



# Morgan Stanley Global Chemicals & Agricultural Conference

*Boston, MA*

*November 13, 2018*



# Forward-Looking Statements



This communication includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements relate to analyses and other information that are based on management's beliefs, certain assumptions made by management, forecasts of future results, and current expectations, estimates and projections about the markets and economy in which we and our various segments operate. The statements contained in this presentation that are not statements of historical fact may include forward-looking statements that involve a number of risks and uncertainties.

We have used the words "anticipate," "intend," "may," "expect," "believe," "should," "plan," "project," "estimate," "forecast," "optimistic," and variations of such words and similar expressions in this presentation to identify such forward-looking statements. These statements are not guarantees of future performance and involve certain risks, uncertainties and assumptions, which are difficult to predict and many of which are beyond our control. Therefore, actual outcomes and results may differ materially from those matters expressed or implied in such forward-looking statements. All references to expectations and other forward-looking statements are based on expectations at October 29, 2018. Olin undertakes no obligation to update publicly any forward-looking statements, whether as a result of future events, new information or otherwise.

Factors that could cause or contribute to such differences include, but are not limited to: our sensitivity to economic, business and market conditions in the U.S. and overseas; the cyclical nature of our operating results and the supply/demand balance for our products; our reliance on a limited number of suppliers for specified feedstock and services, including third-party transportation services; higher-than-expected raw material and energy, transportation, and/or logistics costs; failure to control costs or to achieve targeted cost reductions; new regulations or public policy changes regarding the transportation of hazardous chemicals and the security of chemical manufacturing facilities; the occurrence of unexpected manufacturing interruptions and outages; complications resulting from our multiple enterprise resource planning systems and the conversion to one system; changes in, or failure to comply with, legislation or government regulations or policies; the failure or an interruption of our information technology systems; economic and industry downturns; declines in global equity markets and interest rates impacting pension plan asset values and liabilities; fluctuations in foreign currency exchange rates; unexpected litigation outcomes and environmental investigation and remediation costs; our substantial amount of indebtedness and debt service obligations; the integration of the DowDuPont Chlorine Products Business not fully realizing the benefits of the anticipated synergies; the failure to attract, retain and motivate key employees; asset impairment charges resulting from the failure to realize our long range plan assumptions; adverse conditions in the credit and capital markets; and the other risks detailed in Olin's Form 10-K for the fiscal year ended December 31, 2017 and Olin's Form 10-Q for the quarter ended September 30, 2018. All of the forward-looking statements should be considered in light of these factors. In addition, other risks and uncertainties not presently known to Olin or that Olin considers immaterial could affect the accuracy of our forward-looking statements. The reader is cautioned not to rely unduly on these forward-looking statements.

## **Non-GAAP Financial Measures**

In addition to U.S. GAAP financial measures, this presentation includes certain non-GAAP financial measures including EBITDA, and Adjusted EBITDA. These non-GAAP measures are in addition to, not a substitute for or superior to, measures for financial performance prepared in accordance with U.S. GAAP. Definitions of these measures and reconciliation of GAAP to non-GAAP measures are provided in the appendix to this presentation.

<b>Olin Corporation</b>		
	<b>3Q18</b>	<b>9Mo 2018</b>
<b>Revenue:</b>	<b>\$ 1,872</b>	<b>\$ 5,311</b>
<b>Adjusted EBITDA:<sup>1</sup></b>	<b>\$ 398</b>	<b>\$ 964</b>

<b>Chlor Alkali Products and Vinyls</b>		
	<b>3Q18</b>	<b>9Mo18</b>
<b>Revenue:</b>	<b>\$ 1,051</b>	<b>\$ 3,006</b>
<b>Adj. EBITDA:</b>	<b>\$ 333</b>	<b>\$ 868</b>

<b>Epoxy</b>		
	<b>3Q18</b>	<b>9Mo18</b>
<b>Revenue:</b>	<b>\$ 647</b>	<b>\$ 1,794</b>
<b>Adj. EBITDA:</b>	<b>\$ 56</b>	<b>\$ 111</b>

<b>Winchester</b>		
	<b>3Q18</b>	<b>9Mo18</b>
<b>Revenue:</b>	<b>\$ 174</b>	<b>\$ 511</b>
<b>Adj. EBITDA:</b>	<b>\$ 15</b>	<b>\$ 49</b>

All financial data are for the three months and nine months ended September 30, 2018. Data are presented in millions of U.S. dollars. Additional information is available at [www.olin.com](http://www.olin.com).

<sup>1</sup>: Olin's definition of "Adjusted EBITDA" (earnings before interest, taxes, depreciation and amortization) is net income (loss) plus an add-back for depreciation and amortization, interest expense (income), income tax expense (benefit), other expense (income), restructuring charges, acquisition-related costs and certain non-recurring items.

## **1. 3Q18 Adjusted EBITDA of \$398<sup>1</sup> million**

- Highest level since the DowDupont Chlorine Products acquisition;
- Expands 50% from 3Q17; and
- Strong performance from Chlor Alkali Products and Vinyls and Epoxy

## **2. Expect 4Q18 Adjusted EBITDA to be lower than 3Q18 due to:**

- Normally weaker seasonal demand;
- Lower caustic soda pricing; and
- Higher ethylene costs – attributable to higher ethane pricing

## **3. Full year Adjusted EBITDA now expected to be \$1.26 billion +/- 2%**

<sup>1</sup>: Third quarter net income is \$195.1 million.

# Olin is a Global Leader in Chlorine Derivatives

## Nineteen Chlorine Outlets



Industry-leading Scale and Cost Advantage



Unparalleled End-Use and Geographic Diversity



Powerful Upstream Integration

### Global:

- **Top quartile chlor-alkali cost position**
- #1 chlor-alkali producer
- #1 seller of membrane grade caustic soda
- #1 supplier of epoxy materials
- #1 seller of chlorinated organic
- Broadest geographic presence in caustic, epoxy and chlorinated organics

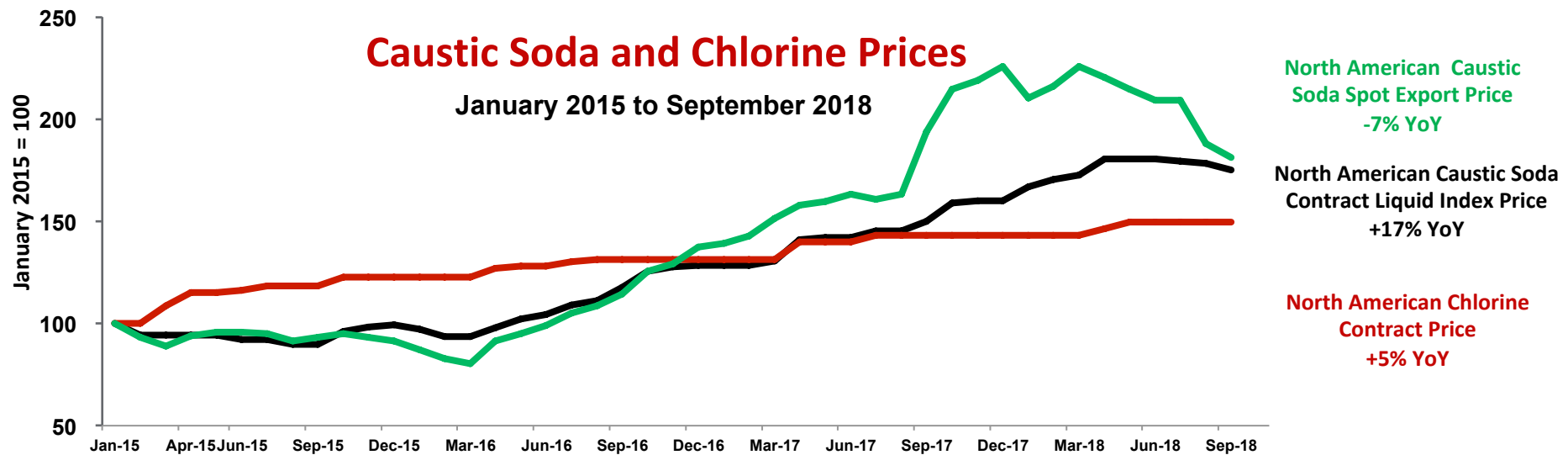
### North America:

