

Albemarle Corporation Fourth Quarter 2018 Earnings

Conference Call/Webcast

Thursday, February 21st, 2019

9:00am ET



Forward-Looking Statements

Some of the information presented in this presentation, the earnings conference call and discussions that follow, including, without limitation, information related to outlook and guidance, conversion capacity, acquisitions and joint ventures market trends, pricing, expected growth, earnings and demand for our products, tax rates, stock repurchases, dividends, cash flow generation, capital projects, economic trends and all other information relating to matters that are not historical facts may constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Actual results could differ materially from the views expressed.

Factors that could cause actual results to differ materially from the outlook expressed or implied in any forward-looking statement include, without limitation: changes in economic and business conditions; changes in financial and operating performance of our major customers and industries and markets served by us; the timing of orders received from customers; the gain or loss of significant customers; competition from other manufacturers; changes in the demand for our products or the end-user markets in which our products are sold; limitations or prohibitions on the manufacture and sale of our products; availability of raw materials; increases in the cost of raw materials and energy, and our ability to pass through such increases to our customers; changes in our markets in general; fluctuations in foreign currencies; changes in laws and government regulation impacting our operations or our products; the occurrence of regulatory actions, proceedings, claims or litigation; the occurrence of cyber-security breaches, terrorist attacks, industrial accidents, natural disasters or climate change; the inability to maintain current levels of product or premises liability insurance or the denial of such coverage; regulatory approvals and the satisfaction of other closing conditions with respect to pending acquisitions; political unrest affecting the global economy, including adverse effects from terrorism or hostilities; political instability affecting our manufacturing operations or joint ventures; changes in accounting standards; the inability to achieve results from our global manufacturing cost reduction initiatives as well as our ongoing continuous improvement and rationalization programs; changes in the jurisdictional mix of our earnings and changes in tax laws and rates; changes in monetary policies, inflation or interest rates that may impact our ability to raise capital or increase our cost of funds, impact the performance of our pension fund investments and increase our pension expense and funding obligations; volatility and uncertainties in the debt and equity markets; technology or intellectual property infringement, including cyber-security breaches, and other innovation risks; decisions we may make in the future; the ability to successfully execute, operate and integrate acquisitions and divestitures; and the other factors detailed from time to time in the reports we file with the SEC, including those described under “Risk Factors” in our Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q. These forward-looking statements speak only as of the date of this presentation. We assume no obligation to provide any revisions to any forward-looking statements should circumstances change, except as otherwise required by securities and other applicable laws.

Non-GAAP Financial Measures

It should be noted that Adjusted net income attributable to Albemarle Corporation (“Adjusted earnings”), Adjusted diluted earnings per share attributable to Albemarle Corporation, Adjusted effective income tax rates, segment operating profit, segment income, pro-forma net sales, net sales excluding the impact of foreign exchange translation (“ex FX”), EBITDA, Adj. EBITDA, Adj. EBITDA by operating segment, EBITDA margin, Adj. EBITDA margin, pro-forma Adj. EBITDA, pro-forma Adj. EBITDA margin, Adj. EBITDA excluding the impact of foreign exchange translation (“ex FX”), Adj. EBITDA margin excluding the impact of foreign exchange translation (“ex FX”), net debt to Adj. EBITDA, gross debt to Adj. EBITDA, free cash flow, and Adjusted free cash flow are financial measures that are not required by, or presented in accordance with, accounting principles generally accepted in the United States, or GAAP. These measures are presented here to provide additional useful measurements to review our operations, provide transparency to investors and enable period-to-period comparability of financial performance. The Company’s chief operating decision maker uses these measures to assess the ongoing performance of the Company and its segments, as well as for business and enterprise planning purposes.

A description of these and other non-GAAP financial measures that we use to evaluate our operations and financial performance, and reconciliation of these non-GAAP financial measures to the most directly comparable financial measures calculated and reported in accordance with GAAP, can be found in the Appendix to this presentation. The Company does not provide a reconciliation of forward looking non-GAAP financial measures to the most directly comparable financial measures calculated and reported in accordance with GAAP, as the Company is unable to estimate significant non-recurring or unusual items without unreasonable effort. The amounts and timing of these items are uncertain and could be material to the Company’s results calculated in accordance with GAAP.

Fourth Quarter and Full Year 2018 Financial Summary

(In millions, except per share amounts)

	Q4 2018	Q4 2017	Variance	FY 2018	FY 2017	Variance
Net Sales	\$922	\$858	7%	\$3,375	\$3,072	10%
Net income (loss) attributable to Albemarle Corporation	\$130	(\$218)		\$694	\$55	
Adjusted EBITDA	\$264	\$246	8%	\$1,007	\$885	14%
Diluted earnings (loss) per share	\$1.21	(\$1.95)		\$6.34	\$0.49	
Non-operating pension and OPEB items	0.08	(0.08)		0.03	(0.09)	
Non-recurring and other unusual items	0.24	3.36		(0.88)	4.20	
Adjusted diluted earnings per share¹	\$1.53	\$1.34	14%	\$5.48	\$4.59	19%

¹Totals might not add due to rounding.

2018 was another step towards strategy announced in 2017

Grow



Invest in Lithium to meet market demand

- Lithium grew adj. EBITDA 19%
- La Negra III / IV expansion on track for 2020 commissioning
- Started Xinyu II commissioning process
- Commenced site work at Kemerton
- Extended a number of critical long-term agreements at 2018 price levels

Maintain



Strengthen and make the most of Bromine, Catalysts and other mature businesses

- Bromine and Catalysts each contributed double digit adj. EBITDA growth¹
- SAYTEX® CP-2000 (tetrabrom) expansion at JBC

Build on manufacturing excellence and integration successes to drive efficiencies

- Implemented first of four deployments on new SAP system

2018 was another step towards strategy announced in 2017

Assess



Active and continuous assessment of our portfolio of businesses

- Completed sale of Polyolefin Catalyst & Components

Opportunities to accelerate and strengthen strategy

- Definitive agreement to form Lithium Hydroxide JV with Mineral Resources Limited
- Exercised option on Antofalla resource in Argentina and completed drilling program at Kings Mountain

Invest



Maintain a disciplined approach to capital allocation

- \$145 million in dividends; 24th consecutive year of increases
- Completed \$500 million in share buybacks
- \$700 million in CapEx for returns at least 2x cost of capital

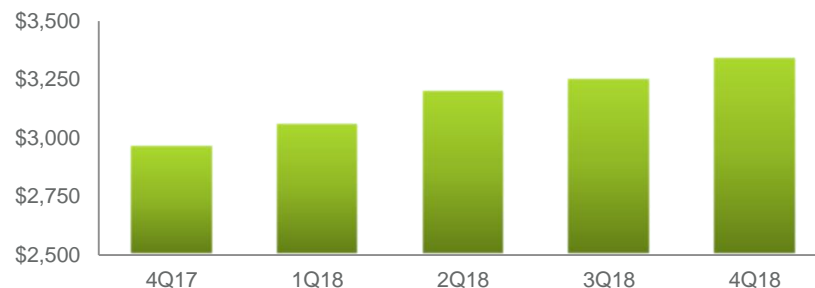
2018 Financial Highlights – Fourth Quarter and Full Year

