



Albemarle Corporation (NASDAQ: ALB)

Peter Zheng | Robert Radovini

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LEXINGWORTH



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Valuation Summary



Company Description

Albemarle Corporation (ALB) is a specialty chemical manufacturing company based out of Charlotte, NC. Its 3 main segments are Lithium, Bromine Specialties and Catalysts. Albemarle is the world's largest producer of Lithium and second largest producer of Bromine. Its end market include energy storage, agriculture specialties, and pharmaceuticals. The company operates more than 35 R&D facilities, serves more than 2,300 customers, and employees more than 5,900.

Executive Team

Name	Position	Years of Exp.
 Kent Masters	Chairman & CEO	30+
 Scott Tozier	EVP & CFO	30+
 Eric Norris	President, Lithium	29

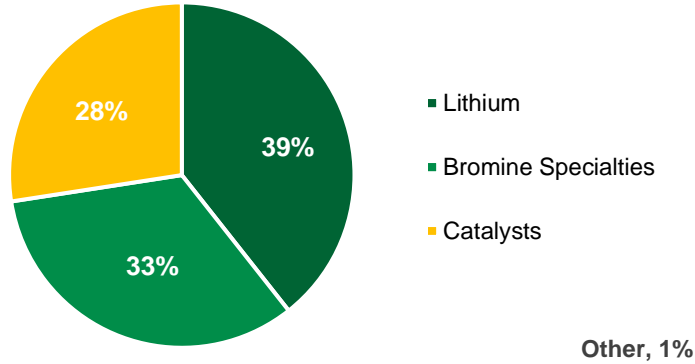
Key Statistics

Share Price	\$146.61 USD
Market Capitalization	17.33B
Enterprise Value	20.20B
Beta (5Y)	1.55
52 Week Range	\$48.89-\$188.35
EBITDA (LTM)	815.7M
Dividend Yield	1.46 (1.06%)
P/Sales (LTM)	5.47x
EV/EBITDA	25.79x
Lithium 6 Year Sales CAGR	5.09%
Bromine 6 Year Sales CAGR	11.26%
Catalyst 6 Year Sales CAGR	16.10%