- **Most diversified chlorine envelope of any North America producer**
- #1 seller of chlorine
- #1 seller of industrial bleach
- #1 seller of on-purpose hydrochloric acid
- Full ownership of newest, world-scale membrane chlor-alkali facility
- The most extensive distribution and logistics network

# Chlor Alkali Products and Vinyls Industry Conditions



- Recent supply and demand disruptions have created volatility in caustic soda export pricing:
  - Hurricane Harvey – 3Q17
  - Chinese environmental curtailments/alumina demand – 4Q17
  - European mercury conversion/closures – year end 2017
  - Large alumina producer, Alunorte, curtailment – 1Q18 to current
- Despite intermittent, near-term pressures, the underlying supply and demand fundamentals for caustic soda remain strong
- Continued improvements in chlorine, EDC and chlorine-derivatives pricing provide offsets to short-term caustic soda pricing pressures

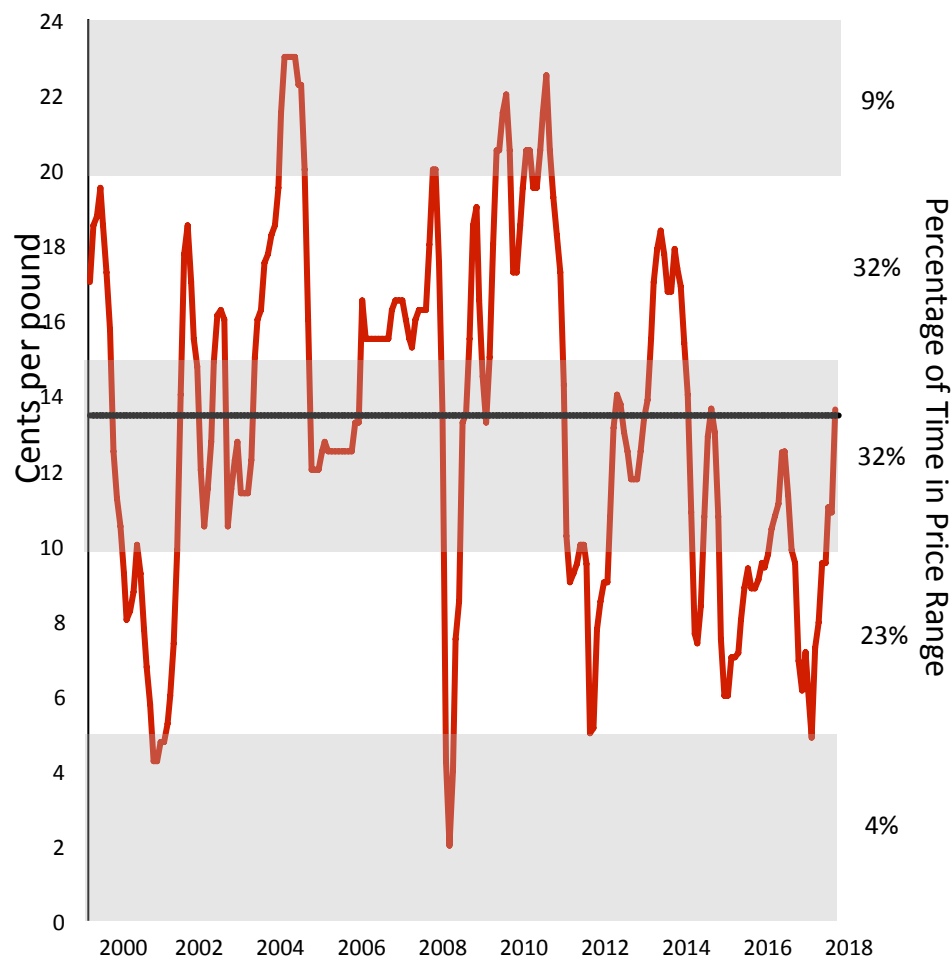


Source: IHS Markit / Tecnon

# EDC Pricing History 2000 – September 2018



## EDC Spot Export Prices



Source: IHS Markit

- Pricing has recovered from the 5 year lows experienced in December 2017
- Improved supply / demand dynamics have enabled USGC pricing to improve year-over-year and sequentially
- USGC pricing is forecast to increase in 4Q18 from 3Q18
- Full year 2018 USGC pricing is forecast to improve approximately 3 cents over full-year 2017 pricing
- A 1 cent change in Olin's EDC sales price changes annual Adjusted EBITDA by \$20 million

# Key Chlor Alkali Products & Vinyls EBITDA Sensitivity



Product	Price Change In Olin's System	Full Year EBITDA Impact
Chlorine	\$10/ton	\$10 million
Caustic Soda	\$10/ton	\$30 million
Ethylene Dichloride	\$.01/pound	\$20 million

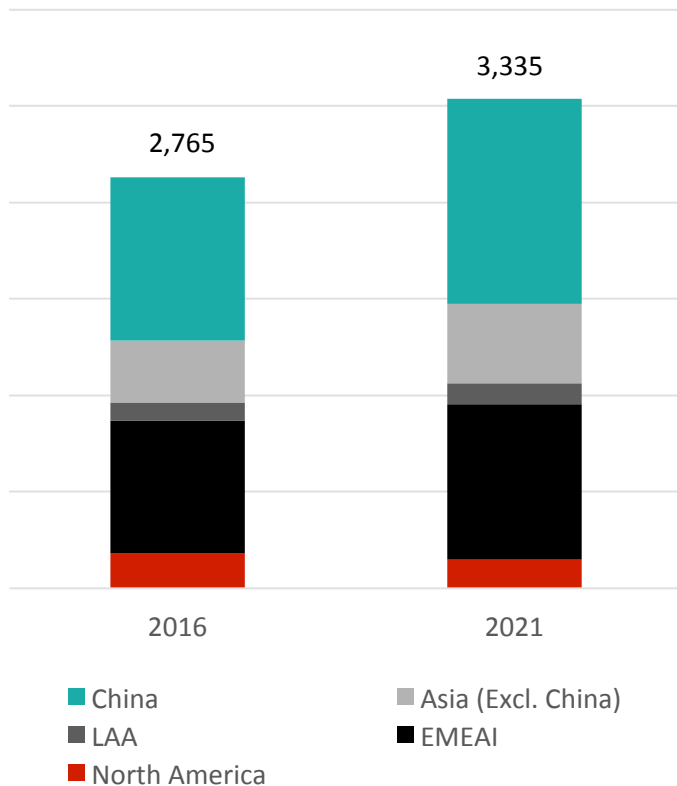


# Epoxy has Access to Attractive High Growth End Uses Around the Globe



## Epoxy Resin Consumption

(Tons in thousands)