(\$ in millions except EPS)

	4Q 2018	vs Prior Year (Pro-forma ¹)	FY 2018	FY 2018 (Pro-forma ¹)	vs Prior Year (Pro-forma ¹)
Net Sales	\$922	11%	\$3,375	\$3,348	13%
Adjusted EBITDA	\$264	12%	\$1,007	\$996	17%
Adjusted EBITDA Margin	29%	34 bps	30%	30%	120 bps
Adjusted Diluted EPS	\$1.53	21%	\$5.48	\$5.43	23%

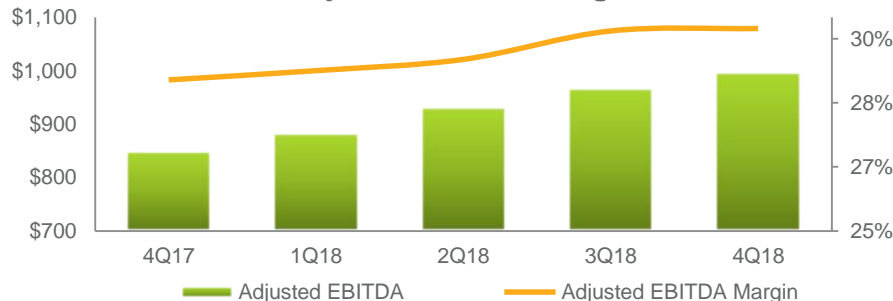
(\$ in millions)

TTM² Pro-forma¹ Net Sales



(\$ in millions)

TTM² Pro-forma¹ Adjusted EBITDA and Adjusted EBITDA Margin

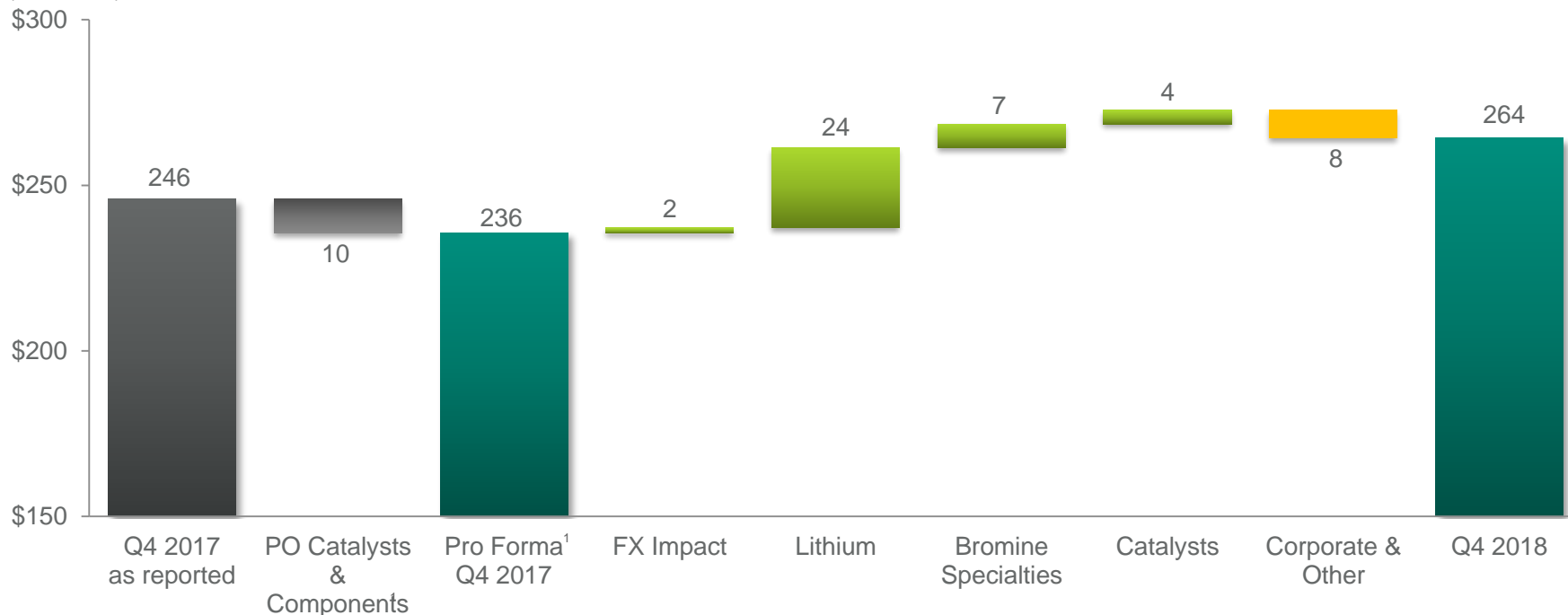


Q4 and FY 2018 adj. EBITDA growth driven by volume and price growth across all segments

Fourth Quarter 2018 Adjusted EBITDA Bridge

Q4 2018: Adjusted EBITDA growth¹ of \$28 million, 12% YOY

(\$ in millions)



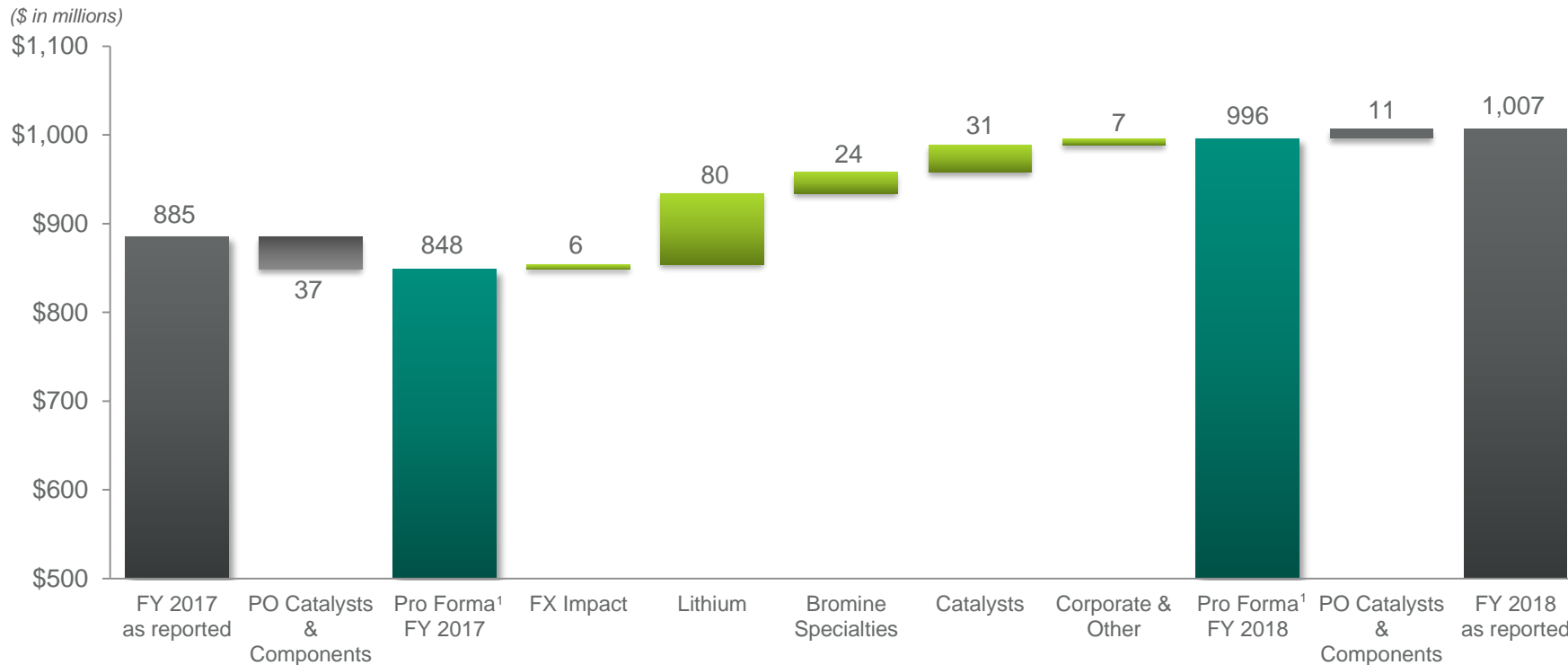
Note: Bridge numbers may not reconcile due to rounding.

