

## Jefferies Industrial – New York

Dan Coombs  
EVP, Global Olefins & Polyolefins

August 10, 2016



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**CONSISTENT.**

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# Cautionary Statement

The statements in this presentation relating to matters that are not historical facts are forward-looking statements. These forward-looking statements are based upon assumptions of management which are believed to be reasonable at the time made and are subject to significant risks and uncertainties. Actual results could differ materially based on factors including, but not limited to, the business cyclicalities of the chemical, polymers and refining industries; the availability, cost and price volatility of raw materials and utilities, particularly the cost of oil, natural gas, and associated natural gas liquids; competitive product and pricing pressures; labor conditions; our ability to attract and retain key personnel; operating interruptions (including leaks, explosions, fires, weather-related incidents, mechanical failure, unscheduled downtime, supplier disruptions, labor shortages, strikes, work stoppages or other labor difficulties, transportation interruptions, spills and releases and other environmental risks); the supply/demand balances for our and our joint ventures' products, and the related effects of industry production capacities and operating rates; our ability to achieve expected cost savings and other synergies; our ability to successfully execute projects and growth strategies; legal and environmental proceedings; tax rulings, consequences or proceedings; technological developments, and our ability to develop new products and process technologies; potential governmental regulatory actions; political unrest and terrorist acts; risks and uncertainties posed by international operations, including foreign currency fluctuations; and our ability to comply with debt covenants and service our debt. Additional factors that could cause results to differ materially from those described in the forward-looking statements can be found in the "Risk Factors" section of our Form 10-K for the year ended December 31, 2015, which can be found at [www.lyondellbasell.com](http://www.lyondellbasell.com) on the Investor Relations page and on the Securities and Exchange Commission's website at [www.sec.gov](http://www.sec.gov).

The illustrative results or returns of growth projects are not in any way intended to be, nor should they be taken as, indicators or guarantees of performance. The assumptions on which they are based are not projections and do not necessarily represent the Company's expectations and future performance. You should not rely on illustrated results or returns or these assumptions as being indicative of our future results or returns.

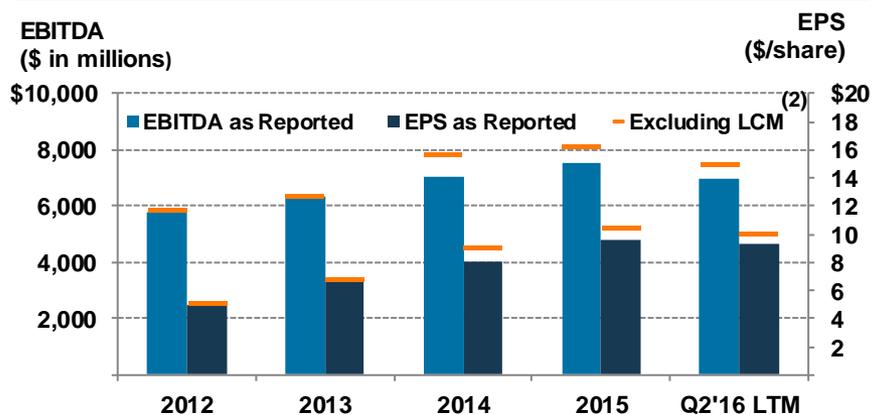
This presentation contains time sensitive information that is accurate only as of the date hereof. Information contained in this presentation is unaudited and is subject to change. We undertake no obligation to update the information presented herein except as required by law.

# World-Class Scale With Leading Positions

## Who We Are

- \$31 billion market capitalization <sup>(1)</sup>
- Global independent chemical company, incorporated under Dutch law
- Executive offices in London, Rotterdam, and Houston
- Products sold in ~100 countries, with 57 manufacturing sites across 18 countries

## EBITDA / EPS Performance



(1) As of June 30, 2016

(2) LCM stands for "lower of cost or market". Further detail regarding LCM adjustments can be found in the Appendix under "Information Related to Financial Measures."

(3) Source: LYB, IHS as of December 31, 2015. Only pro rata ownership of joint venture facilities.

(4) EU includes Central and Western Europe for all products except Technology and R&D which is all of Europe