## CAGR ('16-'21)

- 4.1%
- 2.7%
- 3.7%
- 4.7%
- 2.2%

## Select Epoxy End Use Applications



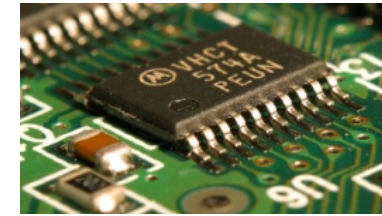
Composites



Civil Engineering



Marine & Protective Coatings



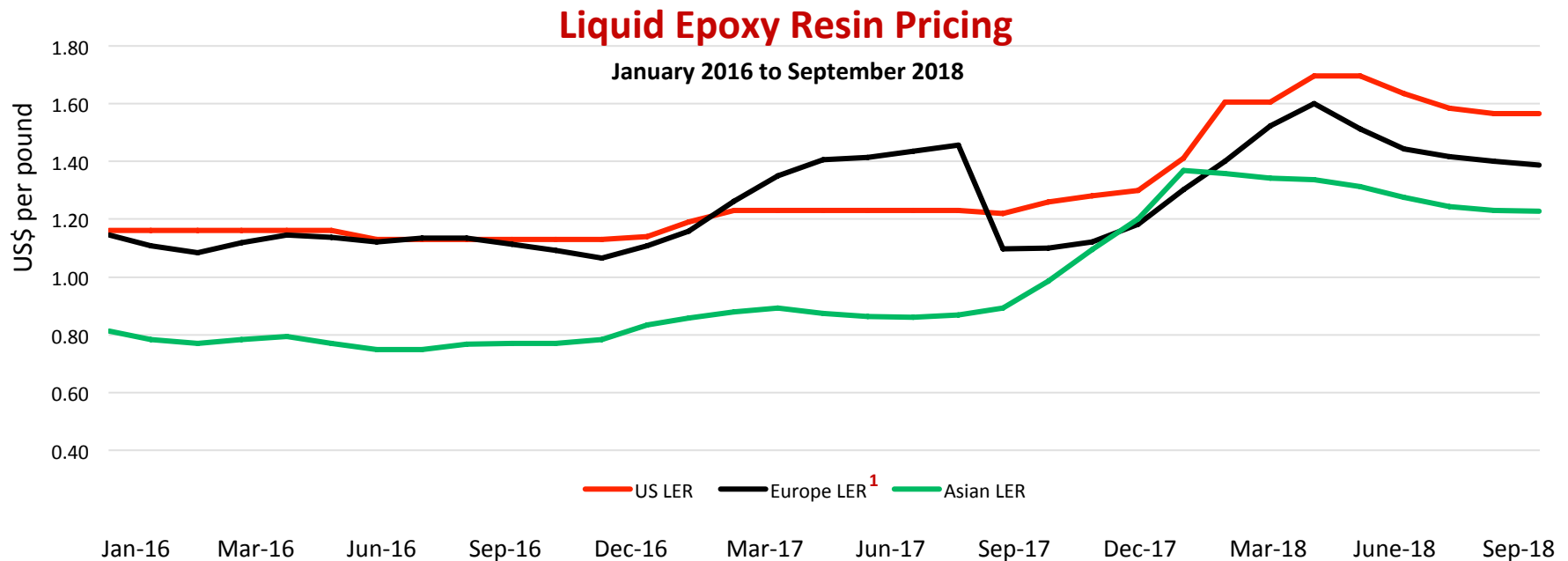
Electrical Laminates

Source: IHS Markit Epoxy Resins Chemical Economics Handbook- Nov 2017

# Liquid Epoxy Resin Pricing



- Global epoxy resins have stabilized in 3Q18
- Epoxy resin pricing has increased in 2018
  - North American up approximately 40%
  - Europe up approximately 30%
- Stronger BPA and Epi pricing supports these higher epoxy resin prices

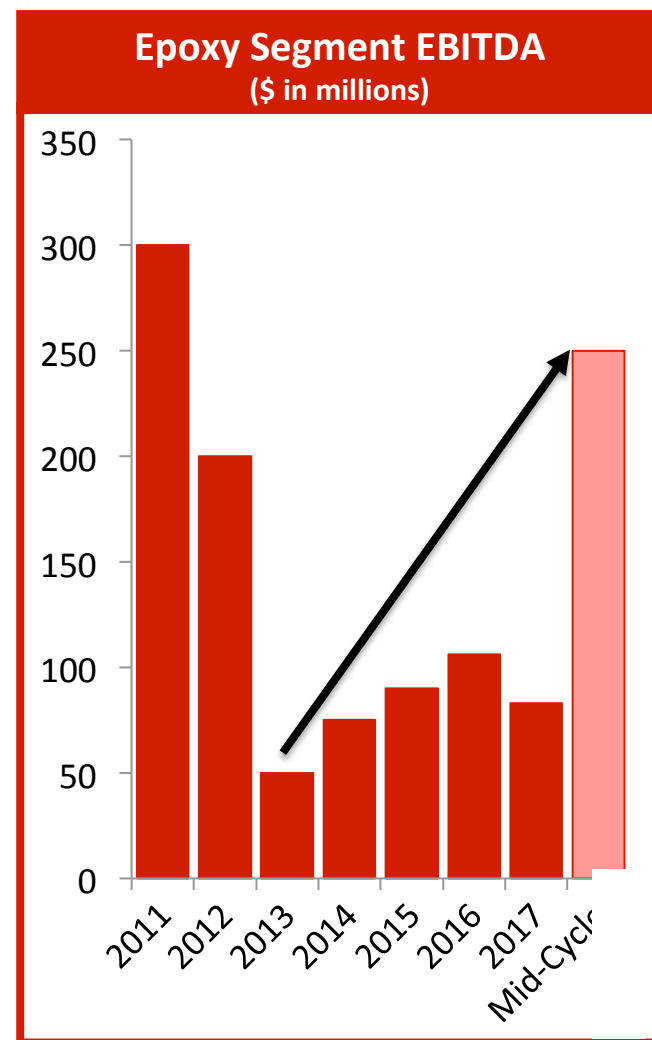


1. European liquid epoxy resin (LER) prices reflect a non-market adjustment made in the third quarter of 2017.

# Epoxy Priorities for Success



	Upstream	Midstream	Downstream
<b>1</b> Drive productivity to sustain cost advantage			
<b>2</b> Focus on capturing the full value of our low-cost asset base ("Sell out")			N/A
<b>3</b> Upgrade sales portfolio and product mix to improve margin ("Sell up")	N/A		



Hunters & Recreational Shooters

Ammunition Products	Retail	Distributors	Mass Merchants	Law Enforcement	Military	Industrial
Rifle	✓	✓	✓	✓	✓	N/A
Handgun	✓	✓	✓	✓	✓	N/A
Rimfire	✓	✓	✓	✓	✓	✓
Shotshell	✓	✓	✓	✓	✓	✓
Components	✓	✓	✓	✓	✓	✓

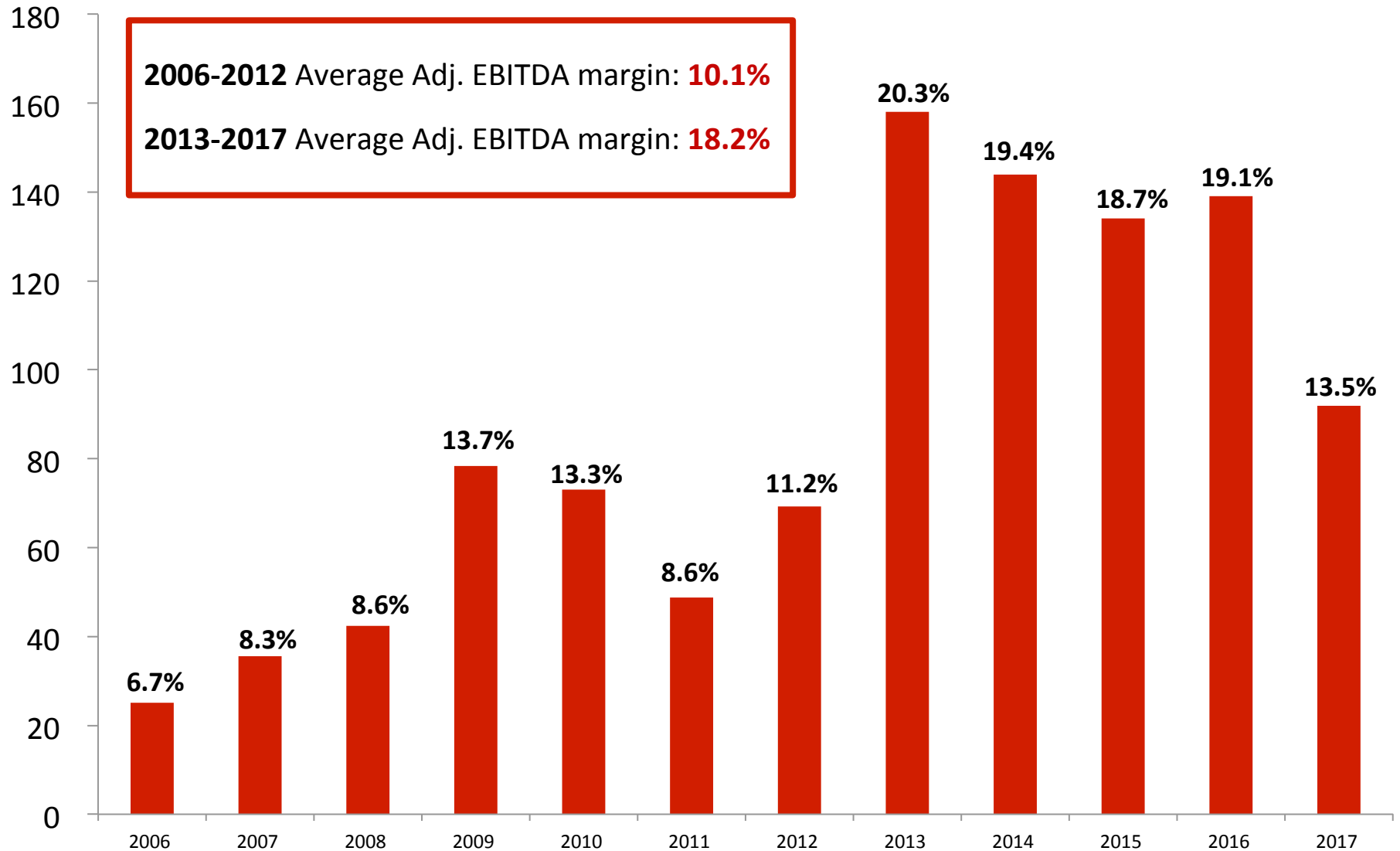
Brands:



# Winchester Adjusted EBITDA Margins



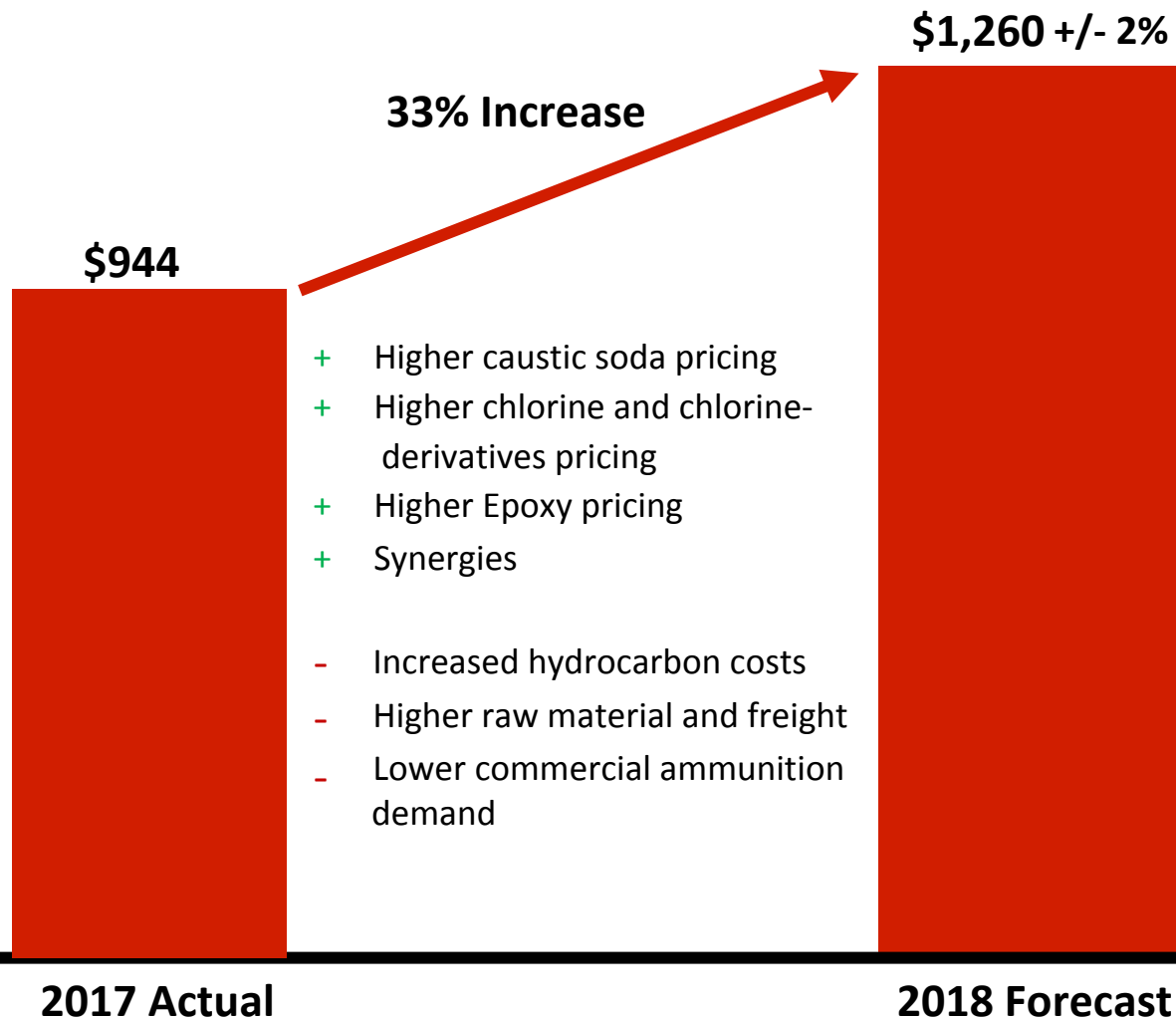
(\$ in millions)



# Full Year 2018 Adjusted EBITDA Forecast



(\$ in millions)