*Data as of March 29th, 2021



Net Sales By Segment & Geography

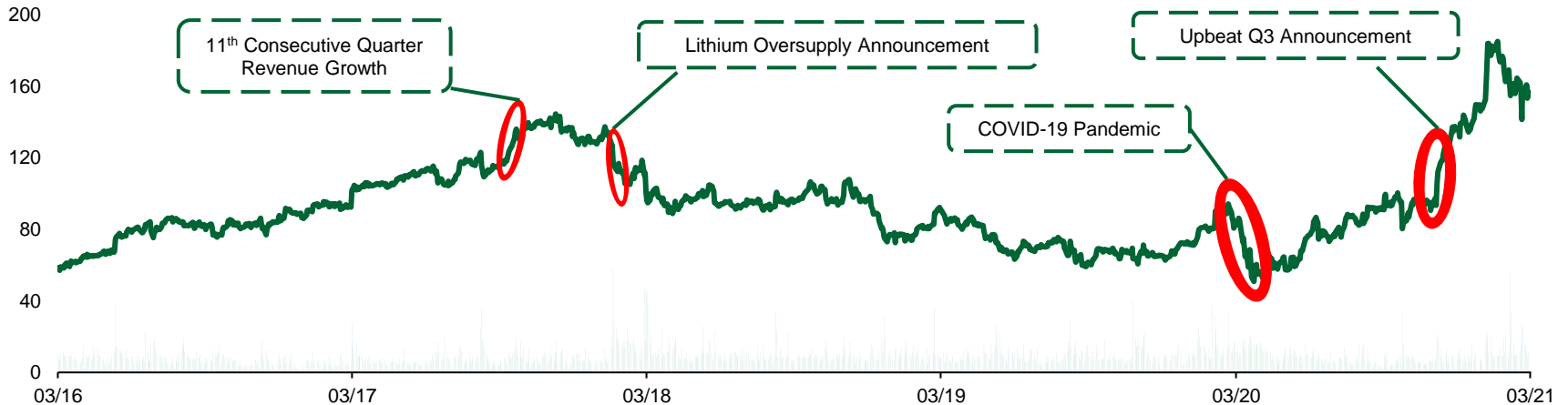


*Data for FY2020

Main Areas of Operation

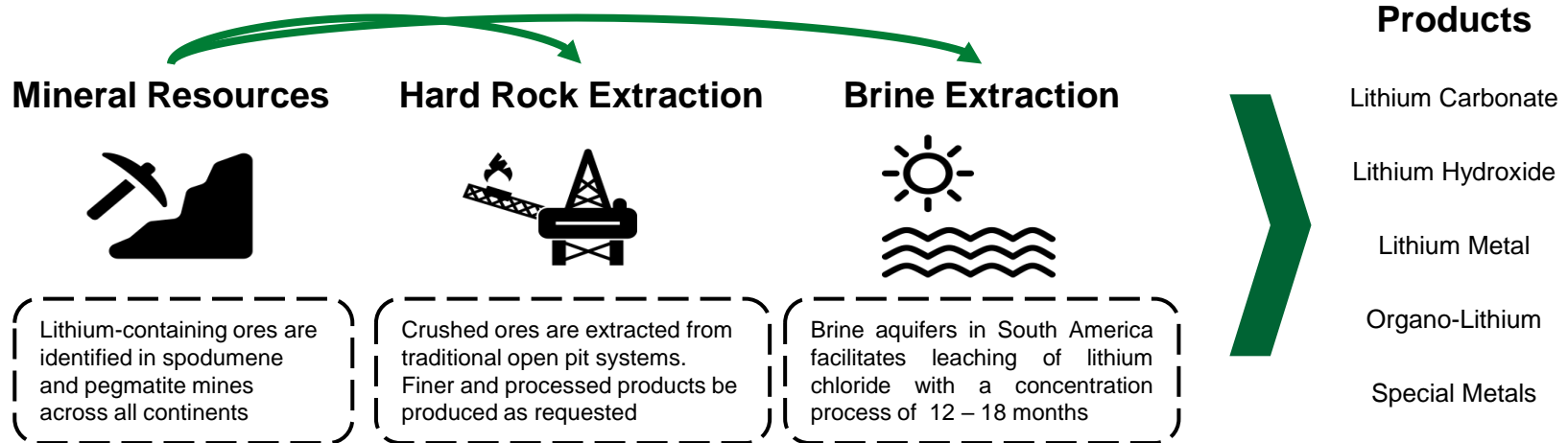


5-Year Stock Performance





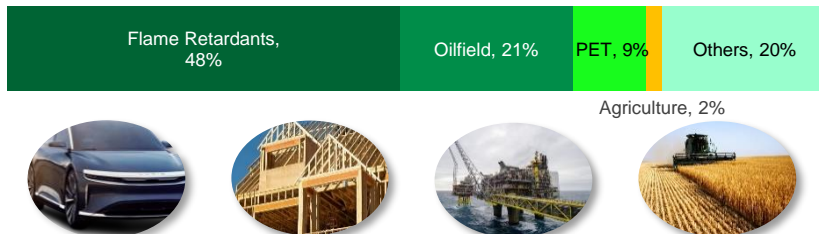
Lithium Segment Business Model



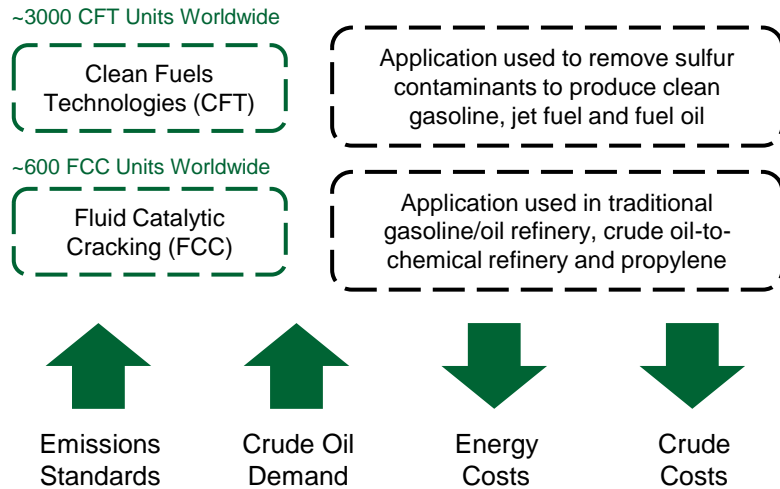
Lithium Segment Business Model



Global Bromine Application Volume

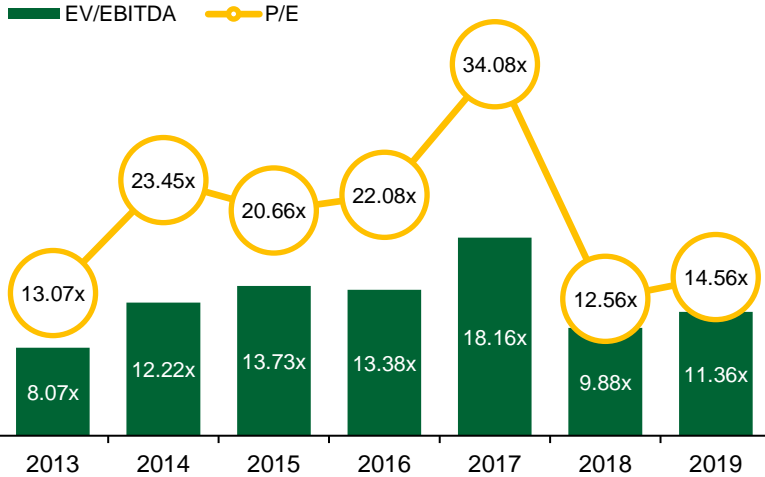


Catalyst Segment Business Model

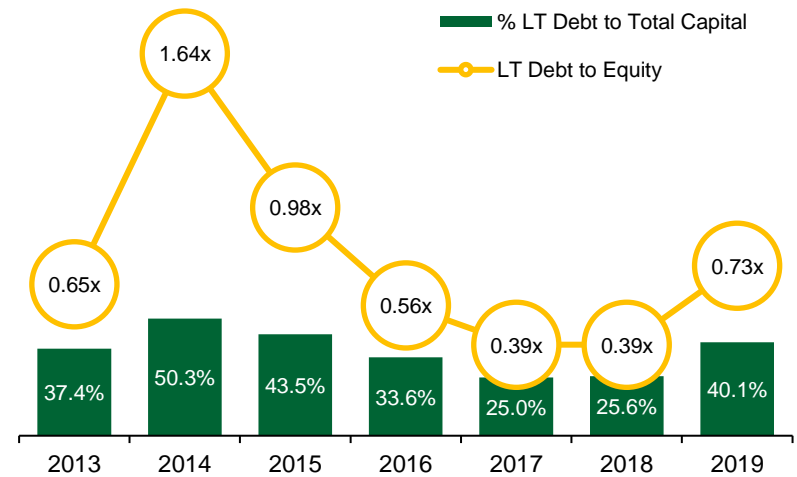




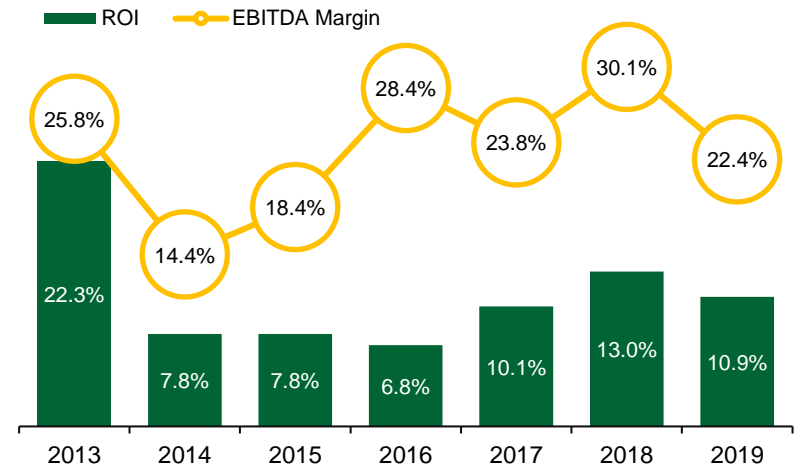
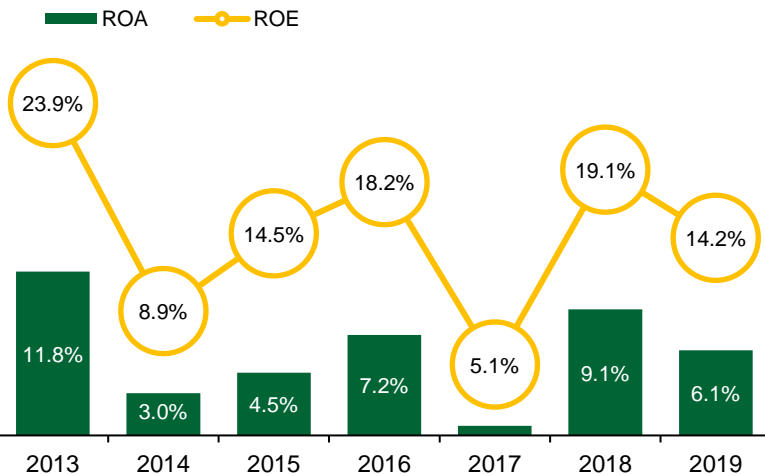
7-Year Valuation Metrics



7-Year Leverage Metrics



7-Year Profitability Metrics





Diverse End Market

Lithium

Consumer-Electronics
Electric Vehicles
Polymer (TPE)
Pharmaceuticals

Bromine

Tire Additive
Wire & Cable
Textile & Foam
Fire Prevention

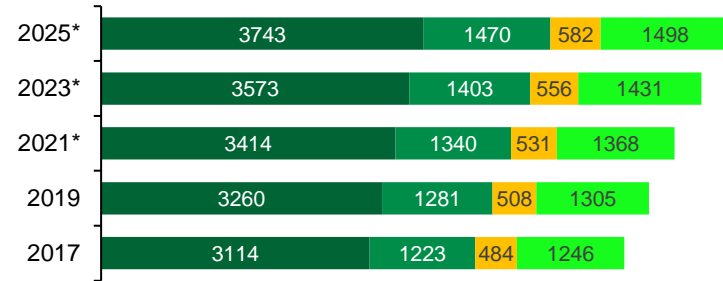
Catalysts

Petroleum Refinery
Clean Fuels-
Technologies
Fertilizer Agent
(Agrochemicals)