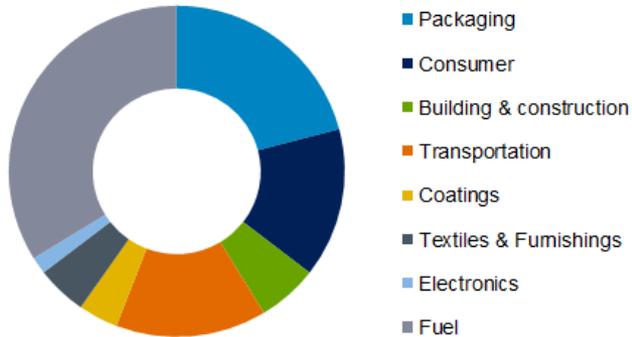
## Our Products <sup>(3)</sup>

## Capacity Position

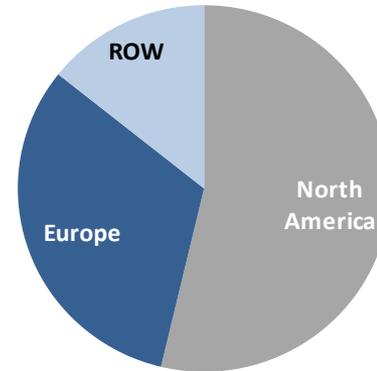
	Global	N Am	EU <sup>(4)</sup>
<b>Chemicals</b>			
Ethylene	#5	#2	#5
Propylene*	#5	#3	#6
Propylene Oxide (PO)	#2	#2	#2
<b>Polymers</b>			
Polyolefins (PE+PP)	#3	#3	#1
Polypropylene	#2	#1	#1
Polyethylene	#6	#3	#1
Polypropylene Compounds	#1	-	-
<b>Fuels</b>			
Oxyfuels	#1	#1	#1
<b>Technology and R&amp;D</b>			
Polyolefin Licensing	#1	#2	#1

\*Excluding Refinery Grade Propylene

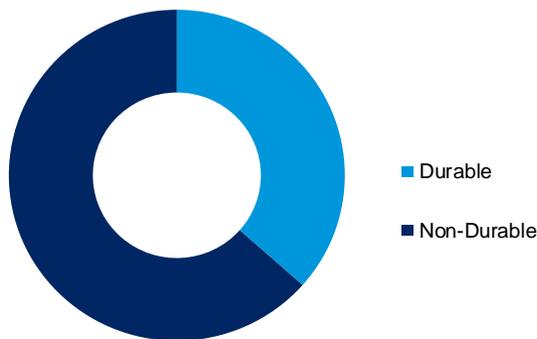
## Revenue by End Use<sup>(1)</sup>



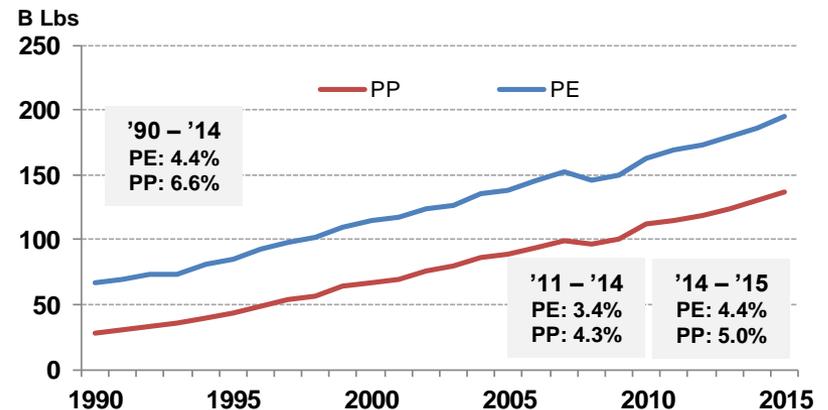
## 2015 Revenue by Geography



## Durable / Non-Durable Revenue<sup>(1)</sup>



## World PE and PP Demand



Source: Internal LYB Estimates and IHS.

(1) Based on 2014 annual revenues. Excludes Technology segment revenues and intersegment eliminations.

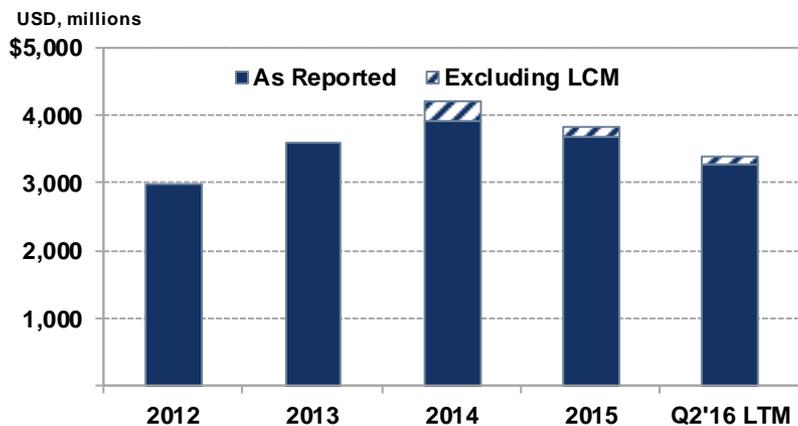
# LYB's Focused Approach is Yielding Results