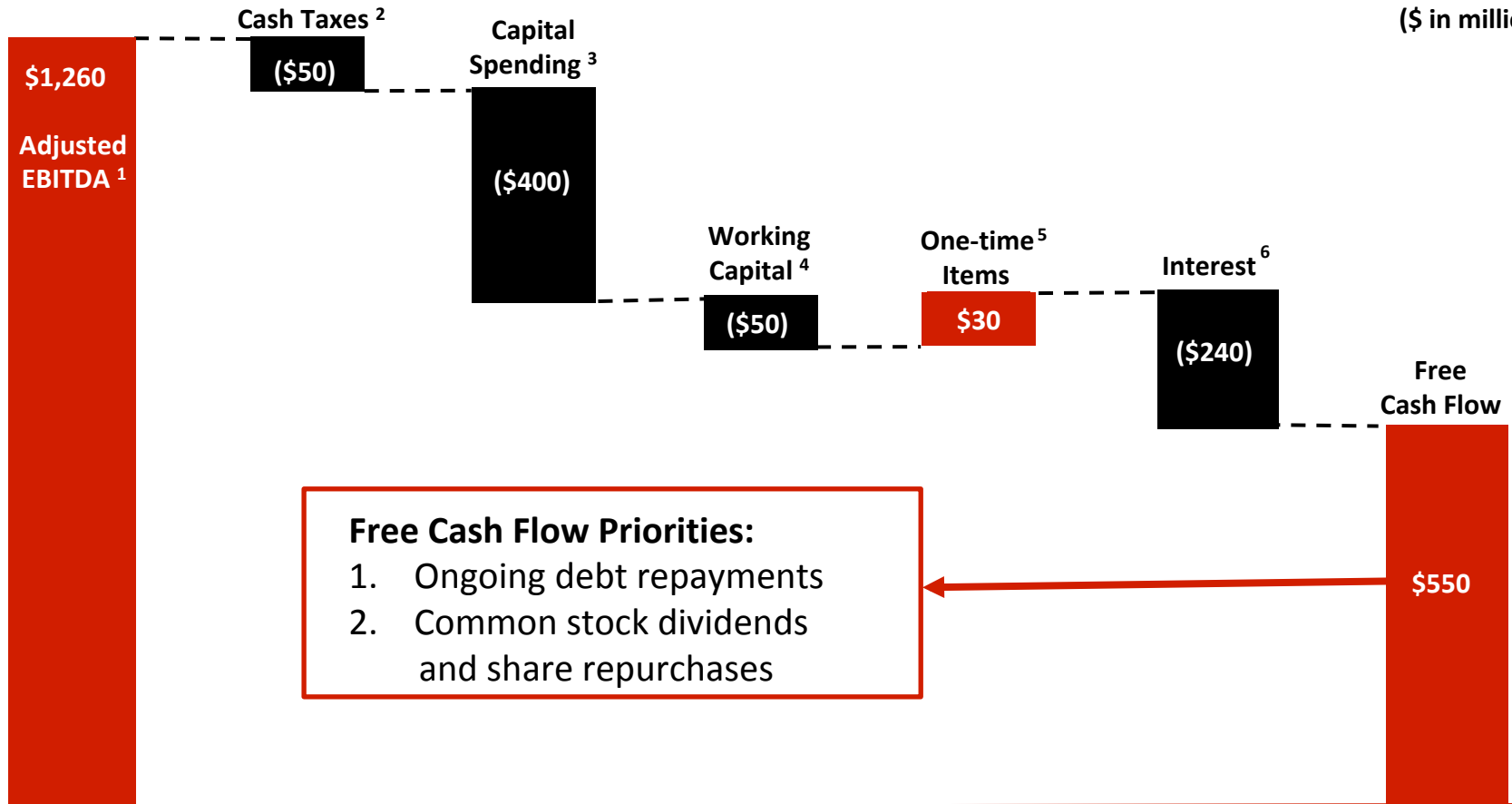


# 2018 Cash Flow Forecast

## Debt Reduction Remains Top Priority for Free Cash Flow



(\$ in millions)



1: Mid-point of Olin's estimated Adjusted EBITDA forecast of \$1.26 billion plus or minus 2%. Includes pension income consistent with prior year's reporting

2: Estimated using the cash tax rate of 10% to 15%

3: Represents the mid-point of management's annual capital spending estimate range of \$375 million to \$425 million, which includes \$100 million associated with the information technology project

4: Estimated increase in working capital due to higher selling prices and hydrocarbon costs

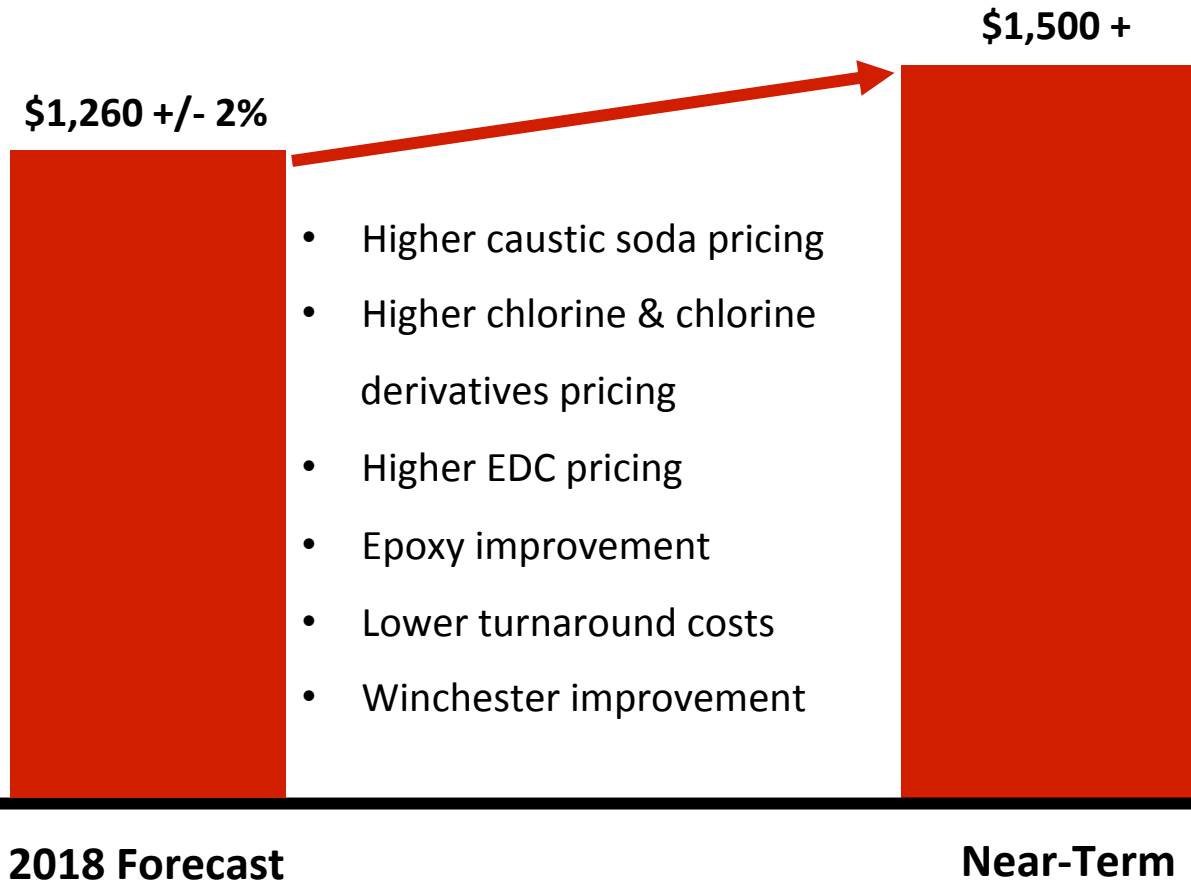
5: One-time items include integration expenses, including the information technology project, cash restructuring charges, and insurance recoveries, net of legal costs

6: Calculated based on Olin's capital structure and assuming current interest rates

# Near-Term Adjusted EBITDA Potential



(\$ in millions)





# Market Outlook

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## Chlor Alkali Products and Vinyls

- Long-term supply and demand fundamentals remain constructive
- Minimal chlor-alkali capacity additions and expansions expected in the next 2-3 years as economics continue to be well below investment hurdles
- Solid demand growth likely to outpace capacity additions over the same time frame
- Global operating rates will need to sustain historical highs to meet increased demand

## Epoxy

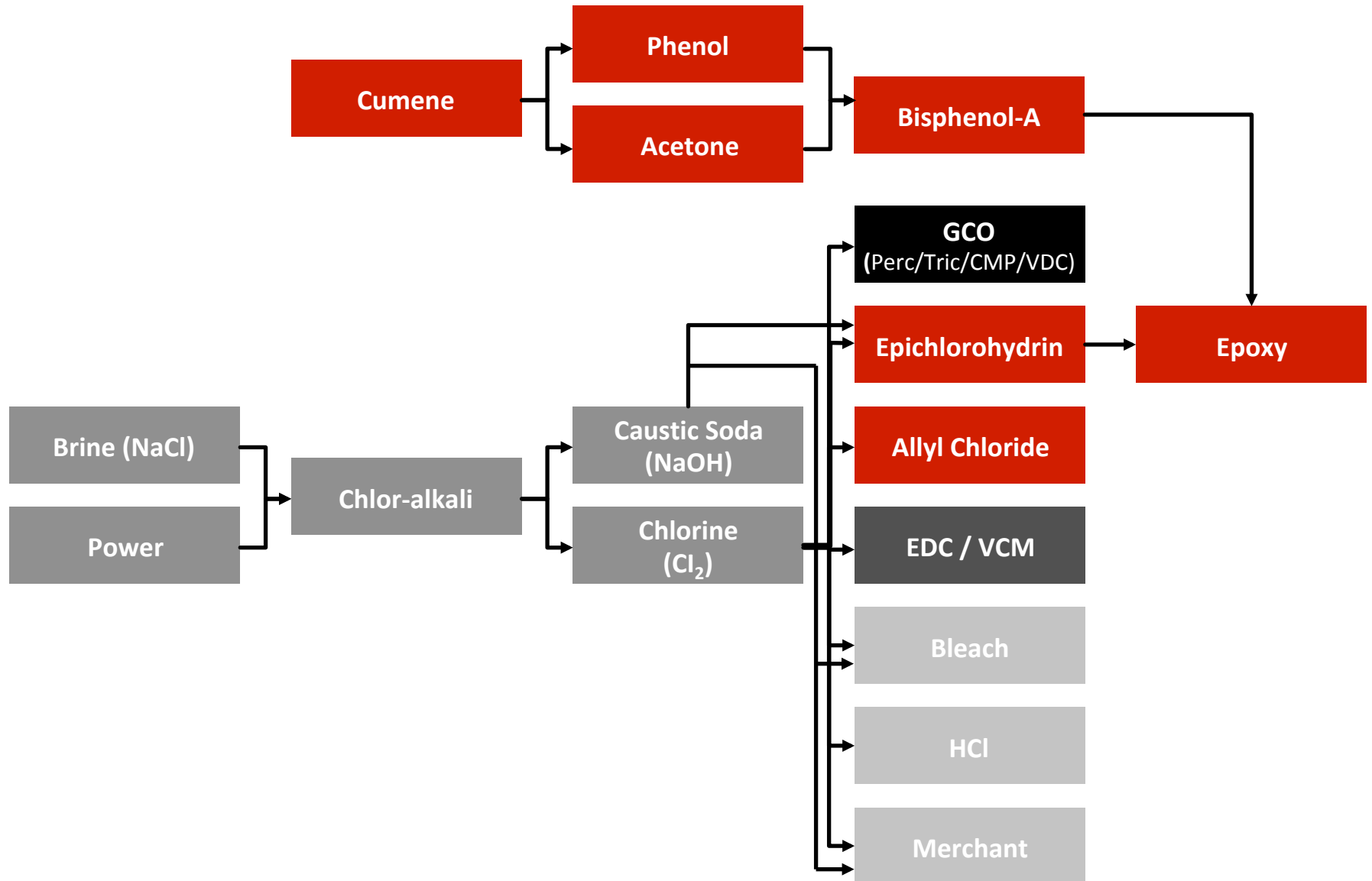
- Long-term expectation for Epoxy demand is likely to outpace global GDP growth
- Limited capacity expansions