Strong Global Chemicals Demand

Global Chemical Demands from 2017 – 2025 by Segments



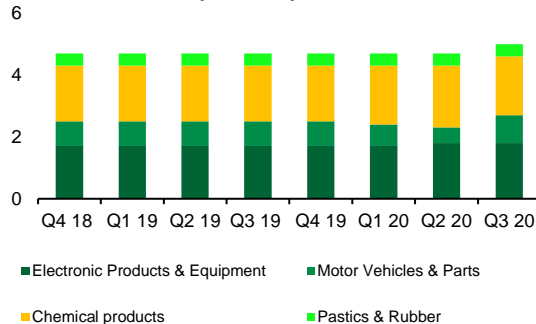
■ Commodity ■ Specialty ■ Agricultural ■ Other

Numbers in CA\$ Billions

Market supported by shifting demands from evolving end markets such as health care, electronic technologies, advanced construction applications

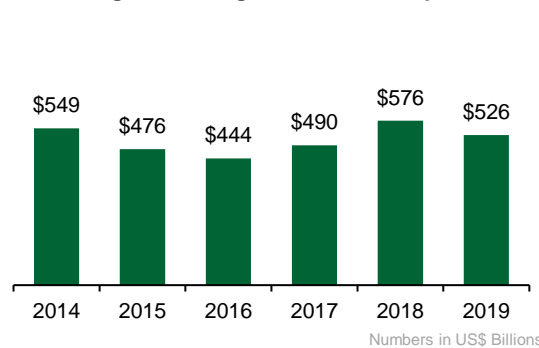
Robust Macro Fundamentals Driving End Markets

Value added by industry as a % of U.S. GDP



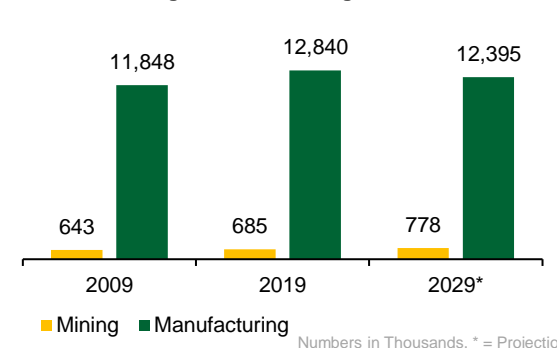
Tremendous market share in manufacturing end markets contributed to U.S. GDP

Global Organic & Inorganic Chemical Export Value



Chemicals represent a substantial share of world trade in goods as a highly cyclical industry

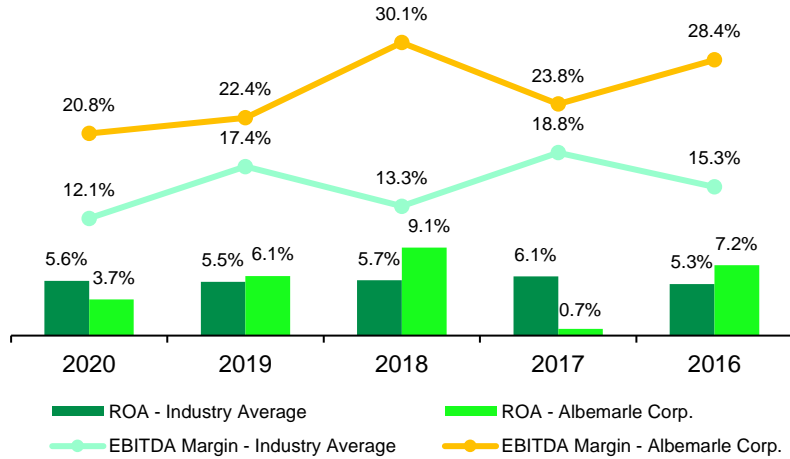
U.S. Mining & Manufacturing Labour Force



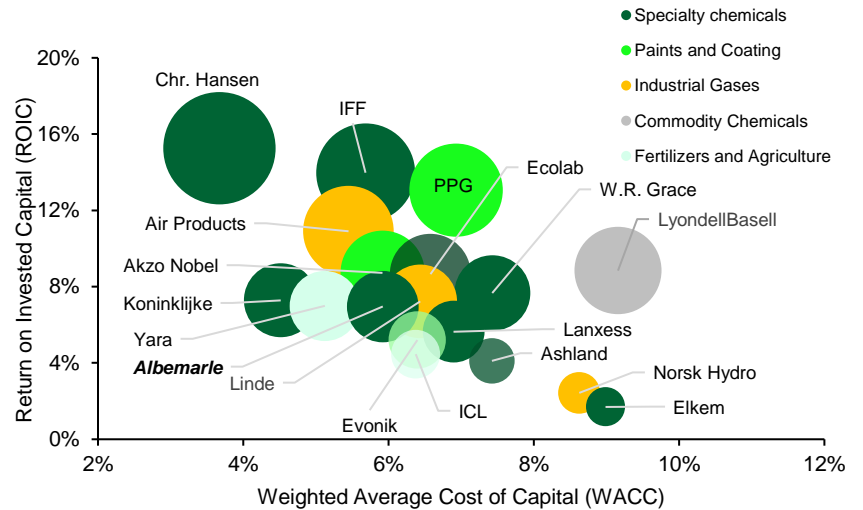
13.5 million combined in the U.S. labour force & strong demand projected in the mining sector



Consistent Industry Wide Operational Efficiency



Industry Value Creation



Demand from UN Sustainable Development Goals



Increasing population and immigration patterns provides the need for sustainable agriculture



Demand for readily available drugs and access to quality essential healthcare treatments

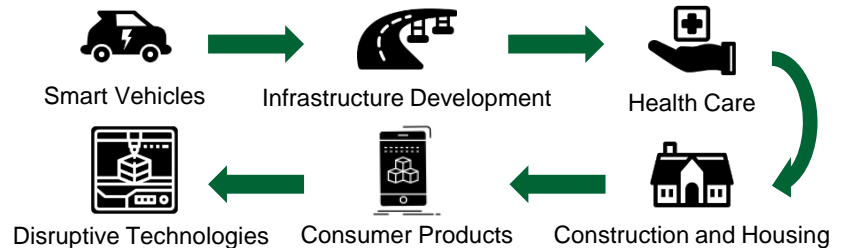


Global energy transformation effort requires demand for raw materials



72% of 2019 company reports mentioned Sustainable Development Goals in their reporting

Foundation of a Changing World



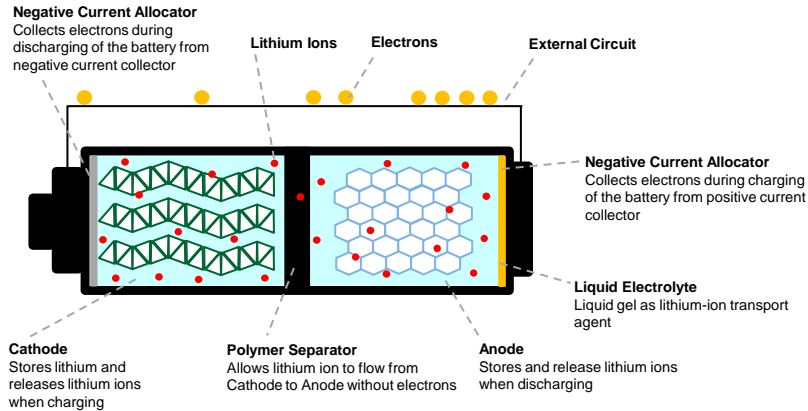
Monetary incentives and new competitive advantages will enable end markets to build a more resilient chemical value chain through digitalization and sustainability. The chemical industry is essential for the development of revolutionary technologies.