¹Year-over-year comparison excludes net impact from Polyolefin Catalysts & Components business divested April 3, 2018.

Pro-forma reconciliations in Appendix.

Full Year 2018 Adjusted EBITDA Bridge

FY 2018: Adjusted EBITDA growth¹ of \$147 million, 17% YOY



Note: Bridge numbers may not reconcile due to rounding.

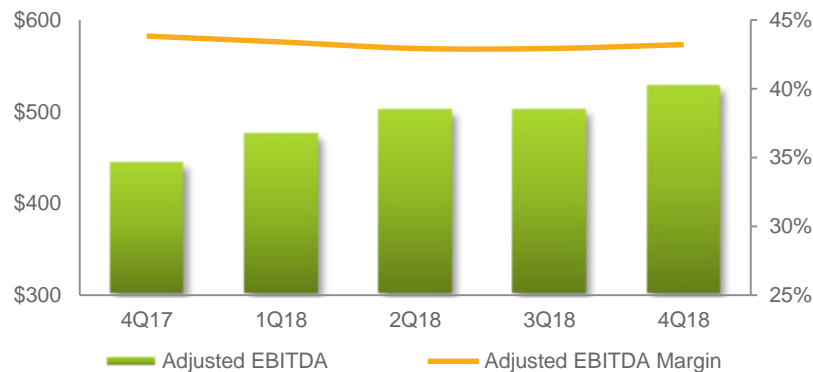
¹Pro-forma excludes financial contribution from Polyolefin Catalysts & Components business, divested April 3, 2018, during FY 2017 and Q1 2018. Pro-forma reconciliations in Appendix.

Lithium

Q4 and FY 2018 Performance

(\$ in millions)	4Q 2018	Δ 4Q 2017	FY 2018	Δ FY 2017
Net Sales	\$342	18%	\$1,228	21%
Net Sales ex FX ¹	\$343	18%	\$1,211	19%
Adj. EBITDA	\$145	22%	\$531	19%
Adj. EBITDA ex FX ¹	\$143	20%	\$527	18%
Adj. EBITDA Margin	42%	133 bps	43%	(62) bps
Adj. EBITDA Margin ex FX ¹	42%	68 bps	43%	(36) bps

Historical Trend (TTM)



Performance Drivers

- Q4 2018 YoY net sales growth driven by price (4%) and volume (14%)
- FY 2018 YoY net sales growth driven by price (9%) and volume (10%)
- Strong performance in battery grade salts and specialty downstream products drove FY 2018 net sales growth
- Majority of lithium salts volume driven by volume under long-term agreements

Bromine Specialties

Q4 and FY 2018 Performance

(\$ in millions)	4Q 2018	Δ 4Q 2017	FY 2018	Δ FY 2017
Net Sales	\$239	9%	\$918	7%
Net Sales ex FX ¹	\$240	10%	\$912	7%
Adj. EBITDA	\$70	9%	\$288	11%
Adj. EBITDA ex FX ¹	\$71	11%	\$283	9%
Adj. EBITDA Margin	29%	(4) bps	31%	111 bps
Adj. EBITDA Margin ex FX ¹	30%	34 bps	31%	76 bps

Historical Trend (TTM)



Performance Drivers

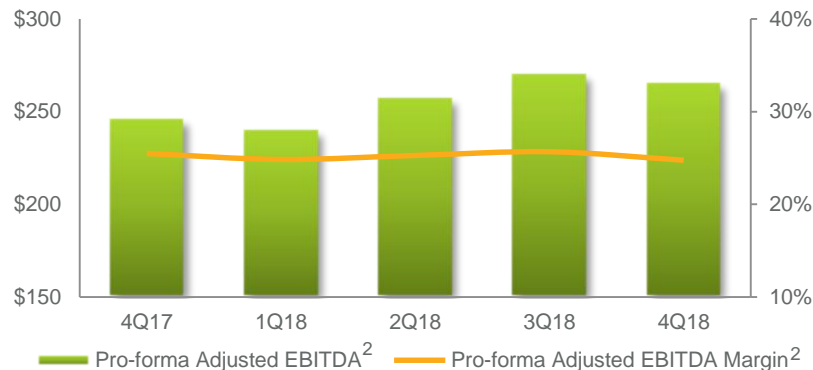
- Q4 2018 YoY net sales growth driven by price (2%) and volume (8%)
- FY 2018 YoY net sales growth driven by price (4%) and volume (2%)
- Demand for flame retardants and other bromine derivatives remained healthy through 2018

Catalysts

Q4 and FY 2018 Performance

(\$ in millions)	4Q 2018	Δ 4Q 2017 Pro-forma ²	FY 2018	FY 2018 Pro-forma ²	Δ FY 2017 Pro-forma ²
Net Sales	\$305	7%	\$1,102	\$1,074	11%
Net Sales ex FX ¹	\$306	7%	\$1,094	\$1,067	10%
Adj. EBITDA	\$79	3%	\$284	\$273	11%
Adj. EBITDA ex FX ¹	\$80	5%	\$288	\$277	12%
Adj. EBITDA Margin	26%	(88) bps	26%	25%	(4) bps
Adj. EBITDA Margin ex FX ¹	26%	(51) bps	26%	26%	51 bps

Historical Trend (TTM)



Performance Drivers

- Q4 2018 YoY net sales growth driven by price (1%) and volume (6%)
- FY 2018 YoY net sales growth driven by price (2%) and volume (8%)
- Growth driven by favorable mix in Hydroprocessing catalysts and growth in volume and pricing in FCC catalysts