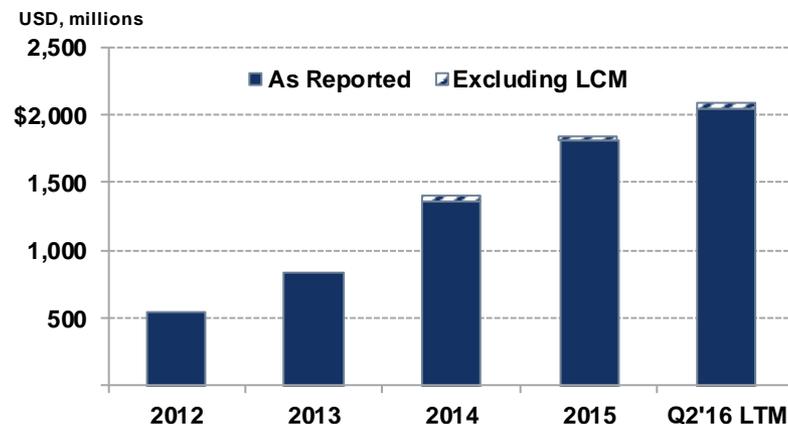
- Maximize value through a focus on operations
  - Safe operations → reliable operations → maximum profit
  - The best/most leveraging investment is in your existing assets
- Cost discipline remains a priority
  - Most chemical markets are mature
  - Overhead and spending management must be consistent over time
- Invest in advantaged positions, sustain others
  - Raw material advantages
  - Technology and structure create areas of differentiation
- Shareholders own the company
  - Transparency
  - Shareholder friendly cash deployment policy

# A High Performing Portfolio: EBITDA Across Time

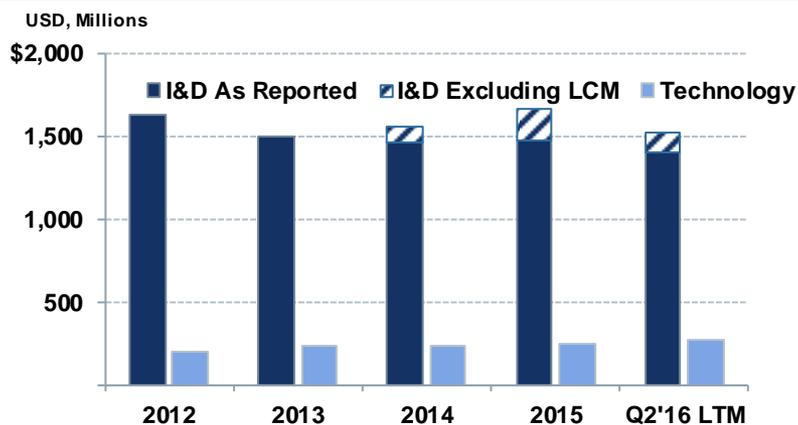
## Olefins & Polyolefins - Americas



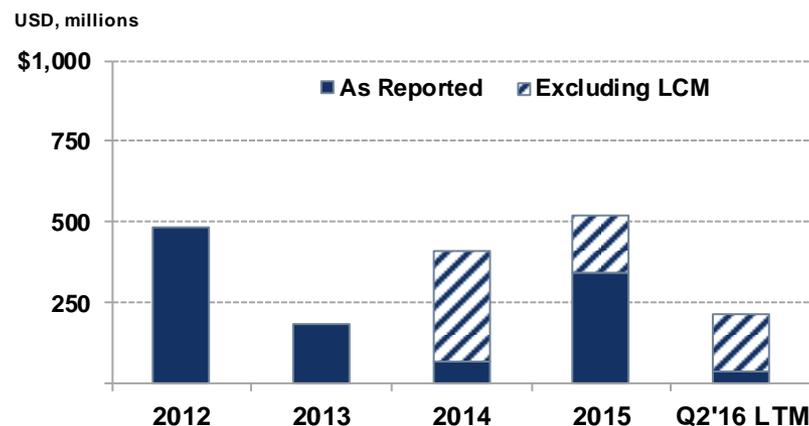
## Olefins & Polyolefins - EAI



## Intermediates and Derivatives and Technology



## Refining



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# Each Business is Operated to Maximize Results

<u>Segment</u>	<u>LYB Market Position</u>	<u>Priority</u>	<u>Q2'16 LTM EBITDA</u> <u>(ex. LCM)</u>
Olefins & Polyolefins (O&P) – Americas	<ul style="list-style-type: none"> <li>• U.S. Shale NGL advantage</li> <li>• Increasing capacity</li> </ul>	Invest	\$3.4 B
Olefins & Polyolefins (O&P) – EAI	<ul style="list-style-type: none"> <li>• Commodities – naphtha based, with cyclical upside</li> <li>• Advantaged feedstock</li> <li>• Differentiated polymers</li> </ul>	Optimize	\$2.1 B
Intermediates & Derivatives (I&D)	<ul style="list-style-type: none"> <li>• Proprietary technologies</li> <li>• Natural gas advantage</li> </ul>	Invest	\$1.5 B
Refining	<ul style="list-style-type: none"> <li>• Large, heavy crude refinery</li> <li>• Processing Canadian crude</li> </ul>	Optimize	\$0.2 B
Technology	<ul style="list-style-type: none"> <li>• Strong technology position</li> <li>• Maintain leadership</li> </ul>	Focus	\$0.3 B <sup>(1)</sup>

(1) The Technology Segment was not impacted by the LCM adjustment.