Thesis #1: Energy Storage Lithium Demand



Lithium-Ion Battery

Traditional Lithium-Ion Battery



Global & Corporate EV Commitments



... Federal targets for zero-emission vehicles (ZEV) reaching 10% of light-duty vehicles sales per year by 2025, 30% by 2030 and 100% by 2040 - 2020



\$174 billion investment expected for the U.S. EV market. Additional target of half a million EV chargers by 2030 and replacement of diesel federal vehicles - Mar 2021



... Offer 30 all-electric models globally by mid-decade and 40% of the company's U.S. models offered will be battery electric vehicles by the end of 2025. GM is investing \$27 billion in electric and autonomous vehicles in the next five years - Jan 2021

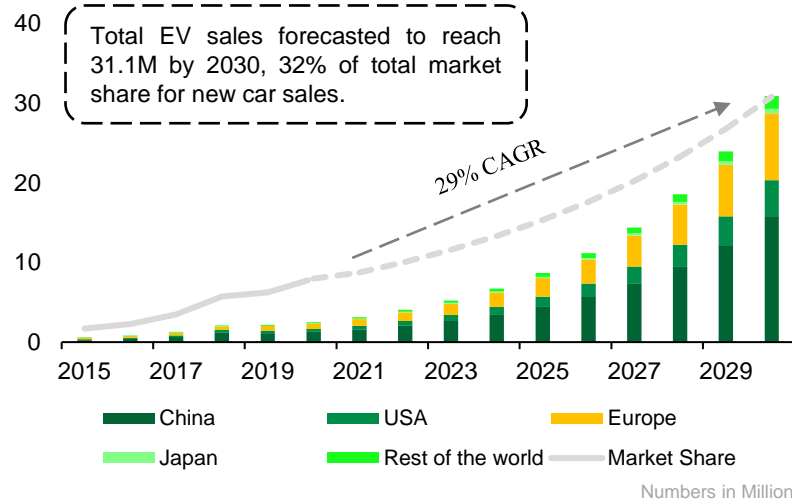


... Achieving a 3,000GWh (3TWh) of batteries by 2030 - Sep 2020



... By mid-2026, 100% of its passenger vehicle range in Europe will be zero emissions capable, all-electric or plug-in hybrid; moving to all-electric by 2030 - Feb 2021

Annual Global EV Sales & Market Share Projection



Albemarle Lithium Segment Position



Expected Capex between \$850 - \$950 million in 2021 for Lithium growth and capacity increase primarily in Australia, Chile and Nevada



Lithium production capacity expansion plan from 85,000 metric tons in 2019 to 155,000 metric tons by the end of 2022



Collaborate with research institutes to increase utility on lithium-ion batteries for commercialization



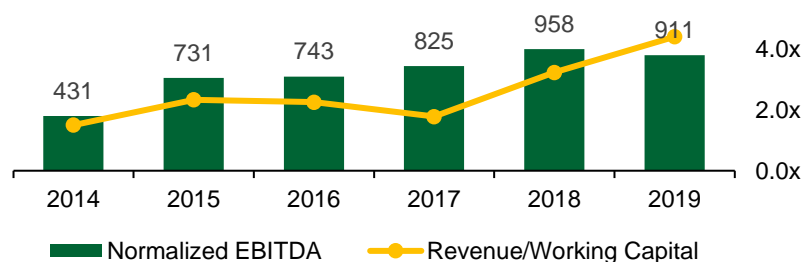
34% Adjusted EBITDA margin in the Lithium segment in FY20 with ~20% projected industry growth from 2020 - 2025



Thesis #2: Efficient Capital Allocation

Sustainable Profitability

6-Year Normalized EBITDA vs Revenue/Working Capital

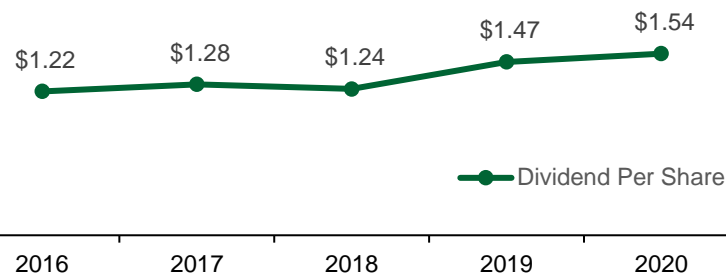


Normalized EBITDA Revenue/Working Capital

Numbers in \$US Millions

Sustainable growth in normalized EBITDA and revenue/working capital established by operational discipline, low capital and high return project portfolio

Consistent Dividend Growth



Dividend Per Share

- Consecutive dividend payout growth over the past 26 years
- Named to the S&P 500 Dividend Aristocrats Index in 2020
- Committed to deliver incremental return to shareholders

Mergers, Acquisitions and Joint Ventures

Rockwood Holdings Acquisition

- \$6.2 billion horizontal acquisition in 2015 to strengthen lithium segment with excellent cash generation capacity
- ~ \$100M cost synergies realized in 2016

Wodgina Mine, Western Australia

- 60/40 JV between Albemarle and Mineral Resources Limited announced on Dec 2018 for US\$1.3 billion (\$820 million cash)
- Strengthens Albemarle's long-term flexibility by increasing capacity to support foreseeable future demand

Silver Peak Site, Nevada

- Plans to invest \$30M to \$50M per year and have lithium production at Silver Peak, NV to double by 2025

Debt Service/Liquidity

- Limiting share repurchases in order to have capital available to invest in growth
- Majority of long-term debt not due till 2025 or later
- Public offering in February 2021 with a total proceeds of US\$1.5 billion with the intention to fund capital expenditures and pay off long-term debt
- Expect capital expenditure to be between \$850 million and \$950 million in 2021 primarily for lithium growth and capacity increases



Catalysts

Risks

Near-Term

U.S. Department of Energy

September 2020 - Albemarle selected as a research partner by the U.S. DOE into a process to streamline production of lithium hydroxide, develop more efficient lithium brine process and to improve cathode performance in lithium-ion batteries

Low-Cost Sources of Production

- Large portfolio of lithium brine assets provides cost advantage compared to peers
- Long-term lithium extraction contract with the Chilean government through 2043 offers predictable production

Demand of Lithium-Ion Batteries

Increased demand in lithium-based EV products from several drivers:

- ✓ Government Regulations & Sustainability Targets
- ✓ Future Battery Costs
- ✓ Availability of EV Infrastructures
- ✓ OEM automotive platform choices
- ✓ Consumer Preferences

Long Term

Oversupply & Price Volatility

Increased energy storage demands resulted in surge of new supplies triggered by mine expansion and cuts in government subsidies which puts pressure on lithium, nickel, cobalt and other metals suppliers

Geopolitical Uncertainty

- Higher risk of operations in Asia and SA segment due to significant civil, political and security instability
- Unanticipated events such as geopolitical changes could delay JVs or cancellation of project contract, negatively impact future growth and profitability

General Chemical Industry Trends

- Tighter international maritime restrictions and environmental regulations may increase industry CapEx and overall operational costs
- Catalyst segment under pressure from recent weaker fuel demand, medium-term headwind expected, FCC segment expected to remain under pressure

Less Risky

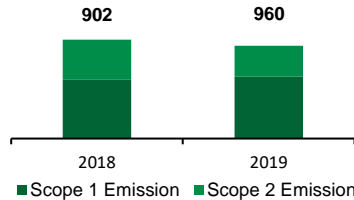
More Risky



Environmental Management

Passive Solar Energy

78% of total energy usage through passive solar energy with conservation efforts on lithium-containing brine



GHG Emissions

902,000mt CO₂e total GHG emissions in 2019, down from 960,000 mt CO₂e in 2018 from energy reduction measures and renewable energy mix

Water Management

13.6 million m³ water consumed in 2019. Efficient water usage strategy at high water risk operations areas in Chile and extensive water management and reduction programs in place globally



Transparency and Accountability

Transparency and accountability through information sharing, technological improvements and sustainability targets

Workplace Governance



Inclusion & Diversity

- 50% diversity on a highly experienced board of directors
- Out of the 2019 hires in the U.S., 30% are racial/ethnic minority, 31% are women, 9% are veterans



Safety

- Company wide adoption and enforcement of Health, Safety, Security & Environmental Policy (HSSE)
- Lowest Total Recordable Injury Rate in recent years (0.33)



Talent Investment

- LAUNCH: Two-year development program for graduates
- Performance reviews and succession planning for workplace development and ensures effective talent pipeline

Stakeholder Engagement



Advocate for sustainable global solutions, support for local community initiatives, engage with national NGO's



Valuation Summary Output

Gordon Growth Method	
PV of Forecast Period	4,386
<i>% of Enterprise Value</i>	<i>33.2%</i>
Terminal Value	
Terminal Year UFCF	1,517
Perpetuity Growth Rate	5.0%
Terminal Value	17,993
PV of Terminal Value	8,815
<i>% of Enterprise Value</i>	<i>66.8%</i>
Enterprise Value	13,201
Less: Net Debt	3,402
Equity Value	16,603
Fully Diluted Shares Outstanding	117
Implied Share Price	\$142.25
Current Share Price	\$146.41
Implied Margin of Safety	(2.8%)

Terminal Multiple Method	
Cumulative PV of Free Cash Flow	4,386
<i>% of Enterprise Value</i>	<i>35.9%</i>
Terminal Value	
Terminal Year EBITDA	1,600
EBITDA Multiple	10.0x
Terminal Value	16,003
PV of Terminal Value	7,840
<i>% of Enterprise Value</i>	<i>64.1%</i>
Enterprise Value	12,226
Less: Net Debt	3,402
Equity Value	15,628
Fully Diluted Shares Outstanding	117
Implied Share Price	\$133.90
Current Share Price	\$146.41
Implied Margin of Safety	(8.5%)

Base Discounted Cash Flow Sensitivity Analysis

Terminal Growth Share Price Sensitivity (\$)

Terminal Growth	WACC				
	12.9%	13.4%	13.9%	14.4%	14.9%
	146.25	139.76	133.94	128.69	123.92
	157.11	149.23	142.25	136.03	130.44
	163.64	154.87	147.16	140.32	134.22
	171.13	161.27	152.68	145.13	138.43

Exit Multiple Share Price Sensitivity (\$)

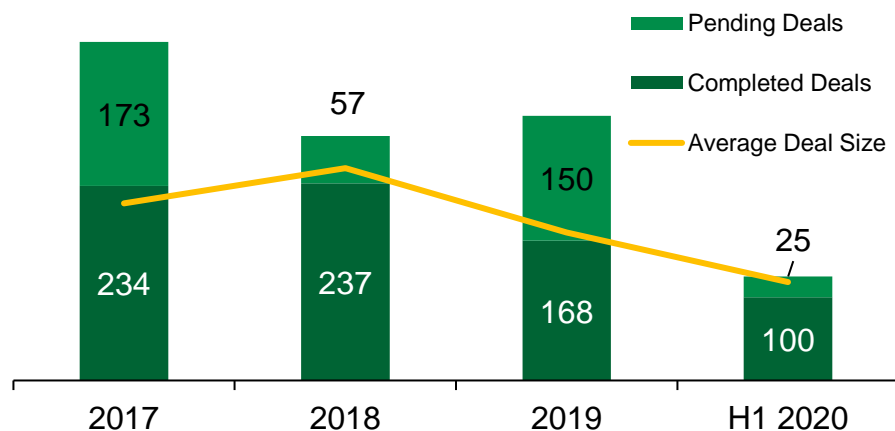
Exit Multiple	WACC				
	12.9%	13.4%	13.9%	14.4%	14.9%
9.0x	131.19	129.16	127.18	125.26	123.38
10.0x	138.24	136.04	133.90	131.81	129.78
10.5x	141.77	139.48	137.26	135.09	132.99
11.0x	145.29	142.92	140.62	138.37	136.19



Precedent Transactions

Announcement Date	Completion Date	Target	Buyer	Transaction Value (\$M)	Valuation (LTM)			Synergy (\$M)	Type
					EV/Revenue	EV/EBITDA	EV/EBIT		
02-2016	05-2017	Syngenta	ChemChina	43,000	3.21x	5.87x	6.4x	-	-
06-2016	12-2016	Chemetall Group	BASF SE	3,200	3.79x	15.84x	-	-	All-Cash
12-2016	08-2018	Praxair, Inc.	Linde plc	70,000	5.83x	10.72x	13.2x	1,200	All-Stock
02-2018	08-2018	A. Schulman Inc.	LyondellBasell	2,250	.91x	3.36x	3.8x	300	All-Cash
08-2018	06-2020	SABIC	Saudi Aramco	69,100	1.53x	2.86x	3.42x	1,000	-
Average					3.05x	7.73x	6.71x		
Median					3.21x	5.87x	5.1x		

Chemicals Sector M&A Activity



*Values in US\$ billions

- Recent all time high M&A volume driven by megadeals from Saudi Aramco/SABIC, IFF/N&B
- Deal pipeline dried up from economic slow down amid sellers' lack of focus on M&A due to higher risk in uncertain times and unwillingness to sell at low valuations
- M&A activity backlog expected to recover after 2022 with high level of M&A expected in fertilizers and plastics processing