Cash Flow and Net Debt

Twelve Months Ended December 31

(\$ in millions)

	<u>2018</u>	<u>2017</u>
Net Cash from Operations	\$546	\$304
Less: Capital Expenditures	(700)	(318)
Add Back: Pension Contributions ¹	15	21
Free Cash Flow	(\$139)	\$7

Selected Financial Metrics

(\$ in millions)

(as of 12/31/2018)

Dividends Paid:	\$145
Dividend Growth (Y/Y)²:	5%
Cash Balance:	\$555
Gross Debt³:	\$1,705

Net Debt to Adj. EBITDA⁴



Completed two accelerated share repurchase programs in 2018 totaling \$500 million

Energy Storage Continues to Drive Lithium Demand

Demand by Application (kT LCE)		2018 Estimate	'18 – '25 CAGR	2025 Forecast
Electric Vehicles BEV & PHEV	Energy Storage	70	36%	610
Other Mobility e-buses, e-trucks & other		25	22%	100
Consumer Electronics		45	10%	90
Grid Storage (ESS)		10	29%	60
All Other/Industrial		120	2%	140
Total Lithium Demand		270	21%	1,000

Electric Vehicle Demand Buildup		2018 Estimate	2025 Forecast
EV Penetration % of New Car Sales	PHEV	0.5%	6.0%
	BEV	1.5%	8.5%
	All EVs	2.0%	15%
Battery Size kWh per EV	PHEV	12	14
	BEV	44	60
	Average	32	41
Lithium Demand kT LCE	PHEV	9	85
	BEV	61	525
	Total	70	610

kT LCE

1,400

1,200

1,000

800

600

400

200

0

2015

2017

2019

2021

2023

2025

175

198

220

270

**Total Lithium Market Demand
Albemarle Estimates**

2019
Estimate
and Range

2018 Estimate




2017 Estimate

2015 Estimate

Lithium Intensity: 0.95 and 0.93 kg LCE/kWh in 2018 and 2025, respectively; New Car Sales: 95 and 109 million in 2018 and 2025, respectively

Full Year 2019 Business Guidance vs 2018

As of February 20, 2019

Business Unit	Outlook	Business Environment
Lithium		<ul style="list-style-type: none"> Adj. EBITDA expected to increase slightly more than 20% vs prior year Favorable outlook driven by volume growth and flat to inflationary price increases Increased costs related to plant startups and higher tolled volumes; expect adj. EBITDA margins to remain above 40%
Bromine Specialties		<ul style="list-style-type: none"> Adj. EBITDA expected to be flat vs prior year Outlook driven by stable demand across portfolio Historically, Bromine segment impacted earliest and most negatively by economic slowdown
Catalysts ¹		<ul style="list-style-type: none"> Adj. EBITDA expected to be flat vs prior year on a pro-forma¹ basis PCS headwind of \$11 million adj. EBITDA in 2019 from loss of customer contract Refining Catalysts adj. EBITDA expected to be up mid single digit, excluding 2018 one-time settlements of ~\$9 million

 Better than 2018  Flat vs 2018

Full Year 2019 Guidance vs 2018

As of February 20, 2019

	FY 2018	FY 2018 Pro-forma ¹	FY 2019 Guidance	2019 Guidance vs FY 2018 Pro-Forma ¹
Net Sales	\$3.37B	\$3.35B	\$3.65B – \$3.85B	9% – 15%
Adjusted EBITDA	\$1,007M	\$996M	\$1,070M – \$1,140M	7% – 14%
Adjusted EBITDA Margin	30%	30%	29% – 31%	
Adjusted Diluted EPS	\$5.48	\$5.43	\$6.10 – \$6.50	12% – 20%
Net Cash from Operations	\$546M	\$535M	\$700M – \$800M	40% – 50%
Capital Expenditures	\$700M	\$700M	\$800M – \$900M	

**Expect earnings to ramp throughout 2019 with second half stronger than first half
Q1 2019 expected to be flat YoY on pro-forma¹ basis**



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Appendix

Non-GAAP Reconciliations and Supplemental Information

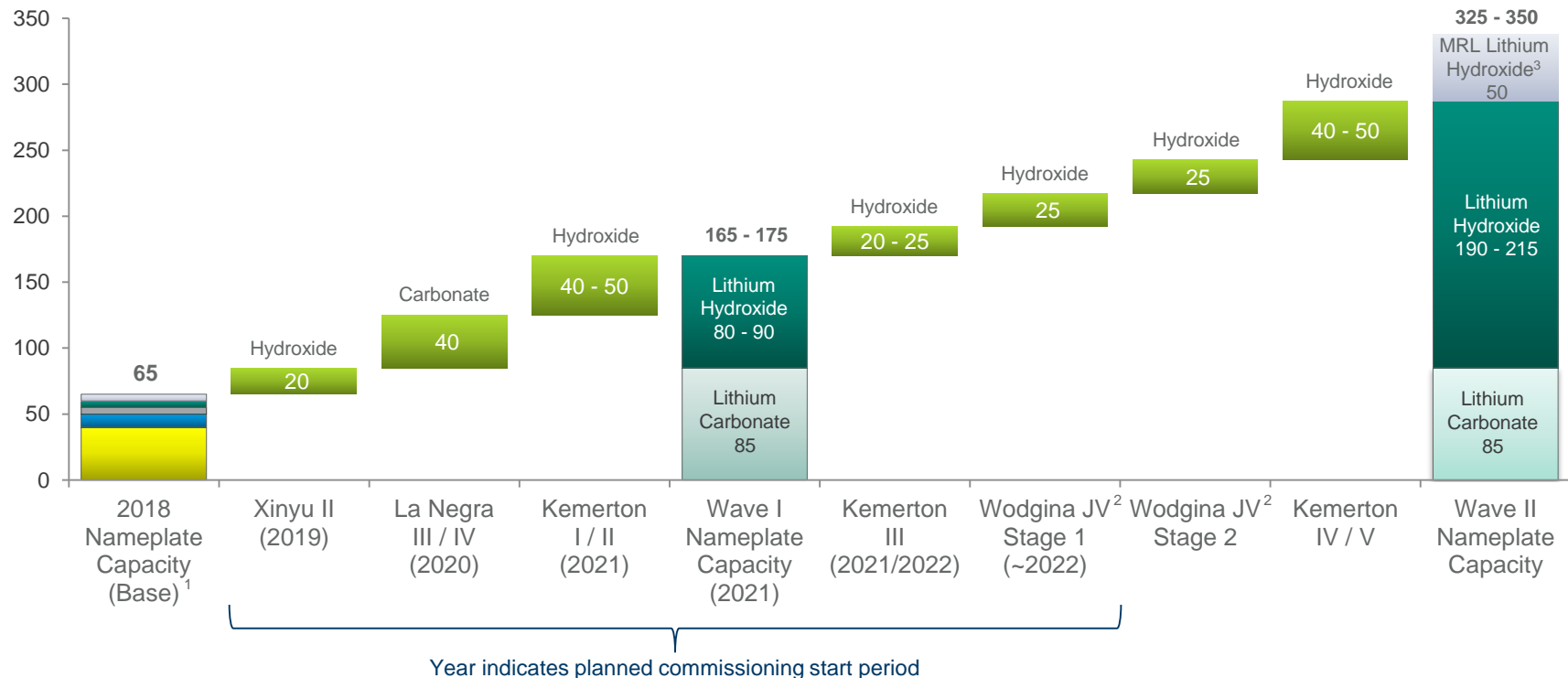
Additional Inputs for 2019 Plan

(\$ in millions)