## Structural not cyclical

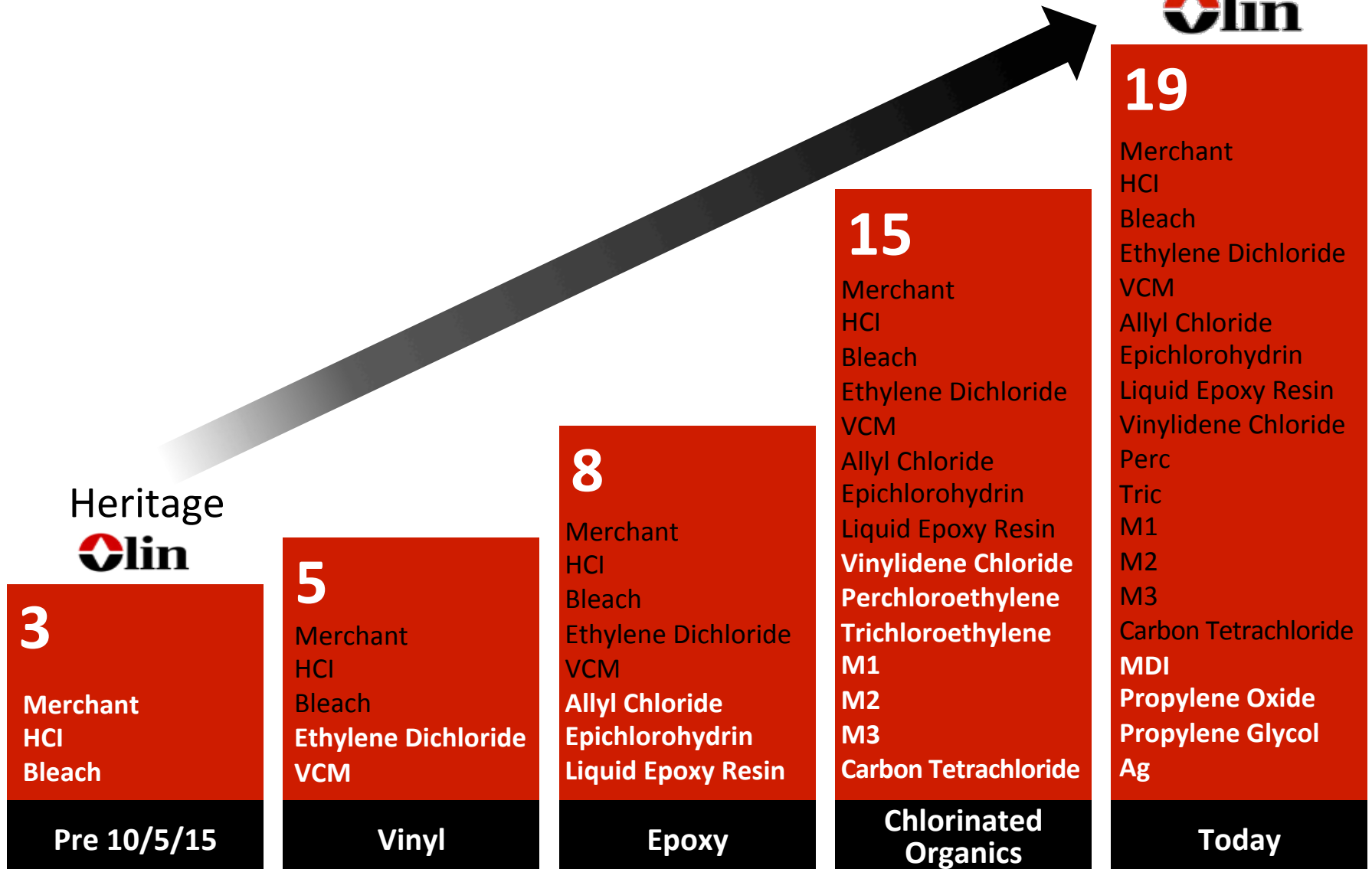
# Appendix



# The Chlorine Envelope



# Significantly Expanded Chlorine End Uses



# Chlor Alkali Products and Vinyls Segment Performance



(\$ in millions)

	3Q18	3Q17	Δ Q/Q
<b>Sales</b>	<b>\$1,051.1</b>	<b>\$881.2</b>	<b>19.3%</b>
<b>Adjusted EBITDA</b>	<b>\$333.1</b>	<b>\$236.5</b>	<b>40.8%</b>

- 3Q18 Performance vs. 3Q17
  - Higher pricing for caustic soda, chlorine, EDC and other chlorine-derivatives
  - Increased raw material and freight costs
- 4Q18 Outlook vs. 3Q18
  - Expect continued price improvement in chlorine, EDC and chlorine-derivatives
  - Expect lower domestic and export caustic soda pricing
  - Expect lower chlorine-derivatives volumes due to typical seasonality

# Chlor Alkali Products and Vinyls

## Pricing Comparisons



	3Q18 versus	
	3Q17	2Q18
Chlorine		
Caustic Soda		
EDC		
Bleach		
HCl		
Chlorinated Organics		

# Olin Caustic Soda Price Realization



## Fundamental Principle

- A \$10 per ton change in Olin's caustic soda selling price changes annual Adjusted EBITDA by approximately \$30 million

## Export Sales

- Typically range between 20% and 25% of caustic sales
- Sold on a combination of negotiated sales and export index price
- Realization of index price changes are typically 90% to 100%
- Changes in export index prices are typically realized on a 30 to 90 day lag

## Domestic Sales

- A significant portion of domestic sales are linked to index prices
- Index price changes typically occur 30 to 60 days post our price nomination
- Realization of index price changes are typically 50% to 100%
- Overall price realization lags index price changes by 30 to 90 days

# Advantaged Ethylene Arrangement



- A series of three supply agreements with Dow
- Pipeline supply without operating or start-up risk
- Producer economics for 20 years for each tranche
- A 1 cent per gallon change in annual ethane cost changes full year Adjusted EBITDA by approximately \$3 million<sup>1</sup>

Tranche	Effective Date	Annual Volume (metric tons)	Cost (millions)
#1	Acquired at closing	Up to 180,000	\$433 <sup>2</sup>
#2	Acquired late September 2017	Up to 160,000	\$209
#3	Available ~ 4Q 2020	Up to 300,000	\$440-\$465

**1:** 340,000 metric tons of ethylene x 2205 x .434 gallons of ethane/lb of ethylene / 100 = \$3.25 million/1 cent change