Comparable Analysis Table

Company Name	Market Cap.	Enterprise Value	Revenue NTM	EBITDA NTM	Price Per Share	EPS NTM	EV/Revenue NTM	EV/EBITDA NTM	P/E NTM
<i>(all figures presented in USD thousands, except per share figures or where noted)</i>									
Lithium									
Sichuan Tianqi	8,168,655	13,127,469	493,036	188,209	\$ 39.90	(5.24)	13.8x	75.0x	15.3x
Jiagxi Ganfeng	19,688,267	20,506,291	1,312,355	415,893	\$ 96.55	0.28	8.3x	42.4x	125.7x
Livent Corporaiton	2,499,636	2,724,736	349,106	55,236	\$ 18.69	(0.13)	10.0x	19.2x	24.9x
Average						(1.70)	10.7x	45.5x	55.3x
Bromine									
Lanxess AG	6,440,173	7,594,550	7,264,242	1,256,723	\$ 61.70	10.30	1.0x	6.1x	6.0x
Average						10.30	1.0x	6.1x	6.0x
Cataysts									
W.R Grace & Co	4,150,202	5,839,202	1,912,022	530,953	\$ 60.64	(0.03)	3.1x	18.2x	37.0x
BASF Corporation	78,143,017	96,407,160	74,296,268	10,920,259	\$ 70.09	(1.59)	1.4x	9.4x	25.0x
Average						(0.81)	2.2x	13.8x	31.0x
Cumulative Average						4.30	5.9x	25.8x	30.7x
Albemarle	17,194,907	20,221,608	3,211,374	832,238	\$ 146.41	3.52	6.2x	23.9x	42.8x

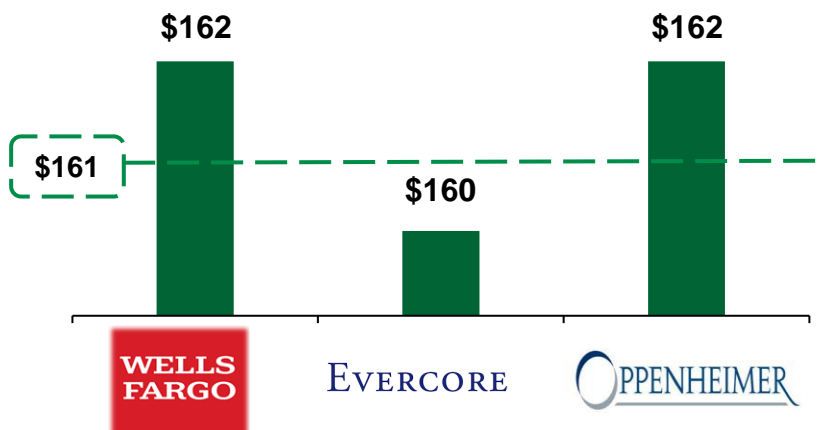
Comparable Analysis Summary

- EV/ Revenue of 6.2x compared to industry peers of 10.7x
- Albemarle is in-line with industry average with a market cap just over \$18B
- Healthy P/E of 42.3x when compared to its Lithium peers of 55.3x



Valuations Summary

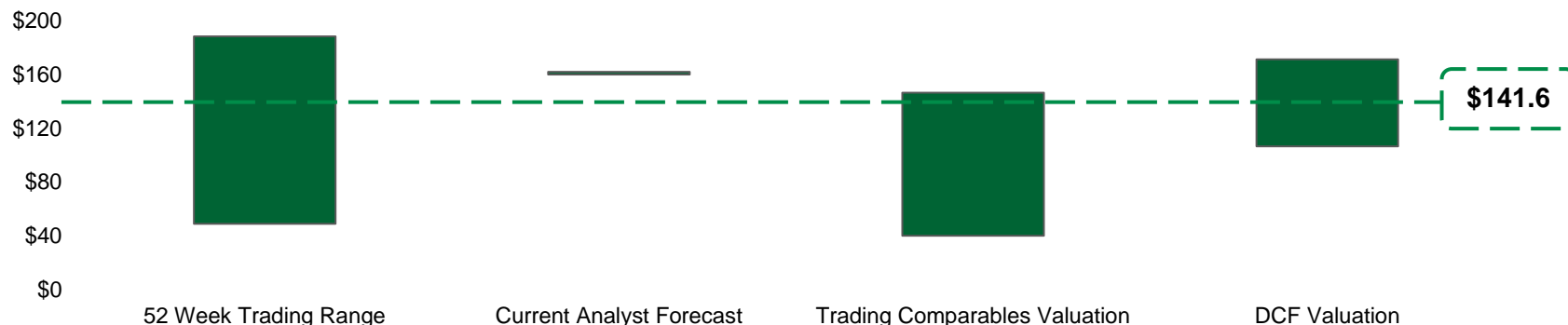
Analyst Recommendations



Valuations Summary

Valuation Summary	Average Price	Weight
52 Week Trading Range	\$139.46	30%
Current Analyst Forecast	\$161	30%
Trading Comparable Valuation	\$ 97.63	10%
DCF Valuation	\$ 138.95	30%
Final Valuation	\$141.60	100%

Football Field Valuation Range











Weighted Average Price Target: \$141.6 | Recommendation: Buy

An aerial photograph showing a massive earthmoving or mining site. The terrain is heavily excavated, with numerous tracks and ridges from heavy machinery. A large, irregularly shaped area in the center is covered in a vibrant green material, possibly vegetation or a specific type of soil. The surrounding areas are brown and sandy, with deep tracks and ridges. The entire image is framed by a thin black border.

Appendices



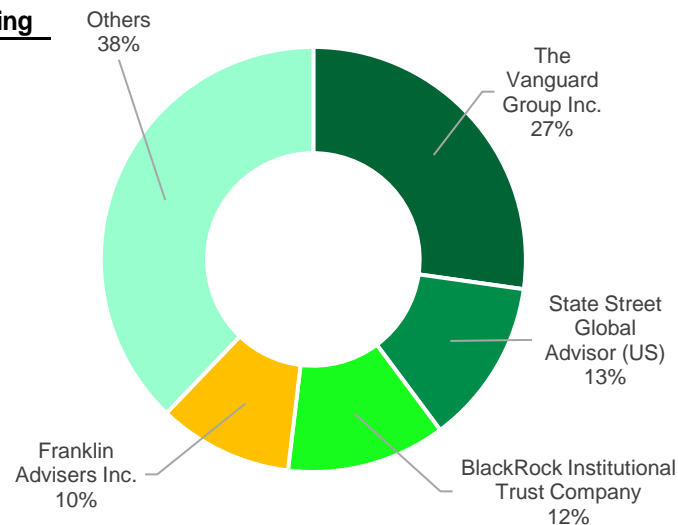
Strategic Fit Summary Table

Target Firms	Date Announced	Rationale/Comment	Strategic Fit
	February 2021	<ul style="list-style-type: none"> Divested Fine Chemistry Services business to W.R. Grace & Co. for \$570 million (\$300 million cash) Deal would further support Albemarle's capacity expansion in the Lithium segment and W.R. Grace & Co's pharmaceutical portfolio 	
	October 2019	<ul style="list-style-type: none"> Acquired 60% interest in Mineral Resources Limited's Wodgina spodumene mine for US\$1.3 billion (\$820 million cash) Lithium hydroxide conversion capacity expected to be commissioned in the first half of 2021 	
	June 2016	<ul style="list-style-type: none"> Divested its Chemetall Surface Treatment segment to BASF, a German chemical company for \$3.2 billion. Divestment was meant to invest in future growth and return capital to shareholders for Albemarle, and accelerate lithium and refinery catalysts businesses for BASF 	
	January 2015	<ul style="list-style-type: none"> Acquired Rockwood Holdings Inc.'s diverse chemicals portfolio for \$6.2 billion in a 60% cash and 40% stock deal, \$100 million cost synergies Acquisition is expected to boost Albemarle's lithium capacity for energy storage and leverage new bromine applications 	