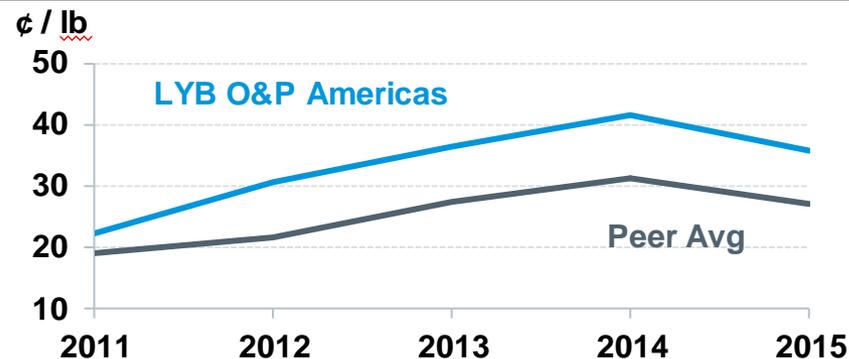
# O&P - Americas and EAI

## Our Strategy is Generating Differential Results

- **Safe & Reliable Operations**
- **Cost Focused**
- **Feedstock Advantaged and Flexibility**
- **Differentiated Products**

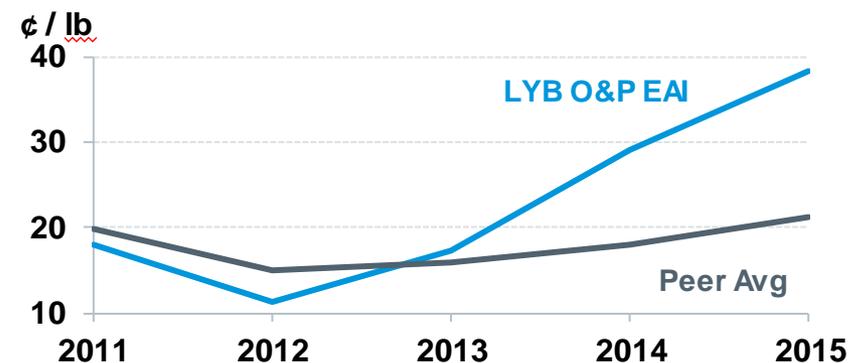
### O&P Americas vs. Americas Peers

EBITDA excluding LCM per Pound of Ethylene Capacity



### O&P EAI vs. EAI Peers

EBITDA excluding LCM per Pound of Ethylene Capacity



Source: Company Filings, Capital IQ, IHS, and LYB Estimates.

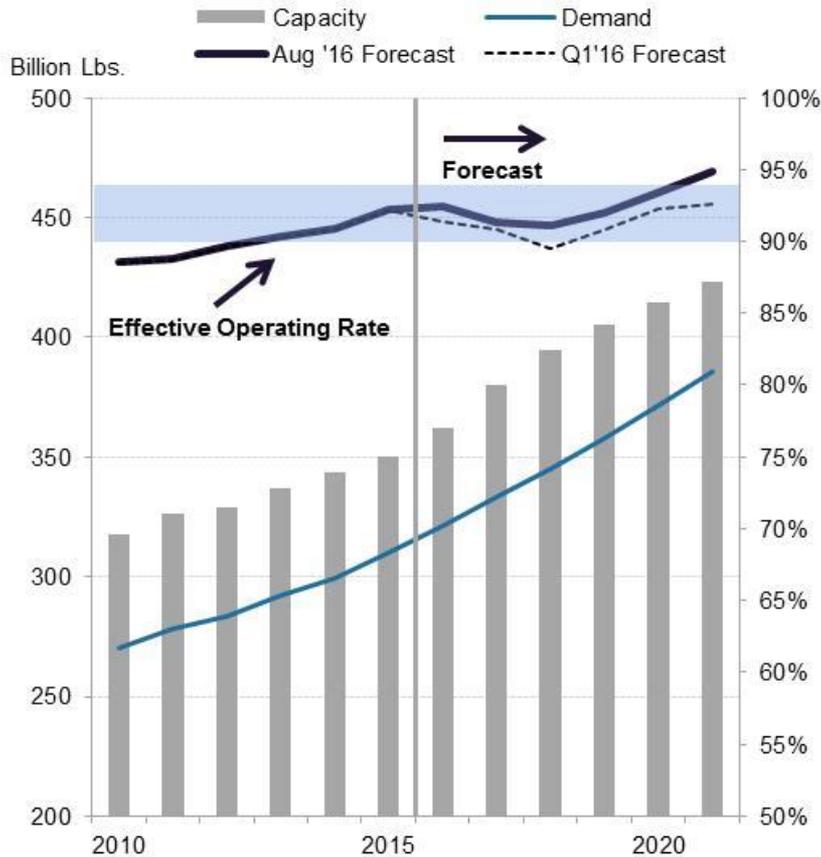
Capacities: Ethylene capacities include pro-rata JV capacities and are averages based on company reports and IHS. Dow capacity is global.