	FY 2018	FY 2019 Estimate	Comments
Depreciation and amortization	\$201	\$210 – \$215	
Adjusted effective income tax rate	21.6%	22% – 24%	Geographic mix results in higher tax rate YoY
Corporate Costs	\$112	\$115 – \$120	YoY increase due to low bonus payout in 2018
Interest and financing expenses	\$52	\$40 – \$50	
Weighted-average common shares outstanding – diluted	109M	~107M	YoY decrease due to \$500 million in share buybacks in 2018

Wave I & II Conversion Capacity Plan

All figures in kt LCE and represent estimates of lithium nameplate conversion capacity



¹Conversion capacity does not include approximately 10 kt LCE of technical grade spodumene to non-battery applications.

²Represents ALB 50% share of Wodgina JV capacity, subject to transaction closing.

³Represents MRL 50% share of Wodgina JV that ALB would have 100% marketing responsibility for upon transaction closing.

Definitions of Non-GAAP Measures

Non-GAAP Measure	Description
Adjusted net income	Net income attributable to Albemarle Corporation before non-recurring, other unusual and non-operating pension and OPEB.
Pro-forma adjusted net income	Net income attributable to Albemarle Corporation before non-recurring, other unusual and non-operating pension and OPEB items, and the net impact of the divested business.
Adjusted diluted EPS	Diluted EPS before non-recurring, other unusual and non-operating pension and OPEB.
Pro-form adjusted diluted EPS	Diluted EPS before non-recurring, other unusual and non-operating pension and OPEB items, and the net impact of the divested business.
EBITDA	Net income attributable to Albemarle Corporation before interest and financing expenses, income taxes, and depreciation and amortization.
Adjusted EBITDA	EBITDA before non-recurring, other unusual and non-operating pension and OPEB.
Pro-forma adjusted EBITDA	Adjusted EBITDA before the net impact of EBITDA of the divested business.
Pro-forma Net Sales	Net Sales before the impact of Net Sales from the divested business.
Adjusted Effective Income Tax Rate	Reported effective income tax rate before the tax impact of non-recurring, other unusual and non-operating pension and OPEB items.

Net Income (loss)

	Three Months Ended December 31,		Year Ended December 31,	
	2018	2017	2018	2017
<i>(\$ in thousands)</i>				
Net income (loss) attributable to Albemarle Corporation	\$ 129,596	\$ (218,366)	\$ 693,562	\$ 54,850
Add back:				
Non-operating pension and OPEB items (net of tax)	8,829	(8,455)	3,234	(10,548)
Non-recurring and other unusual items (net of tax)	25,291	376,641	(96,440)	471,559
Adjusted net income attributable to Albemarle Corporation	163,716	149,820	600,356	515,861
Pro-forma: Net impact of (income) from non-cash FX gain (net of tax)	—	—	—	—
Pro-forma: Net impact of income from divested businesses (net of tax)	—	(8,448)	(6,242)	(21,615)
Pro-forma adjusted net income	163,716	141,372	594,114	494,246
Adjusted diluted earnings per share	\$ 1.53	\$ 1.34	\$ 5.48	\$ 4.59
Pro-forma adjusted diluted earnings per share	\$ 1.53	\$ 1.26	\$ 5.43	\$ 4.40
Weighted-average common shares outstanding – diluted	107,005	112,152	109,458	112,380

See above for a reconciliation of adjusted net income (loss), and pro-forma adjusted net income, the non-GAAP financial measures, to Net income (loss) attributable to Albemarle Corporation, the most directly comparable financial measure calculated and reported in accordance with GAAP. Adjusted earnings is defined as Net income attributable to Albemarle Corporation before discontinued operations and the non-recurring, other unusual and non-operating pension and OPEB items as listed above. Pro-forma adjusted net income is defined as Net income attributable to Albemarle Corporation before discontinued operations and the non-recurring, other unusual and non-operating pension and OPEB items, and the net impact of divested businesses.

EBITDA

	Three Months Ended December 31,		Year Ended December 31,	
	2018	2017	2018	2017
(\$ in thousands)				
Net income (loss) attributable to Albemarle Corporation	\$ 129,596	\$ (218,366)	\$ 693,562	\$ 54,850
Add back:				
Interest and financing expenses	12,571	16,455	52,405	115,350
Income tax expense	11,196	378,221	144,826	431,817
Depreciation and amortization	50,187	52,841	200,698	196,928
EBITDA	203,550	229,151	1,091,491	798,945
Non-operating pension and OPEB items	11,881	(12,981)	5,285	(16,125)
Non-recurring and other unusual items (excluding items associated with interest expense)	48,871	29,610	(90,112)	102,660
Adjusted EBITDA	\$ 264,302	\$ 245,780	\$ 1,006,664	\$ 885,480
Pro-forma: Net impact of adjusted EBITDA from divested businesses	—	(10,156)	(10,872)	(37,123)
Pro-forma adjusted EBITDA	\$ 264,302	\$ 235,624	\$ 995,792	\$ 848,357
Net sales	\$ 921,699	\$ 857,789	\$ 3,374,950	\$ 3,071,976
Pro-forma: Net impact of net sales from divested businesses	—	(26,224)	(27,082)	(99,491)
Pro-forma net sales	\$ 921,699	\$ 831,565	\$ 3,347,868	\$ 2,972,485
EBITDA margin	22.1%	26.7%	32.3%	26.0%
Adjusted EBITDA margin	28.7%	28.7%	29.8%	28.8%
Pro-forma adjusted EBITDA margin	28.7%	28.3%	29.7%	28.5%
Year-over-year difference in Pro-forma adjusted EBITDA margin	34 bps		120 bps	

See above for a reconciliation of EBITDA, adjusted EBITDA, and pro-forma adjusted EBITDA, the non-GAAP financial measures, to Net income (loss) attributable to Albemarle Corporation, the most directly comparable financial measure calculated and reported in accordance with GAAP. EBITDA is defined as Net income attributable to Albemarle Corporation before interest and financing expenses, income taxes, depreciation and amortization. Adjusted EBITDA is defined as EBITDA before discontinued operations and the non-recurring, other unusual and non-operating pension and OPEB items as listed below. Pro-forma adjusted EBITDA is defined as adjusted EBITDA before the net impact of EBITDA from divested businesses.