Top Investors

Top Investors	Shares (M)	% of Shares Outstanding
The Vanguard Group Inc.	12.14	10.41%
State Street Global Advisor (US)	5.61	4.81%
BlackRock Institutional Trust Company	5.39	4.62%
Franklin Advisers Inc.	4.56	3.91%
PRIMECAP Management Company	4.56	3.91%
Baillie Gifford & Co.	4.2	3.60%
Fidelity Management & Research Company LLC	2.71	2.32%
Putnam Investment Management	1.86	1.60%
Geode Capital Management LLC	1.83	1.57%
Dimensional Fund Advisors L.P.	1.72	1.47%



*All data as of March 29th, 2021

Recent Activities

Recent Activity (Shares in Millions)

Buys		Sells	
Mirae Asset Global Investments (USA) LLC	0.75	Franklin Advisers Inc.	-1.11
Fidelity Management & Research Company LLC	0.59	State Street Global Advisors (US)	-0.87
First Trust Advisors L.P.	0.42	PRIMECAP Management Company	-0.60
Invesco Capital Management LLC	0.38	Barclays Bank PLC	-0.52
Handelsbanken Asset Management	0.35	Newton Investment Management Ltd.	-0.26



Unlevered Cash Flow Summary

US\$ millions	Historical							Forecast						
	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021E	FY2022E	FY2023E	FY2024E	FY2025E	FY2026E	FY2027E
Revenue	1,906	2,811	2,673	3,070	3,375	3,589	3,129	3,254	3,514	3,866	4,252	4,763	5,334	5,974
Lithium and Advanced Materials Revenue	313	835	968	1,308	1,228	1,358	1,145	1,185	1,280	1,395	1,520	1,703	1,907	2,136
Bromine Revenue	809	776	792	855	918	1,004	965	1,008	1,079	1,154	1,247	1,347	1,468	1,600
Catalysts Revenue	313	729	732	778	1,102	1,062	798	814	830	847	864	898	934	972
Others Revenue	471	472	181	129	127	165	221	228	235	242	249	257	272	288
Operating expenses, excld. D&A	(1,344)	(1,852)	(1,915)	(2,185)	(2,368)	(2,553)	(2,310)	(2,375)	(2,530)	(2,783)	(3,019)	(3,382)	(3,734)	(4,182)
EBITDA	562	959	758	885	1,007	1,037	819	879	984	1,082	1,233	1,381	1,600	1,792
D&A	97	172	220	190	201	213	232	260	265	269	275	281	287	295
EBIT	546	875	656	783	911	937	587	619	720	813	958	1,100	1,313	1,497
Income tax expense	16	29	73	474	145	88	54	62	86	98	201	231	276	314
EBIAT	563	904	729	1,257	1,056	1,026	641	680	806	911	1,160	1,331	1,588	1,812
Add: D&A	97	172	220	190	201	213	232	260	265	269	275	281	287	295
Less: CapEx	(111)	(228)	(197)	(318)	(700)	(852)	(850)	(130)	(141)	(155)	(170)	(191)	(213)	(239)
Less: Change in Net Working Capital	-	-	60	450	(58)	37	208	63	(64)	(125)	(99)	(130)	(146)	(163)
Unlevered Free Cash Flows	549	849	812	1,579	499	424	231	873	866	901	1,166	1,292	1,517	1,705

WACC & PV of Unlevered Cash Flow

WACC Analysis		Forecast					
		FY2021E	FY2022E	FY2023E	FY2024E	FY2025E	FY2026E
10-Year U.S. Treasury	1.7%						
Market Risk Premium	11.6%						
Beta	1.0						
Cost of Equity	16.2%						
Weighted Average Price	-						
Weighted Average Div./Share	-						
Total Shares Outstanding	-						
Cost of Preferred Equity	-						
Cost of Debt	2.5%						
Tax Rate	21.0%						
After-Tax Cost of Debt	2.0%						
WACC	13.9%						
EBIAT		680	806	911	1,160	1,331	1,588
Add: Depreciation & Amortization		260	265	269	275	281	287
Less: CapEx		(130)	(141)	(155)	(170)	(191)	(213)
Less: Change in Net Working Capital		63	(64)	(125)	(99)	(130)	(146)
Unlevered Free Cash Flows		873	866	901	1,166	1,292	1,517
<i>Discount Period</i>		1	2	3	4	5	6
<i>Mid-Year Discount Period</i>		1	2	3	4	5	6
WACC		13.9%	13.9%	13.9%	13.9%	13.9%	13.9%
<i>Discount Factor</i>		1	1	1	1	1	0
PV of Unlevered Free Cash Flows		818	713	651	740	720	743



Assumptions Breakdown

Lithium and Advanced Materials Revenue Growth

	2015A	2016A	2017A	2018A	2019A	2020A	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Upside							7.5%	12.0%	13.0%	13.0%	16.0%	16.0%	16.0%
Base	166.6%	16.0%	35.1%	(6.1%)	10.6%	(15.7%)	3.5%	8.0%	9.0%	9.0%	12.0%	12.0%	12.0%
Downside							(0.5%)	4.0%	5.0%	5.0%	8.0%	8.0%	8.0%

Flatter YOY during 2021 from pricing pressure with no additional capacity increase expected until at least 2022. Expected slowdown in demands from glass and ceramics. LT increased demand beginning 2022-23 from lithium based energy storage segment from bolster EV demand, backed by low-cost and geographically diverse operating portfolios by Albemarle.

Bromine Revenue Growth

	2015A	2016A	2017A	2018A	2019A	2020A	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Upside							8.5%	11.0%	11.0%	12.0%	12.0%	13.0%	13.0%
Base	(4.1%)	2.1%	8.0%	7.3%	9.4%	(3.9%)	4.5%	7.0%	7.0%	8.0%	8.0%	9.0%	9.0%
Downside							0.5%	3.0%	3.0%	4.0%	4.0%	5.0%	5.0%

Bromine market is expected to grow at a 8% CAGR in the medium-term from extensive drivers in the end markets. Lower demand is expected post pandemic but modestly higher in 2021 when compared to 2020, and we expect pandemic slowdowns to linger in the ST. On a LT basis, we believe end market drivers will take sales higher assisted by Albemarle's favorable cost position and effective management.