Americas EBITDA: CP Chemical is consolidated using: income before taxes + depreciation – equity income. Westlake Olefins is operating income + depreciation. INEOS O&P North America and Dow Performance Plastics EBITDA is as reported before exceptional/extraordinary items. LYB O&P Americas EBITDA excludes the impacts of LCM adjustments.

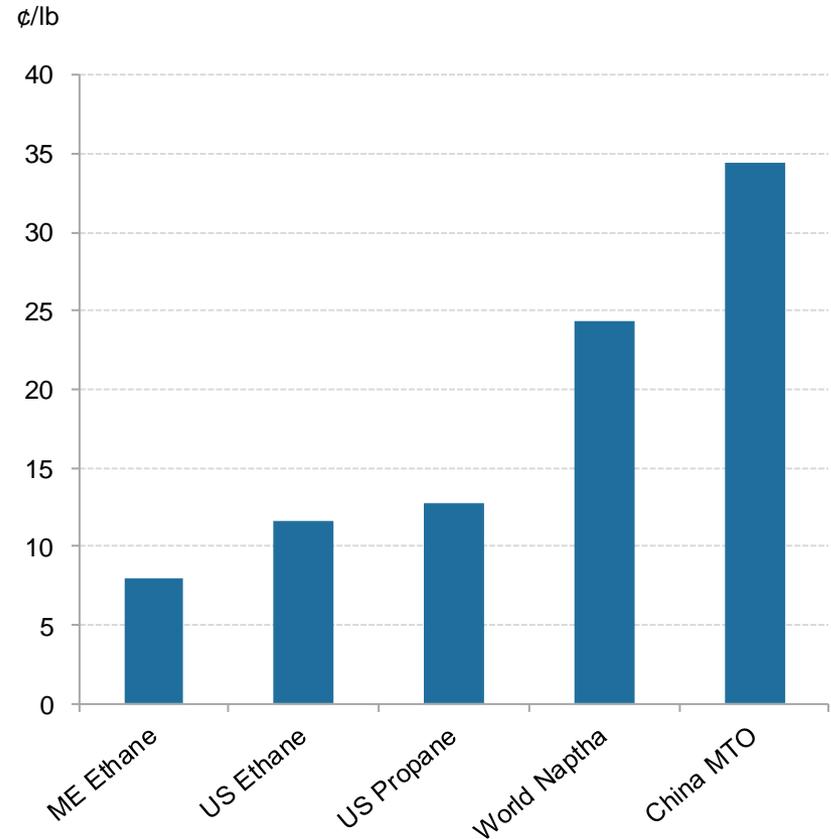
EAI EBITDA: INEOS O&P Europe is as reported EBITDA before exceptional/extraordinary items. Borealis is operating income + depreciation + equity income. LYB O&P EAI EBITDA excludes the impacts of LCM adjustments.

# O&P: Strong Operating Rate and High Cost Supply Sources Support Global Ethylene Industry Pricing

## Global Ethylene Supply / Demand (1)



## Global Ethylene Cash Cost (2)

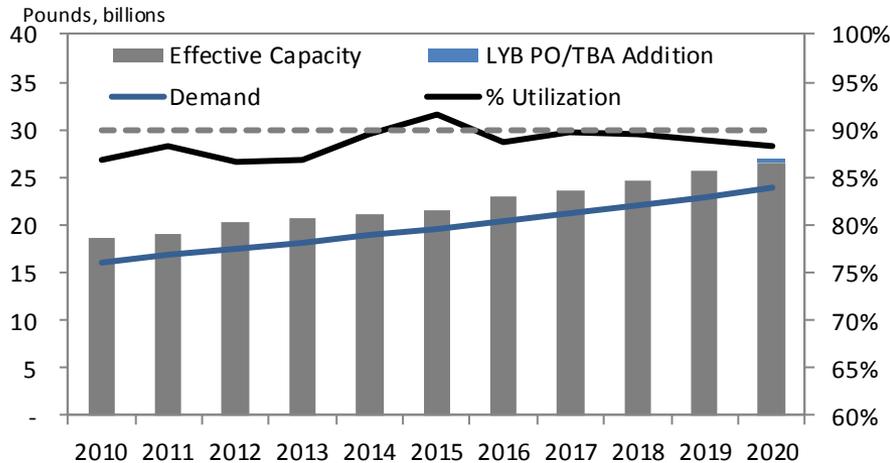


1) Source: IHS. Operating Rates are calculated assuming 4% industry downtime. Demand and Q1'16 Forecast are sourced from the IHS Chemical Supply and Demand 2016 Balance Update. Capacity and Aug '16 Forecast are sourced from the IHS Chemical Capacity as of Aug 1, 2016.  
 2) Source: IHS and LYB analysis as of June 2016.