EBITDA - by Segment *(three months ended December 31)*

(\$ in thousands)

	Lithium	Bromine Specialties	Catalysts	Reportable Segments Total	All Other	Corporate	Consolidated Total
Three months ended December 31, 2018:							
Net income (loss) attributable to Albemarle Corporation	\$ 112,273	\$ 59,333	\$ 58,566	\$ 230,172	\$ 4,359	\$ (104,935)	\$ 129,596
Depreciation and amortization	23,433	10,862	11,930	46,225	2,003	1,959	50,187
Non-recurring and other unusual items	8,807	—	8,277	17,084	—	31,787	48,871
Interest and financing expenses	—	—	—	—	—	12,571	12,571
Income tax expense	—	—	—	—	—	11,196	11,196
Non-operating pension and OPEB items	—	—	—	—	—	11,881	11,881
Adjusted EBITDA	\$ 144,513	\$ 70,195	\$ 78,773	\$ 293,481	\$ 6,362	\$ (35,541)	\$ 264,302
Three months ended December 31, 2017:							
Net income (loss) attributable to Albemarle Corporation	\$ 93,814	\$ 54,646	\$ 71,859	\$ 220,319	\$ 3,899	\$ (442,584)	\$ (218,366)
Depreciation and amortization	25,038	9,756	14,454	49,248	2,073	1,520	52,841
Non-recurring and other unusual items	(196)	—	—	(196)	—	29,806	29,610
Interest and financing expenses	—	—	—	—	—	16,455	16,455
Income tax expense	—	—	—	—	—	378,221	378,221
Non-operating pension and OPEB items	—	—	—	—	—	(12,981)	(12,981)
Adjusted EBITDA	\$ 118,656	\$ 64,402	\$ 86,313	\$ 269,371	\$ 5,972	\$ (29,563)	\$ 245,780
Pro-forma: Net impact of adjusted EBITDA from divested business	—	—	(10,156)	(10,156)	—	—	(10,156)
Pro-forma adjusted EBITDA	\$ 118,656	\$ 64,402	\$ 76,157	\$ 259,215	\$ 5,972	\$ (29,563)	\$ 235,624

See above for a reconciliation of adjusted EBITDA on a segment basis, the non-GAAP financial measure, to Net income attributable to Albemarle Corporation ("earnings"), the most directly comparable financial measure calculated and reporting in accordance with GAAP. Adjusted earnings on a segment basis is defined as earnings before discontinued operations and the special and non-operating pension and OPEB items as listed above. EBITDA is defined as earnings before interest and financing expenses, income taxes, and depreciation and amortization. Adjusted EBITDA is defined as EBITDA before discontinued operations and the non-recurring, other unusual and non-operating pension and OPEB items as listed above.

EBITDA - Margin by Segment *(three months ended December 31)*

(\$ in thousands)

	Lithium	Bromine Specialties	Catalysts	Reportable Segments Total	All Other	Consolidated Total
Three months ended December 31, 2018:						
Net sales	\$ 341,648	\$ 239,111	\$ 304,732	\$ 885,491	\$ 36,208	\$ 921,699
Net income (loss) attributable to Albemarle Corporation	32.9%	24.8%	19.2%	26.0%	12.0%	14.1%
Depreciation and amortization	6.9%	4.5%	3.9%	5.2%	5.5%	5.4%
Non-recurring and other unusual items	2.6%	—%	2.7%	1.9%	—%	5.3%
Interest and financing expenses	—%	—%	—%	—%	—%	1.4%
Income tax expense	—%	—%	—%	—%	—%	1.2%
Non-operating pension and OPEB items	—%	—%	—%	—%	—%	1.3%
Adjusted EBITDA Margin	42.3%	29.4%	25.8%	33.1%	17.6%	28.7%
Three months ended December 31, 2017:						
Net sales	\$ 289,597	\$ 219,084	\$ 311,165	\$ 819,846	\$ 37,770	\$ 857,789
Net income (loss) attributable to Albemarle Corporation	32.4%	24.9%	23.1%	26.9%	10.3%	(25.5)%
Depreciation and amortization	8.6%	4.5%	4.6%	6.0%	5.5%	6.2%
Non-recurring and other unusual items	(0.1)%	—%	—%	—%	—%	3.5%
Interest and financing expenses	—%	—%	—%	—%	—%	1.9%
Income tax expense	—%	—%	—%	—%	—%	44.1%
Non-operating pension and OPEB items	—%	—%	—%	—%	—%	(1.5)%
Adjusted EBITDA Margin	41.0%	29.4%	27.7%	32.9%	15.8%	28.7%

See above for adjusted EBITDA margin, a non-GAAP financial measure defined as adjusted EBITDA divided by net sales. See slide 24 for the related reconciliation of adjusted EBITDA on a segment basis, the non-GAAP financial measure, to Net income attributable to Albemarle Corporation ("earnings"), the most directly comparable financial measure calculated and reporting in accordance with GAAP.

Consolidated Total includes net sales from Corporate (not shown) of \$173 in the three months ended December 31, 2017,

EBITDA - by Segment (twelve-months ended Dec 31)

(\$ in thousands)

	Lithium	Bromine Specialties	Catalysts	Reportable Segments Total	All Other	Corporate	Consolidated Total
Year ended December 31, 2018:							
Net income (loss) attributable to Albemarle Corporation	\$ 428,212	\$ 246,509	\$ 445,604	\$ 1,120,325	\$ 6,018	\$ (432,781)	\$ 693,562
Depreciation and amortization	95,193	41,607	49,131	185,931	8,073	6,694	200,698
Non-recurring and other unusual items	7,368	—	(210,428)	(203,060)	—	112,948	(90,112)
Interest and financing expenses	—	—	—	—	—	52,405	52,405
Income tax expense	—	—	—	—	—	144,826	144,826
Non-operating pension and OPEB items	—	—	—	—	—	5,285	5,285
Adjusted EBITDA	\$ 530,773	\$ 288,116	\$ 284,307	\$ 1,103,196	\$ 14,091	\$ (110,623)	\$ 1,006,664
Pro-forma: Net impact of adjusted EBITDA from divested business	—	—	(10,872)	(10,872)	—	—	(10,872)
Pro-forma adjusted EBITDA	\$ 530,773	\$ 288,116	\$ 273,435	\$ 1,092,324	\$ 14,091	\$ (110,623)	\$ 995,792
Year ended December 31, 2017:							
Net income (loss) attributable to Albemarle Corporation	\$ 342,992	\$ 218,839	\$ 230,665	\$ 792,496	\$ 5,521	\$ (743,167)	\$ 54,850
Depreciation and amortization	87,879	40,062	54,468	182,409	8,357	6,162	196,928
Non-recurring and other unusual items (excluding items associated with interest expense)	15,781	—	(1,250)	14,531	—	88,129	102,660
Interest and financing expenses	—	—	—	—	—	115,350	115,350
Income tax expense	—	—	—	—	—	431,817	431,817
Non-operating pension and OPEB items	—	—	—	—	—	(16,125)	(16,125)
Adjusted EBITDA	\$ 446,652	\$ 258,901	\$ 283,883	\$ 989,436	\$ 13,878	\$ (117,834)	\$ 885,480
Pro-forma: Net impact of adjusted EBITDA from divested business	—	—	(37,123)	(37,123)	—	—	(37,123)
Pro-forma adjusted EBITDA	\$ 446,652	\$ 258,901	\$ 246,760	\$ 952,313	\$ 13,878	\$ (117,834)	\$ 848,357

See above for a reconciliation of adjusted EBITDA on a segment basis, the non-GAAP financial measure, to net income attributable to Albemarle Corporation ("earnings"), the most directly comparable financial measure calculated and reporting in accordance with GAAP. Adjusted earnings on a segment basis is defined as earnings before discontinued operations and the special and non-operating pension and OPEB items as listed above. EBITDA is defined as earnings before interest and financing expenses, income taxes, and depreciation and amortization. Adjusted EBITDA is defined as EBITDA before discontinued operations and the non-recurring, other unusual and non-operating pension and OPEB items as listed above.