Catalysts Revenue Growth

	2015A	2016A	2017A	2018A	2019A	2020A	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Upside							5.0%	5.0%	5.0%	5.0%	7.0%	7.0%	7.0%
Base	133.1%	0.4%	6.3%	41.5%	(3.6%)	(24.9%)	2.0%	2.0%	2.0%	2.0%	4.0%	4.0%	4.0%
Downside							(1.0%)	(1.0%)	(1.0%)	(1.0%)	1.0%	1.0%	1.0%

We expect flat catalyst growth YOY in 2021 due to gradual increase in refining volumes worldwide. FCC sales are expected to be sustainable but volatile in the MT & LT due to tighter regulations and global trends for sustainable solutions. We also assume potential divestment out of FCC. We assigned higher growth in the LT due to opportunities in the CFT segment from stricter fuel sulfur standards.



Best Case Unlevered Cash Flow Summary

US\$ millions	Historical							Forecast						
	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021E	FY2022E	FY2023E	FY2024E	FY2025E	FY2026E	FY2027E
Revenue	1,906	2,811	2,673	3,070	3,375	3,589	3,129	3,411	3,854	4,432	5,097	5,963	6,977	8,163
Lithium and Advanced Materials Revenue	313	835	968	1,308	1,228	1,358	1,145	1,231	1,378	1,557	1,760	2,042	2,368	2,747
Bromine Revenue	809	776	792	855	918	1,004	965	1,047	1,162	1,290	1,445	1,618	1,829	2,066
Catalysts Revenue	313	729	732	778	1,102	1,062	798	838	880	924	970	1,038	1,110	1,188
Others Revenue	471	472	181	129	127	165	221	239	258	279	301	325	361	401
Operating expenses, excld. D&A	(1,344)	(1,852)	(1,915)	(2,185)	(2,368)	(2,553)	(2,310)	(2,319)	(2,582)	(2,969)	(3,364)	(3,936)	(4,535)	(5,306)
EBITDA	562	959	758	885	1,007	1,037	819	1,091	1,272	1,463	1,733	2,027	2,442	2,857
D&A	97	172	220	190	201	213	232	780	816	856	903	956	1,019	1,092
EBIT	546	875	656	783	911	937	587	311	456	606	830	1,071	1,423	1,765
Income tax expense	16	29	73	474	145	88	54	40	68	91	199	257	342	424
EBIAT	563	904	729	1,257	1,056	1,026	641	352	524	697	1,029	1,328	1,765	2,189
Add: D&A	97	172	220	190	201	213	232	780	816	856	903	956	1,019	1,092
Less: CapEx	(111)	(228)	(197)	(318)	(700)	(852)	(850)	(341)	(385)	(443)	(510)	(596)	(698)	(816)
Less: Change in Net Working Capital	-	-	60	450	(58)	37	208	24	(109)	(186)	(170)	(221)	(259)	(302)
Unlevered Free Cash Flows	549	849	812	1,579	499	424	231	815	846	924	1,253	1,467	1,827	2,162

Best Case Valuation Results

Gordon Growth Method	
PV of Forecast Period	4,638
<i>% of Enterprise Value</i>	<i>30.4%</i>
Terminal Value	
Terminal Year UFCF	1,827
Perpetuity Growth Rate	5.0%
Terminal Value	21,675
PV of Terminal Value	10,619
<i>% of Enterprise Value</i>	<i>69.6%</i>
Enterprise Value	15,258
Less: Net Debt	3,402
Equity Value	18,660
Fully Diluted Shares Outstanding	117
Implied Share Price	\$159.87
Current Share Price	\$146.41
Implied Margin of Safety	9.2%

Terminal Multiple Method	
Cumulative PV of Free Cash Flow	4,638
<i>% of Enterprise Value</i>	<i>27.9%</i>
Terminal Value	
Terminal Year EBITDA	2,442
EBITDA Multiple	10.0x
Terminal Value	24,419
PV of Terminal Value	11,964
<i>% of Enterprise Value</i>	<i>72.1%</i>
Enterprise Value	16,602
Less: Net Debt	3,402
Equity Value	20,004
Fully Diluted Shares Outstanding	117
Implied Share Price	\$171.39
Current Share Price	\$146.41
Implied Margin of Safety	17.1%



Worst Case Unlevered Cash Flow Summary

US\$ millions	Historical							Forecast						
	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021E	FY2022E	FY2023E	FY2024E	FY2025E	FY2026E	FY2027E
Revenue	1,906	2,811	2,673	3,070	3,375	3,589	3,129	3,098	3,191	3,350	3,518	3,764	4,027	4,309
Lithium and Advanced Materials Revenue	313	835	968	1,308	1,228	1,358	1,145	1,139	1,185	1,244	1,306	1,411	1,523	1,645
Bromine Revenue	809	776	792	855	918	1,004	965	970	999	1,029	1,070	1,113	1,168	1,227
Catalysts Revenue	313	729	732	778	1,102	1,062	798	790	782	774	766	774	782	790
Others Revenue	471	472	181	129	127	165	221	217	212	208	204	200	202	204
Operating expenses, excld. D&A	(1,344)	(1,852)	(1,915)	(2,185)	(2,368)	(2,553)	(2,310)	(2,416)	(2,457)	(2,580)	(2,673)	(2,860)	(3,020)	(3,232)
EBITDA	562	959	758	885	1,007	1,037	819	681	734	771	844	903	1,007	1,077
D&A	97	172	220	190	201	213	232	(260)	(258)	(256)	(253)	(251)	(248)	(245)
EBIT	546	875	656	783	911	937	587	941	992	1,026	1,097	1,154	1,255	1,323
Income tax expense	16	29	73	474	145	88	54	66	89	92	198	208	226	238
EBIAT	563	904	729	1,257	1,056	1,026	641	1,007	1,081	1,118	1,295	1,362	1,481	1,561
Add: D&A	97	172	220	190	201	213	232	(260)	(258)	(256)	(253)	(251)	(248)	(245)
Less: CapEx	(111)	(228)	(197)	(318)	(700)	(852)	(850)	62	64	67	70	75	81	86
Less: Change in Net Working Capital	-	-	60	450	(58)	37	208	101	(23)	(73)	(43)	(63)	(67)	(72)
Unlevered Free Cash Flows	549	849	812	1,579	499	424	231	910	864	857	1,069	1,124	1,246	1,330

Worst Case Valuation Results

Gordon Growth Method	
PV of Forecast Period	4,101
<i>% of Enterprise Value</i>	<i>36.2%</i>
Terminal Value	
Terminal Year UFCF	1,246
Perpetuity Growth Rate	5.0%
Terminal Value	14,781
PV of Terminal Value	7,242
<i>% of Enterprise Value</i>	<i>63.8%</i>
Enterprise Value	11,342
Less: Net Debt	3,402
Equity Value	14,744
Fully Diluted Shares Outstanding	117
Implied Share Price	\$126.32
Current Share Price	\$146.41
Implied Margin of Safety	(13.7%)

Terminal Multiple Method	
Cumulative PV of Free Cash Flow	4,101
<i>% of Enterprise Value</i>	<i>45.4%</i>
Terminal Value	
Terminal Year EBITDA	1,007
EBITDA Multiple	10.0x
Terminal Value	10,068
PV of Terminal Value	4,933
<i>% of Enterprise Value</i>	<i>54.6%</i>
Enterprise Value	9,033
Less: Net Debt	3,402
Equity Value	12,435
Fully Diluted Shares Outstanding	117
Implied Share Price	\$106.54
Current Share Price	\$146.41
Implied Margin of Safety	(27.2%)