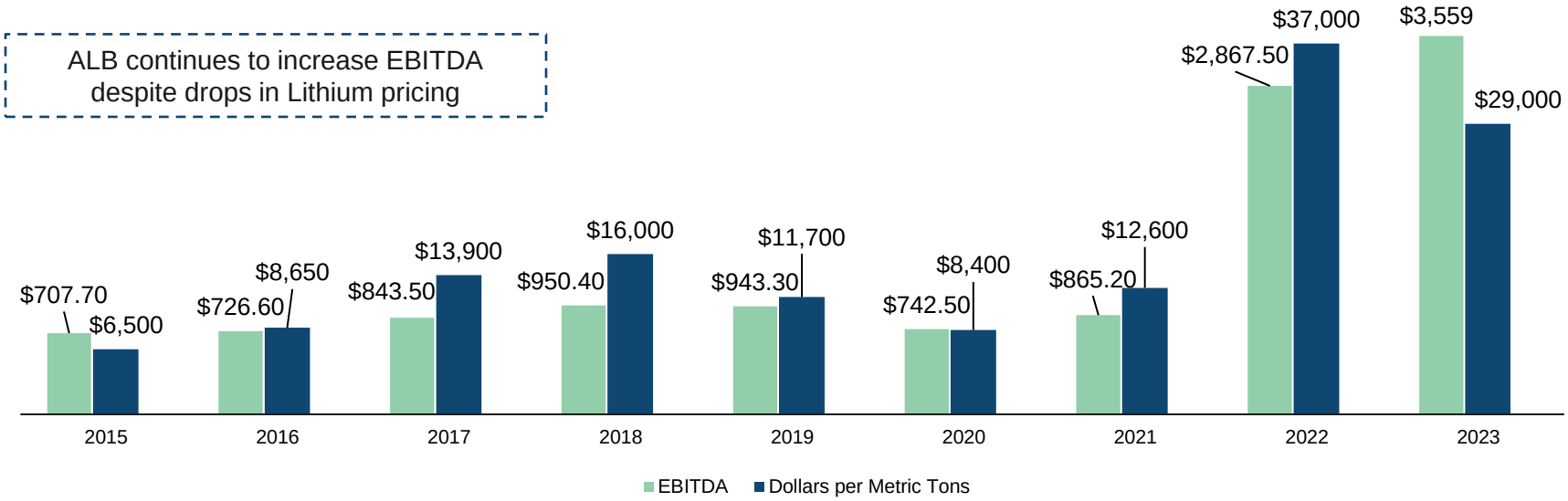
Counter 3: The U.S.

78.0%

YOY EV sales growth in U.S. (record breaking Q3 of 2023)

EBITDA (MM) vs Lithium Pricing

ALB continues to increase EBITDA despite drops in Lithium pricing



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Sources: Company Filings, U.S. Geological Survey, Bloomberg

DCF Base Case

Discounted Cash Flow Analysis

For Fiscal Year Ending	2023E	2024E	2025E	2026E	2027E	2028E
$ in Millions, unless otherwise noted						
Total Revenue	**9,533.91**	**9,634.93**	**10,627.40**	**11,381.27**	**11,905.95**	**12,250.13**
% Growth	*30.2%*	*1.1%*	*10.3%*	*7.1%*	*4.6%*	*2.9%*
EBITDA	**3,559.58**	**3,747.71**	**4,690.79**	**4,952.03**	**5,136.03**	**5,340.50**
% Margin	*37.3%*	*38.9%*	*44.1%*	*43.5%*	*43.1%*	*43.6%*
(-) Depreciation & Amortization	(387.31)	(391.41)	(431.73)	(462.36)	(483.67)	(497.66)
EBIT	**3,172.27**	**3,356.29**	**4,259.05**	**4,489.67**	**4,652.35**	**4,842.85**
% Margin	*33.3%*	*34.8%*	*40.1%*	*39.4%*	*39.1%*	*39.5%*
(-) Taxes	(313.11)	(433.97)	(621.14)	(655.84)	(680.12)	(712.63)
NOPAT	**2,859.15**	**2,922.32**	**3,637.92**	**3,833.83**	**3,972.23**	**4,130.22**
(+) D&A Expense	387.31	391.41	431.73	462.36	483.67	497.66
(-) Capital Expenditures	(1,624.28)	(1,641.49)	(1,810.57)	(1,939.01)	(2,028.40)	(2,087.03)
(-) Change in NWC	175.62	60.32	(34.76)	(788.15)	(96.15)	(63.08)
UFCF	**1,797.81**	**1,732.57**	**2,224.31**	**1,569.03**	**2,331.36**	**2,477.77**
(-) Stub Year	**(1,628.01)**					
FCF For Discounting	**169.79**	**1,732.57**	**2,224.31**	**1,569.03**	**2,331.36**	**2,477.77**
WACC	11.4%	11.4%	11.4%	11.4%	11.4%	11.4%
Discount Period	0.05	1.05	2.05	3.05	4.05	5.05
Discount Factor	0.99	0.89	0.80	0.72	0.65	0.58
PV of UFCF	**168.93**	**1,547.28**	**1,783.08**	**1,129.02**	**1,505.82**	**1,436.55**