**2:** Includes option payments for Tranches #2 and #3; all options to obtain future cost-based ethylene have been exercised



# Epoxy Segment Performance

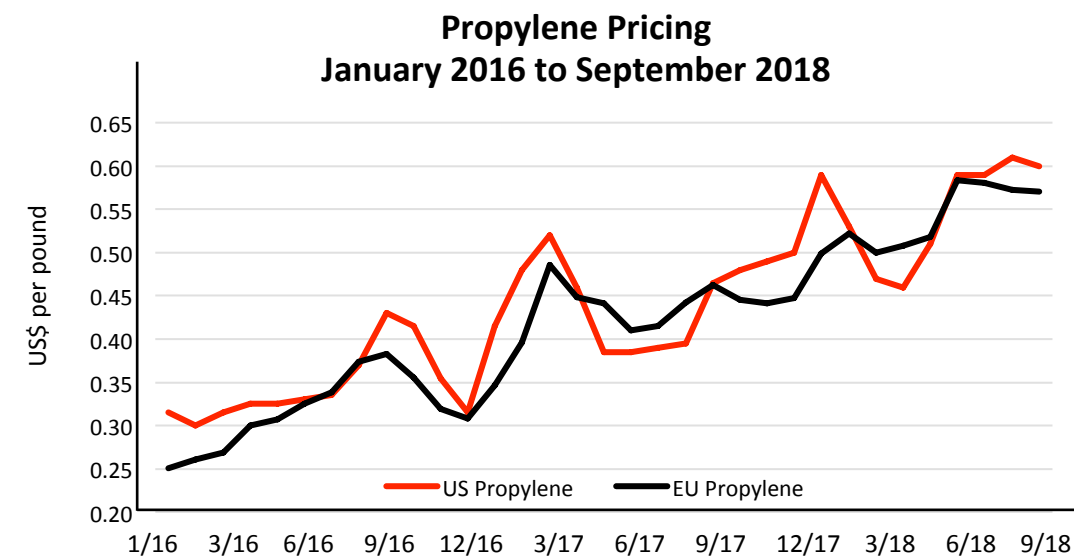
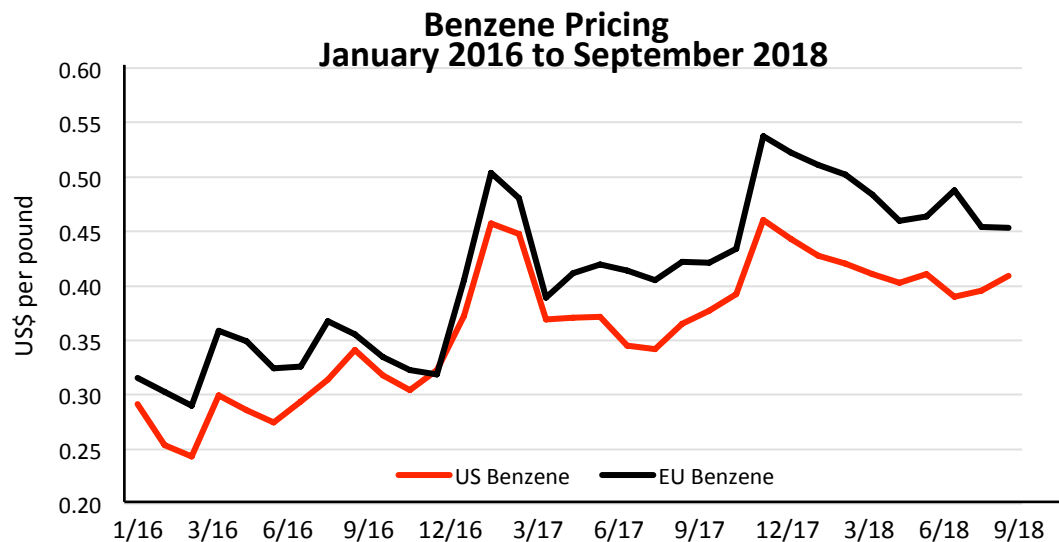


(\$ in millions)

	3Q18	3Q17	Δ Q/Q
Sales	\$647.3	\$489.9	32.1%
Adjusted EBITDA	\$56.3	\$22.7	148.0%

- 3Q18 Performance vs. 3Q17
  - Higher product pricing
  - Higher raw material costs, primarily benzene and propylene
- 3Q18 Performance vs. 2Q18
  - Lower maintenance turnaround costs
  - Higher volumes
  - Higher raw material costs, primarily propylene
- 4Q18 Outlook vs. 3Q18
  - Expect lower volumes due to typical seasonality
  - Expect raw materials costs, primarily benzene and propylene, to remain elevated

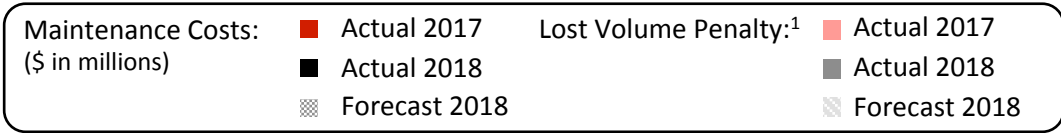
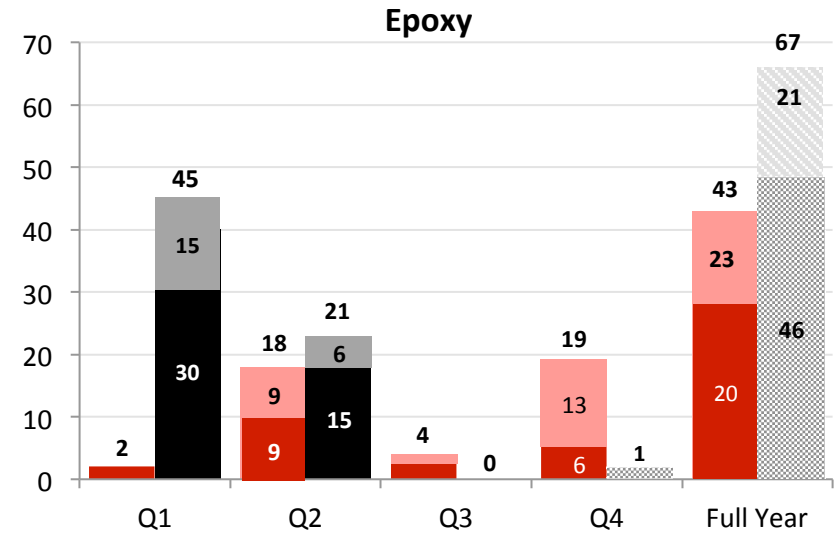
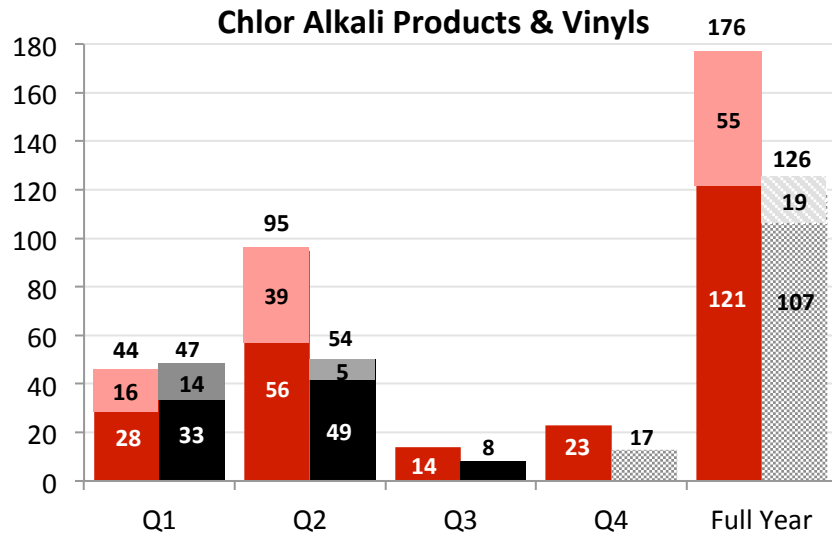
# Raw Material Costs - Benzene & Propylene Pricing