EBITDA - Margin by Segment (twelve-months ended Dec 31)

(\$ in thousands)

	Lithium	Bromine Specialties	Catalysts	Reportable Segments Total	All Other	Consolidated Total
Year ended December 31, 2018:						
Net sales	\$ 1,228,171	\$ 917,880	\$ 1,101,554	\$ 3,247,605	\$ 127,186	\$ 3,374,950
Net income (loss) attributable to Albemarle Corporation	34.9%	26.9%	40.5%	34.5%	4.7%	20.6%
Depreciation and amortization	7.8%	4.5%	4.5%	5.7%	6.3%	5.9%
Non-recurring and other unusual items	0.6%	—%	(19.1)%	(6.3)%	—%	(2.7)%
Interest and financing expenses	—%	—%	—%	—%	—%	1.5%
Income tax expense	—%	—%	—%	—%	—%	4.3%
Non-operating pension and OPEB items	—%	—%	—%	—%	—%	0.2%
Adjusted EBITDA Margin	43.2%	31.4%	25.8%	34.0%	11.1%	29.8%
Year ended December 31, 2017:						
Net sales	\$ 1,018,885	\$ 855,143	\$ 1,067,572	\$ 2,941,600	\$ 128,914	\$ 3,071,976
Net income (loss) attributable to Albemarle Corporation	33.7%	25.6%	21.6%	26.9%	4.3%	1.8%
Depreciation and amortization	8.6%	4.7%	5.1%	6.2%	6.5%	6.4%
Non-recurring and other unusual items (excluding items associated with interest expense)	1.5%	—%	(0.1)%	0.5%	—%	3.3%
Interest and financing expenses	—%	—%	—%	—%	—%	3.7%
Income tax expense	—%	—%	—%	—%	—%	14.1%
Non-operating pension and OPEB items	—%	—%	—%	—%	—%	(0.5)%
Adjusted EBITDA Margin	43.8%	30.3%	26.6%	33.6%	10.8%	28.8%

See above for adjusted EBITDA margin, a non-GAAP financial measure defined as adjusted EBITDA divided by net sales. See slide 26 for the related reconciliation of adjusted EBITDA on a segment basis, the non-GAAP financial measure, to net income attributable to Albemarle Corporation ("earnings"), the most directly comparable financial measure calculated and reporting in accordance with GAAP.

Consolidated Total includes net sales from Corporate (not shown) of \$159 and \$1,462 in the twelve months ended December 31, 2018 and 2017, respectively.

EBITDA - (Twelve Months Ended)

(\$ in thousands)	Twelve Months Ended				
	Dec 31, 2018	Sep 30, 2018	Jun 30, 2018	Mar 31, 2018	Dec 31, 2017
Net income attributable to Albemarle Corporation	\$ 693,562	\$ 345,600	\$ 334,525	\$ 135,397	\$ 54,850
Depreciation and amortization	200,698	203,352	203,540	202,188	196,928
Non-recurring and other unusual items (excluding items associated with interest expense)	(90,112)	(109,373)	(113,484)	101,914	102,660
Interest and financing expenses	52,405	56,289	59,093	60,375	115,350
Income tax expense	144,826	511,851	497,179	440,207	431,817
Non-operating pension and OPEB items	5,285	(19,577)	(18,410)	(17,259)	(16,125)
Adjusted EBITDA	\$ 1,006,664	\$ 988,142	\$ 962,443	\$ 922,822	\$ 885,480
Pro-forma: Net impact of adjusted EBITDA from divested businesses	(10,872)	(21,028)	(31,521)	(41,287)	(37,123)
Pro-forma Adjusted EBITDA	\$ 995,792	\$ 967,114	\$ 930,922	\$ 881,535	\$ 848,357
Net Sales	\$ 3,374,950	\$ 3,311,040	\$ 3,288,158	\$ 3,171,542	\$ 3,071,976
Pro-forma: Net impact of adjusted EBITDA from divested businesses	(27,082)	(53,306)	(80,282)	(106,013)	(99,491)
Pro-forma Net Sales	\$ 3,347,868	\$ 3,257,734	\$ 3,207,876	\$ 3,065,529	\$ 2,972,485
Pro-forma Adjusted EBITDA Margin	30%	30%	29%	29%	29%

See above for a reconciliation of EBITDA, adjusted EBITDA, and pro-forma adjusted EBITDA, the non-GAAP financial measures, to Net income attributable to Albemarle Corporation, the most directly comparable financial measure calculated and reported in accordance with GAAP. EBITDA is defined as Net income attributable to Albemarle Corporation before interest and financing expenses, income taxes, depreciation and amortization. Adjusted EBITDA is defined as EBITDA before discontinued operations and the non-recurring, other unusual and non-operating pension and OPEB items as listed below. Pro-forma adjusted EBITDA is defined as adjusted EBITDA before the net impact of EBITDA from divested businesses.

See above for a reconciliation of pro-forma net sales, the non-GAAP financial measure, to net sales, the most directly comparable financial measure calculated and reported in accordance with GAAP. Pro-forma net sales is defined as net sales before the net impact of net sales from divested businesses.