Sum of Cash Flows	**7,570.68**

Commentary

1

Revenue growth driven by projected shortage of lithium by 2025 and a subsequent increase in lithium price

2

EBITDA margin expansion is driven by reconciliation of lower COGS due to lag of spodumene inventory in 2022 & 2023

3

Discounted cash flows at a WACC of 11.4% based on a Bloomberg sourced beta of 1.4 and a cost of debt set to the weighted average yield to worst of 3.9%

DCF Base Case: PGR & Exit Multiple Methods

Perpetuity Growth	
2028E UFCF	2,477.77
Terminal Growth Rate	2.50%
Terminal Value	**28,519.80**
PV of PereiodCash Flow	7,570.68
PV of Terminal Vallue	16,535.09
Total	**24,105.77**
Period Cash Flow	31.41%
Terminal Cash Flow	68.59%

Exit Multiple Method	
Terminal EBITDA	5,340.50
Terminal Multiple	5.4x
Terminal Value	**28,892.13**
PV of Period Cash Flow	7,570.68
PV of Terminal Value	16,750.95
Total	**24,321.63**
Period Cash Flow	31.13%
Terminal Cash Flow	68.87%

Total EV	24,105.77
(-) Debt	(3,808.00)
(+) Cash	1,601.7
Equity Value	**21,899.47**
SHO	117.4
Share Price	**$186.54**
Upside/(Downside)	54.44%

Total AV	**24,321.6**
(-) Debt	(3,808.0)
(+) Cash	1,601.7
Equity Value	**22,115.3**
SHO	117.4
Share Price	**$188.38**
Upside / Downside	*56.0%*

DCF Base Case Blended Share Price

Blended Share Price	
Perepetuity Growth Method	50.00%
Exit Multiple Method	50.00%
Implied Share Price	**$187.46**
Upside/(Downside)	55.20%

Why Albemarle is a Buy

Thesis

Albemarle, as a mine-to-market company currently trading at a softened valuation offers a compelling investment opportunity. With a looming lithium shortage as well as ALB's derisked approach, the company is well-positioned to meet the soaring demand for lithium and to thrive in the face of potential economic downturns.

Investment Rationale

1

Albemarle's ability to capitalize on growing lithium demand

With a lithium shortage expected in 2025, Albemarle will be uniquely positioned to capitalize on this increase in demand relative to their competitors.

2

Albemarle is derisked compared to competitors

Albemarle's diverse geographies and end markets, as well as the value proposition that they provide to customers helps ensure success throughout the lithium cycle

3

Softened Valuation Despite Financial Performance

Albemarle is currently trading at a discount compared to its peers and its historical relation to lithium prices

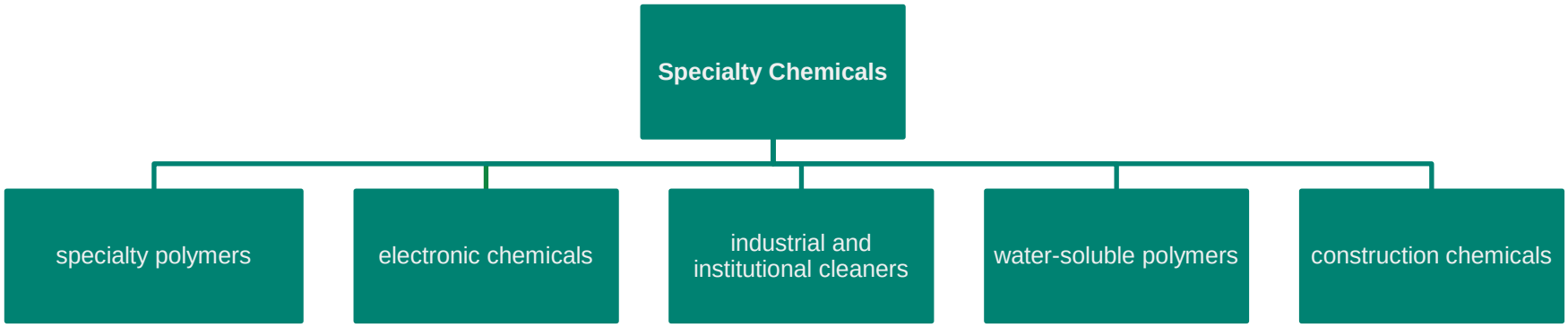
Price Target
$187.46
55.2% upside to current **$120.78**