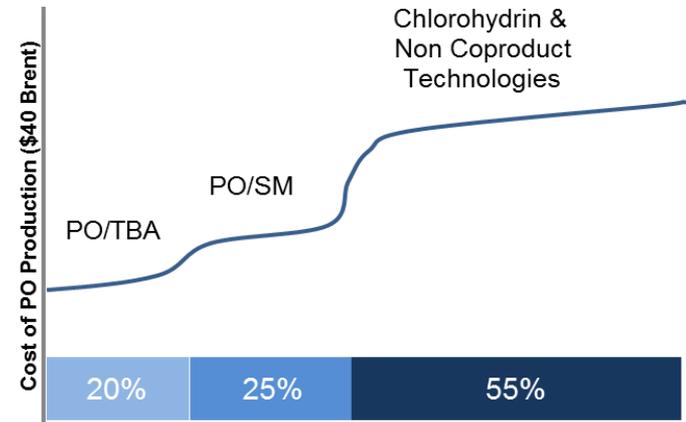
# I&D

## Expanding with Leading Technology

### Global Propylene Oxide (PO) Supply/Demand



### Propylene Oxide (PO) Cost Curve



- Worldwide propylene oxide demand growth equivalent to one new world scale plant a year
- New PO/TBA plant benefits from stable propylene oxide and advantaged oxyfuels
- LYB's PO production capacity is approximately a 50/50 split between PO/TBA and PO/SM technologies, the two lowest cost technologies

Source: LYB, IHS.

# Cash Deployment Hierarchy

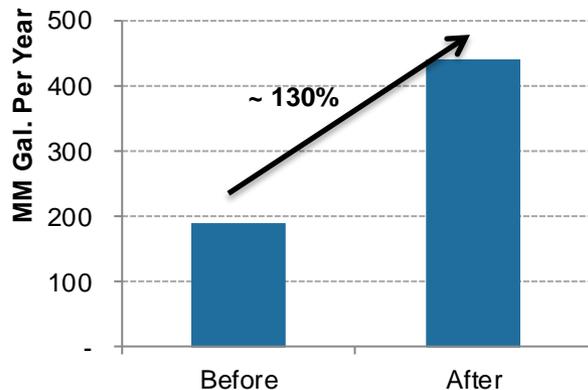
		2015	Comments
Foundation	Base Capex	~ \$800 million	<ul style="list-style-type: none"> <li>• First priorities for cash</li> </ul>
	Interest Expense	~ \$310 million	
	Interim Dividend	~ \$1.4 billion	<ul style="list-style-type: none"> <li>• Fund through the cycle with cash flow from operations</li> </ul>
Discretionary Opportunities	Growth Capex	~ \$600 million	<ul style="list-style-type: none"> <li>• High-return in advantaged businesses</li> </ul>
	Share Repurchases / Special Dividend / Acquisitions	Balance of cash generated	<ul style="list-style-type: none"> <li>• Discretionary cash returned to shareholders</li> <li>• M&amp;A if strategic and meaningfully accretive</li> </ul>