Source: ICIS

- 3Q18 U.S. benzene prices higher than 3Q17, but lower sequentially
- European benzene 3Q18 prices higher than 3Q17, but lower sequentially
- U.S. and European propylene 3Q18 prices higher than 2Q18 and 3Q17
- 4Q18 raw material costs forecast to be similar to 3Q18

# Maintenance Turnaround Costs



- 2H18 turnaround costs are expected to be approximately \$140 million lower than 1H18
- Full year 2018 turnaround costs expected to be approximately \$25 million lower than 2017
- Full year 2019 turnaround costs expected to be approximately \$30 to \$40 million lower than 2018

<sup>1</sup>: Lost volume penalty includes unabsorbed fixed manufacturing costs from lost sales associated with the turnarounds and outages

# Significant Realizable Synergies



(\$ in millions)

	Actual 2016	Actual 2017	Synergies Breakdown	Forecast 2018	Total Synergies
Logistics & Procurement	\$75	\$100	Projected Annual Impact	\$75-\$100	\$250-\$275
Operational Efficiencies					
Asset Optimization					
Accessing New Segments & Customers	\$6	\$30	Projected Annual Impact	\$50-\$65	\$85-\$100
Capital Investment	\$205	\$30	Projected CAPEX & Investments	\$0	\$235
	\$70	\$35	Projected Cash Integration & Restructuring	\$20	\$125

# Winchester Segment Performance



(\$ in millions)

	3Q18	3Q17	Δ Q/Q
Sales	\$174.0	\$183.8	-5.3%
Adjusted EBITDA	\$15.2	\$22.0	-30.9%

- 3Q18 Performance vs. 3Q17
  - Higher commodity and other material costs
  - Lower commercial volumes and lower product pricing
  - Improved operating costs
- 4Q18 Outlook vs. 3Q18
  - Expect lower commercial sales due to seasonally softer demand
  - Expect continued strong military sales
  - Expect comparable commodity costs

# 2018 Forecast Assumptions



(\$ in millions)

Line Item	Forecast	Key Elements
Capital Spending	375 to 425	Maintenance level of capital spending of \$225M to \$275M annually, information technology project spending of \$100M and other projects
Depreciation & Amortization	590 to 610	Forecast is an increase from 2017 levels of \$559M
Non-operating Pension Income	20 to 25	Lower than 2017 income levels by approximately \$10M to \$15M
Environmental Expense	8 to 10	Excludes environmental insurance recoveries
Other Corporate & Unallocated Costs	110 to 120	Forecast is an increase from 2017 levels primarily due to \$21.5 million of legal fees associated with environmental insurance settlement
Restructuring & Acquisition Costs	70	Acquisition related integration, including information technology project and restructuring costs
Book Effective Tax Rate	25%	Reflects 2017 tax law changes and favorable book/tax deductions, partially offset by state and foreign income taxes
Cash Tax Rate	10% to 15%	Reflects 2017 tax law changes and 2017 tax credit carryforwards benefits; primarily paying foreign income taxes in 2018

# Non-GAAP Financial Measures – Adjusted EBITDA <sup>(a)</sup>



Olin's definition of Adjusted EBITDA (Earnings before interest, taxes, depreciation, and amortization) is net income (loss) plus an add-back for depreciation and amortization, interest expense (income), income tax expense (benefit), other expense (income), restructuring charges, acquisition-related costs and certain other non-recurring items. Adjusted EBITDA is a non-GAAP financial measure. Management believes that this measure is meaningful to investors as a supplemental financial measure to assess the financial performance without regard to financing methods, capital structures, taxes or historical cost basis. The use of non-GAAP financial measures is not intended to replace any measures of performance determined in accordance with GAAP and Adjusted EBITDA presented may not be comparable to similarly titled measures of other companies. Reconciliation of forward-looking non-GAAP financial measures to the most directly comparable GAAP financial measures are omitted from this release because Olin is unable to provide such reconciliations without the use of unreasonable efforts. This inability results from the inherent difficulty in forecasting generally and quantifying certain projected amounts that are necessary for such reconciliations. In particular, sufficient information is not available to calculate certain adjustments required for such reconciliations, including interest expense (income), income tax expense (benefit), other expense (income), restructuring charges and acquisition-related costs. Because of our inability to calculate such adjustments, forward-looking net income guidance is also omitted from this release. We expect these adjustments to have a potentially significant impact on our future GAAP financial results.

(In millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
<b>Reconciliation of Net Income to Adjusted EBITDA:</b>				
Net Income	\$	195.1	\$	274.6
Add Back:				
Interest Expense		59.2		184.0
Interest Income		(0.3)		(1.1)
Income Tax Provision (Benefit)		66.3		88.6
Depreciation and Amortization		153.6		451.0
<b>EBITDA</b>		<b>473.9</b>		<b>997.1</b>
Add Back:				
Restructuring Charges (b)		3.3		13.7
Acquisition-related Costs (c)		0.4		1.0
Environmental Recoveries, Net (d)		(88.5)		(88.5)
Information Technology Integration Project (e)		7.5		25.5
Certain Non-recurring Items (f)		1.7		15.2
<b>Adjusted EBITDA</b>	<b>\$</b>	<b>398.3</b>	<b>\$</b>	<b>666.2</b>

(b) Restructuring charges for the three and nine months ended September 30, 2018 and 2017 were primarily associated with the 2016 closure of 433,000 tons of chlor alkali capacity across three separate Olin locations.

(c) Acquisition-related costs for the three and nine months ended September 30, 2018 and 2017 were associated with our integration of the Acquired Business.

(d) Environmental recoveries, net for both the three and nine months ended September 30, 2018 included insurance recoveries for environmental costs incurred and expensed in prior periods of \$110.0 million. The recoveries are reduced by \$21.5 million of legal costs incurred during the nine months ended September 30, 2018 associated with the environmental recovery actions.

(e) Information technology integration project charges for the three and nine months ended September 30, 2018 and 2017 were associated with the implementation of new enterprise resource planning, manufacturing, and engineering systems, and related infrastructure costs.

(f) Certain non-recurring items for both the three and nine months ended September 30, 2018 included a \$1.7 million loss on the sale of land. Certain non-recurring items for the nine months ended September 30, 2018 also included a \$21.5 million non-cash impairment charge associated with our investment in non-consolidated affiliates and an \$8.0 million insurance recovery associated with a second quarter 2017 business interruption at our Freeport, Texas vinyl chloride monomer facility.

# Non-GAAP Financial Measures by Segment



(In millions)	Three Months Ended September 30, 2018				Three Months Ended September 30, 2017		
	Income before Taxes	Certain Non-recurring Items (a)	Depreciation and Amortization	Adjusted EBITDA	Income (loss) before Taxes	Depreciation and Amortization	Adjusted EBITDA
Chlor Alkali Products and Vinyls	\$ 210.8	\$ -	\$ 122.3	\$ 333.1	\$ 129.7	\$ 106.8	\$ 236.5
Epoxy	31.1	-	25.2	56.3	(1.7)	24.4	22.7
Winchester	10.3	-	4.9	15.2	17.2	4.8	22.0

(In millions)	Nine Months Ended September 30, 2018				Nine Months Ended September 30, 2017		
	Income before Taxes	Certain Non-recurring Items (a)	Depreciation and Amortization	Adjusted EBITDA	Income (loss) before Taxes	Depreciation and Amortization	Adjusted EBITDA
Chlor Alkali Products and Vinyls	\$ 490.7	\$ 21.5	\$ 355.4	\$ 867.6	\$ 270.0	\$ 318.0	\$ 588.0
Epoxy	33.8	-	77.0	110.8	(11.0)	69.6	58.6
Winchester	34.1	-	14.9	49.0	61.3	14.2	75.5

(a) Certain non-recurring items for the nine months ended September 30, 2018 included a \$21.5 million pretax non-cash impairment charge associated with our investments in non-consolidated affiliates. Earnings (losses) of non-consolidated affiliates are included in the Chlor Alkali Products and Vinyls segment results consistent with management's monitoring of the operating segments.