Appendix

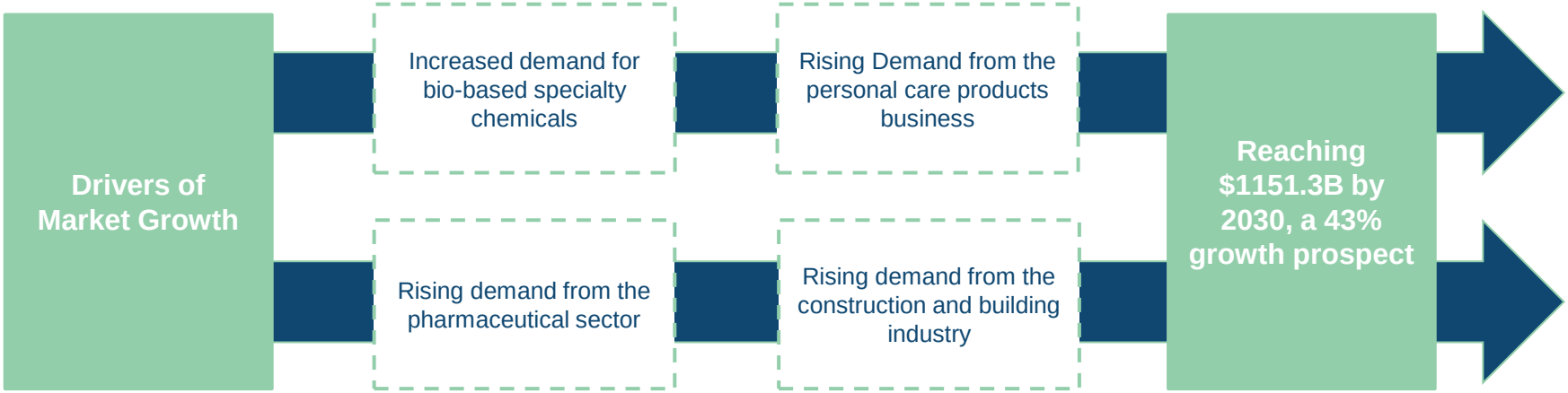
Specialty Chemicals Industry Overview

The specialty chemicals complex market segments each face rising demand from consumer, pharmaceutical, and construction industries, strategically positioning it for growth in the coming years