Source: LYB

# Significantly Expanding our Advantaged Positions

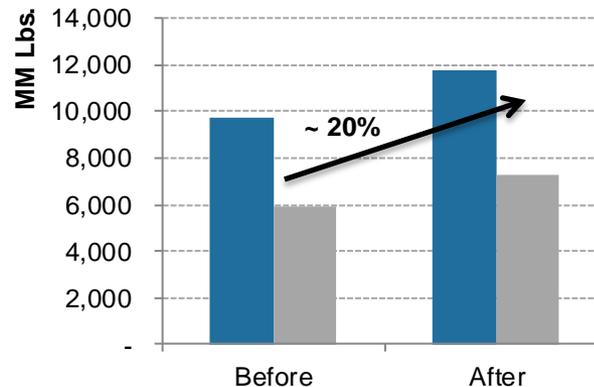
## Methanol

Complete

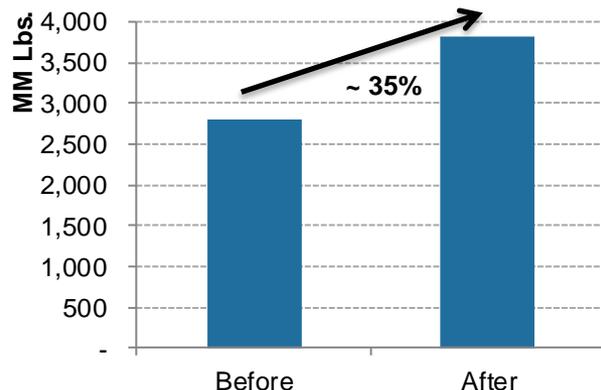


## U.S. Ethylene / Polyethylene

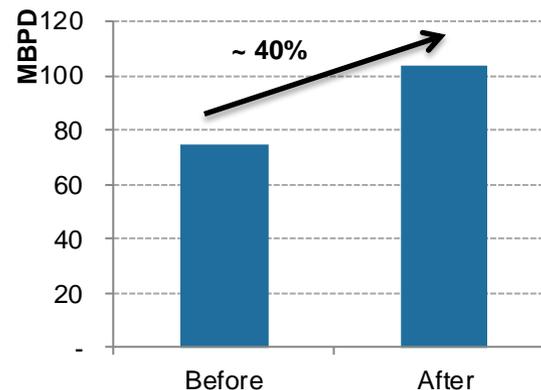
Ethylene ~60% Complete / PE ~20% Complete



## Propylene Oxide



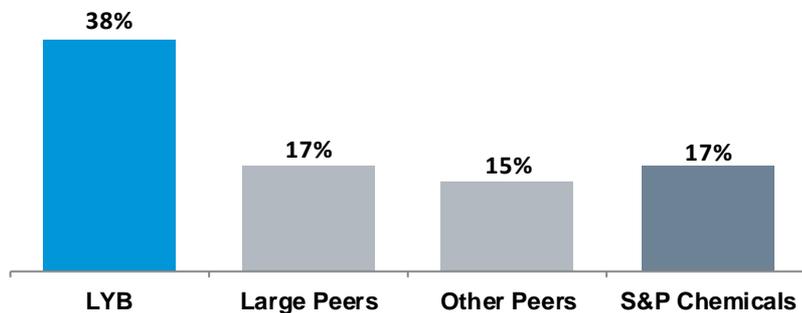
## MTBE Equivalent



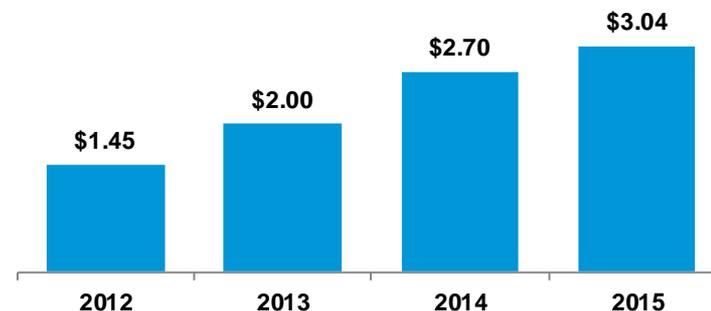
Note: "Before" refers to the capacity prior to the initiation of our growth program in 2013.

# Leading Cash Flows Driving Internal Growth, Dividend Growth and Share Repurchases

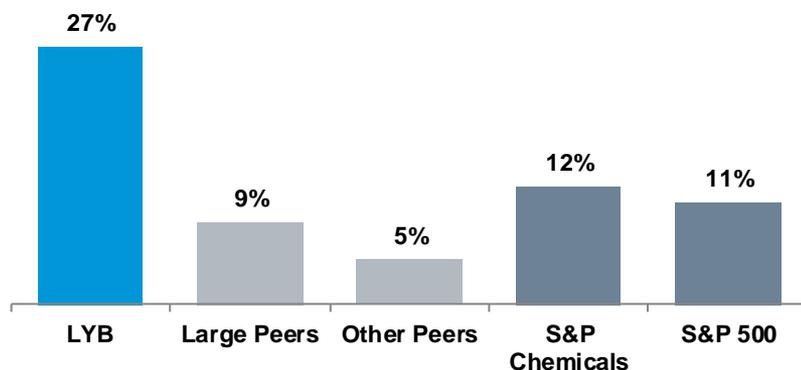
**2011-2015 Free Cash Flow as % Avg. 2015 Enterprise Value <sup>(1)</sup>**



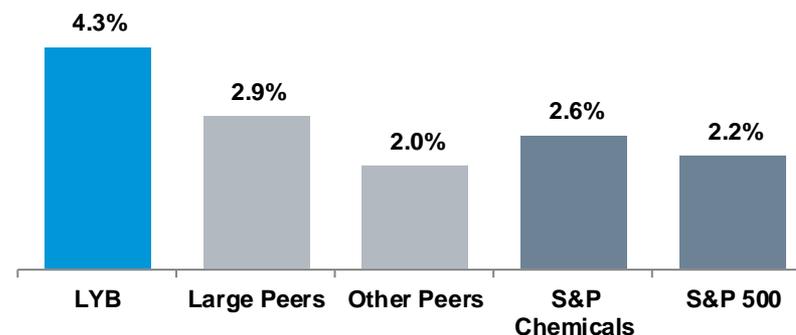
**Growing LYB Annual Dividend (per Share) <sup>(2)</sup>**