EBITDA - by Segment (Twelve Months Ended)

(\$ in thousands)	Twelve Months Ended				
	Dec 31, 2018	Sep 30, 2018	Jun 30, 2018	Mar 31, 2018	Dec 31, 2017
Lithium					
Net income attributable to Albemarle Corporation	\$ 428,212	\$ 409,753	\$ 409,185	\$ 373,712	\$ 342,992
Depreciation and amortization	95,193	96,798	95,744	92,879	87,879
Non-recurring and other unusual items	7,368	(1,635)	(698)	11,223	15,781
Adjusted EBITDA	530,773	504,916	504,231	477,814	446,652
Net sales	1,228,171	1,176,120	1,174,430	1,100,688	1,018,885
Adjusted EBITDA Margin	43%	43%	43%	43%	44%
Bromine Specialties					
Net income attributable to Albemarle Corporation	\$ 246,509	\$ 241,822	\$ 227,615	\$ 219,681	\$ 218,839
Depreciation and amortization	41,607	40,501	40,059	40,701	40,062
Adjusted EBITDA	288,116	282,323	267,674	260,382	258,901
Net sales	917,880	897,853	878,160	861,591	855,143
Adjusted EBITDA Margin	31%	31%	30%	30%	30%
Catalysts					
Net income attributable to Albemarle Corporation	\$ 445,604	\$ 458,897	\$ 456,252	\$ 229,359	\$ 230,665
Depreciation and amortization	49,131	51,655	53,342	53,855	54,468
Non-recurring and other unusual items	(210,428)	(218,705)	(219,955)	(1,250)	(1,250)
Adjusted EBITDA	284,307	291,847	289,639	281,964	283,883
Pro-forma: Net impact of adjusted EBITDA from divested businesses	(10,872)	(21,028)	(31,521)	(41,287)	(37,123)
Pro-forma Adjusted EBITDA	273,435	270,819	258,118	240,677	246,760
Net sales	1,101,554	1,107,987	1,101,442	1,074,731	1,067,572
Pro-forma: Net impact of Net sales from divested businesses	(27,082)	(53,306)	(80,282)	(106,013)	(99,491)
Pro-forma Net sales	1,074,472	1,054,681	1,021,160	968,718	968,081
Pro-forma Adjusted EBITDA Margin	25%	26%	25%	25%	25%

See above for a reconciliation of adjusted EBITDA on a segment basis, the non-GAAP financial measure, to Net income attributable to Albemarle Corporation ("earnings"), the most directly comparable financial measure calculated and reporting in accordance with GAAP. Adjusted earnings on a segment basis is defined as earnings before discontinued operations and the special and non-operating pension and OPEB items as listed above. EBITDA is defined as earnings before interest and financing expenses, income taxes, and depreciation and amortization. Adjusted EBITDA is defined as EBITDA before discontinued operations and the non-recurring, other unusual and non-operating pension and OPEB items as listed above.

EBITDA supplemental¹

(\$ in thousands)

	Twelve Months Ended	Three Months Ended			
	Dec 31, 2018	Dec 31, 2018	Sep 30, 2018	Jun 30, 2018	Mar 31, 2018
Adjusted EBITDA	\$ 1,006,664	\$ 264,302	\$ 235,082	\$ 258,562	\$ 248,718
Net income attributable to noncontrolling interests	45,577	16,453	13,734	8,225	7,165
Equity in net income of unconsolidated investments (net of tax)	(89,264)	(27,537)	(22,081)	(18,969)	(20,677)
Dividends received from unconsolidated investments	57,415	24,621	2,749	4,583	25,462
Consolidated EBITDA	\$ 1,020,392	\$ 277,839	\$ 229,484	\$ 252,401	\$ 260,668
Total Long Term Debt (as reported)	\$ 1,705,210				
Off balance sheet obligations and other	71,800				
Consolidated Funded Debt	\$ 1,777,010				
Less Cash	555,320				
Consolidated Funded Net Debt	\$ 1,221,690				
Consolidated Funded Debt to Consolidated EBITDA Ratio	1.7				
Consolidated Funded Net Debt to Consolidated EBITDA Ratio	1.2				

¹ This supplemental is for net-debt-to-adjusted EBITDA ratio based on the bank covenant definition.

Diluted EPS

	Three Months Ended		Year Ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Diluted earnings (loss) per share	\$ 1.21	\$ (1.95)	\$ 6.34	\$ 0.49
Add back:				
Non-operating pension and OPEB items ^(a)	0.08	(0.08)	0.03	(0.09)
Non-recurring and other unusual items (net of tax)				
Utilization of inventory markup	—	—	—	0.15
Restructuring and other	—	(0.01)	0.03	0.11
Acquisition and integration related costs	0.05	0.06	0.14	0.24
Albemarle Foundation contribution	—	—	0.11	—
Gain on sale of business	0.06	—	(1.55)	—
Gain on acquisition	—	0.01	—	(0.04)
Legal accrual	—	—	0.21	—
Environmental accrual	—	—	0.11	—
Loss on extinguishment of debt	—	(0.04)	—	0.30
Indemnification adjustments	0.23	—	0.23	—
Note receivable reserve	—	0.18	—	0.18
Other	0.07	(0.02)	0.11	0.06
Discrete tax items	(0.17)	3.18	(0.27)	3.20
Total non-recurring and other unusual items	0.24	3.36	(0.88)	4.20
Adjusted diluted earnings per share ¹	\$ 1.53	\$ 1.34	\$ 5.48	\$ 4.59

¹Totals may not add due to rounding

Effective Tax Rate

(\$ in thousands)	Income before income taxes and equity in net income of unconsolidated investments	Income tax expense	Effective income tax rate
Three months ended December 31, 2018:			
As reported	\$ 129,708	\$ 11,196	8.6%
Non-recurring, other unusual and non-operating pension and OPEB items	60,752	26,632	
As adjusted	<u>\$ 190,460</u>	<u>\$ 37,828</u>	19.9%
Three months ended December 31, 2017:			
As reported	\$ 141,926	\$ 378,221	266.5%
Non-recurring, other unusual and non-operating pension and OPEB items	16,629	(351,557)	
As adjusted	<u>\$ 158,555</u>	<u>\$ 26,664</u>	16.8%
Year ended December 31, 2018:			
As reported	\$ 794,701	\$ 144,826	18.2%
Non-recurring, other unusual and non-operating pension and OPEB items	(84,827)	8,379	
As adjusted	<u>\$ 709,874</u>	<u>\$ 153,205</u>	21.6%
Year ended December 31, 2017:			
As reported	\$ 446,798	\$ 431,817	96.6%
Non-recurring, other unusual and non-operating pension and OPEB items	139,336	(321,675)	
As adjusted	<u>\$ 586,134</u>	<u>\$ 110,142</u>	18.8%

See above for a reconciliation of the adjusted effective income tax rate, the non-GAAP financial measure, to the effective income tax rate, the most directly comparable financial measure calculated and reporting in accordance with GAAP.

Equity Income and Noncontrolling Interest

	Three Months Ended December 31,				Year Ended December 31,			
	2018		2017		2018		2017	
	Equity Income	Noncontrolling Interest	Equity Income	Noncontrolling Interest	Equity Income	Noncontrolling Interest	Equity Income	Noncontrolling Interest
(\$ in thousands)								
Lithium	\$ 22,580	\$ —	\$ 24,781	\$ —	\$ 71,399	\$ —	\$ 64,780	\$ —
Bromine Specialties	—	(16,451)	—	(11,332)	—	(45,524)	—	(44,663)
Catalysts	4,957	—	4,443	—	17,865	—	19,707	—
All Other	—	—	—	—	—	—	—	—
Corporate	—	(2)	—	37	—	(53)	—	45
Total Company	\$ 27,537	\$ (16,453)	\$ 29,224	\$ (11,295)	\$ 89,264	\$ (45,577)	\$ 84,487	\$ (44,618)



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