Industry Components



Market Size Growth Estimation



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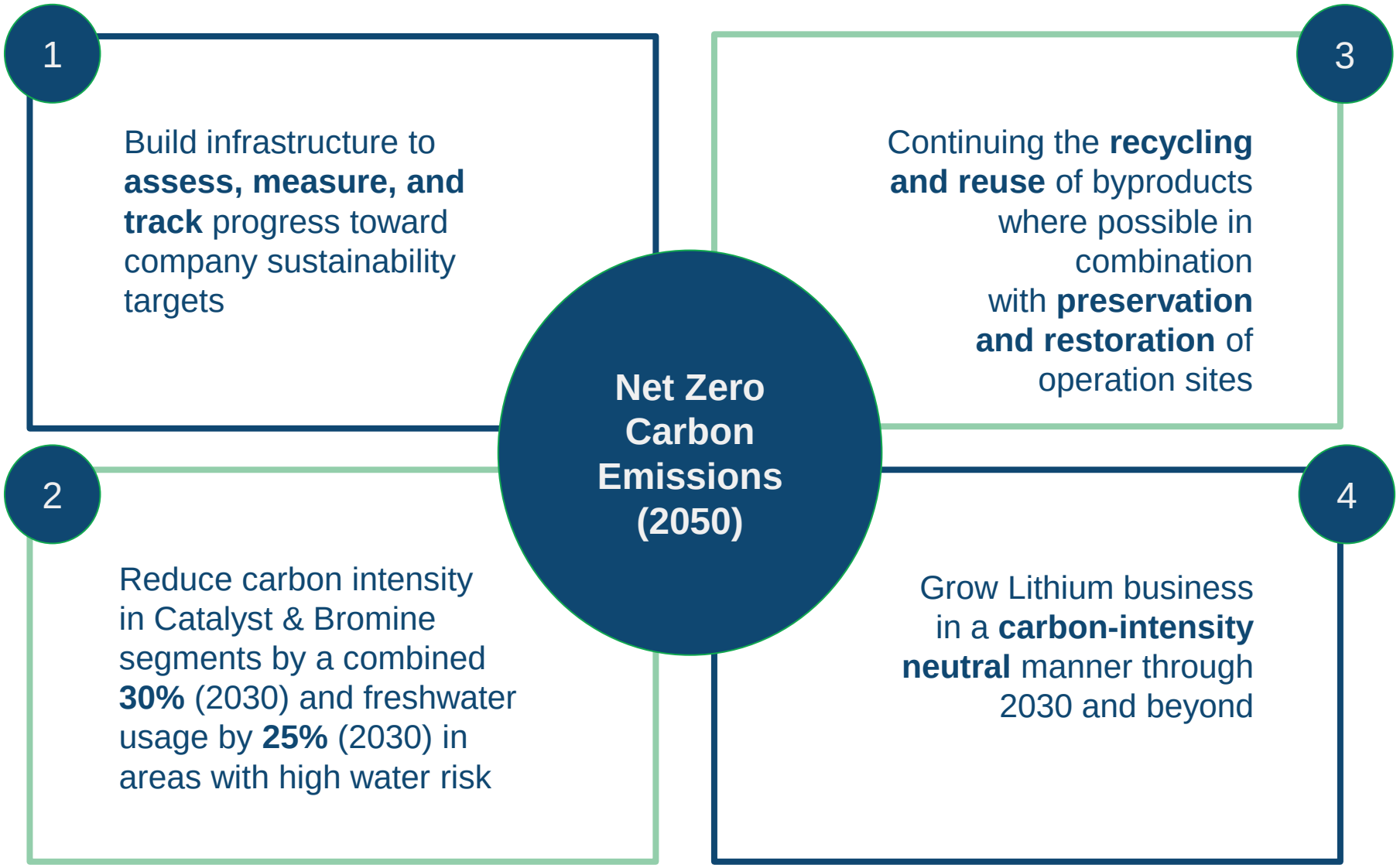
Sources: Reuters

Environmental Precautions

Through rebuilding of infrastructure, reducing carbon-intensity and freshwater usage, and continuing an overall strategy of responsible management of natural resources, ALB plans to achieve net zero carbon emissions by 2050



Sources: Albemarle Investor Presentation, Company Filings

Competitive Landscape

Albemarle operates within what is known as the "Big 3" in lithium mining and production and is the largest lithium producer in the world

Albemarle	SQM	Livent
ALBEMARLE	SQM	Livent
Geographies	**Geographies**	**Geographies**
Headquartered in North Carolina with mines and production facilities located throughout North America, South America, Europe, Middle East, Africa, Australia, and Asia Pacific	Headquartered in Chile with mines and production facilities throughout the country	Headquartered in Philadelphia, PA with mines and production in Argentina, China, and England
Production Capacity	**Production Capacity**	**Production Capacity**
225 KTPA	48 KTPA	50 KTPA
# of Lithium Mining Sites	**# of Lithium Mining Sites**	**# of Lithium Mining Sites**
5 Sites	2 Sites	1 Site
2022 EBITDA	**2022 EBITDA**	**2022 EBITDA**
$2,867.5	$5,813.8	$365.5
2022 EBITDA Margin	**2022 EBITDA Margin**	**2022 EBITDA Margin**
39.2% **60.6% (Lithium),** 14.4% (Catalysts), 32.5% (Specialties)	54.3%	44.9%

Sources: Company Filings, Capital IQ

Liontown Acquisition

After a lengthy due-diligence process, Albemarle decided not to acquire Liontown Resources, an Australian-based lithium producer

Oct 15: ALB withdraws from non-binding offer to acquire Liontown Resources

Deal was getting too complex and activist investors were getting involved

Management decided to walk away before levering up balance sheet amid lull in demand

"Our engagement with the Liontown team has been meaningful and productive. We appreciate the level of cooperation we have received and we thank the entire team for their efforts. That said, moving forward with the acquisition, at this time, is not in Albemarle's best interest." – ALB CEO, Jerry Kent Masters

$6.6B

($4.1B) proposed buyout bid

Kathleen Valley, AU
Tier-1 battery metals mining site
Production targeted for mid-2024

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Sources: Liontown Investor Presentation, Company Filings