**2011-2015 Share Repurchases as % Avg. 2015 Enterprise Value <sup>(3)</sup>**



**Q2'16 Dividend Yield in Top 15% of S&P 500 <sup>(4)</sup>**



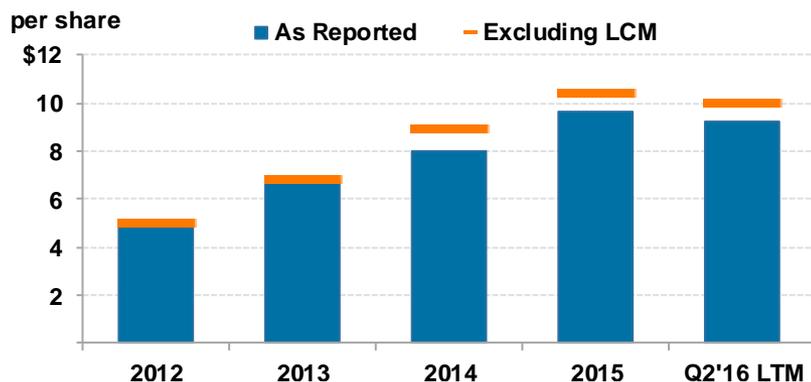
Source: Capital IQ and LYB. For definitions and peer group definitions, please see the Glossary in the Appendix to this presentation.

(1) S&P data calculated based upon individual constituent data as of May 23, 2016 (2) Excludes special dividends paid in 2012 of \$2.75 per share.

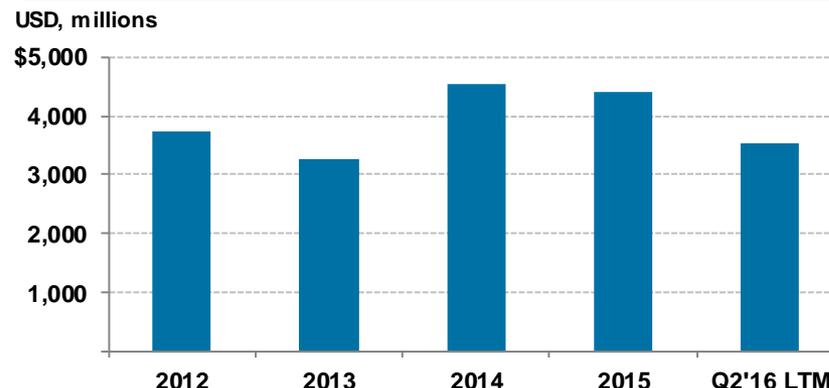
(3) LYB and Capital IQ as of December 31, 2015 (4) Q2'16 LTM using LYB and Capital IQ as of June 30, 2016

# Outperformance Coupled with a Shareholder Friendly Approach

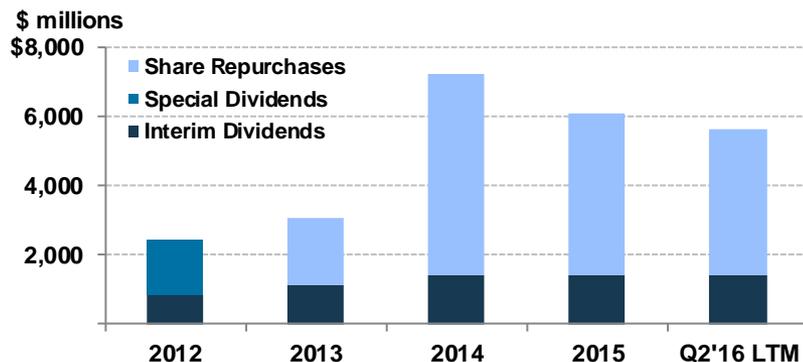
## Diluted Earnings Per Share



## Free Cash Flow



## Dividends and Share Repurchases



## Multiples

Multiples (trailing 12 months as of 6/30/16)	LYB	S&P Chemicals	S&P 500
EV/EBITDA Excluding LCM <sup>(1)</sup>	5.8x	10.4x	11.3x
P/E <sup>(2)</sup>	7.5x	18.5x	24.3x

Industry leading performance and statistics at a lagging multiple

Source: Capital IQ, Bloomberg, LYB (1) EV/EBITDA = Enterprise Value / Earnings Before Interest, Taxes and D&A as calculated by Capital IQ and Bloomberg, except for LYB, which is based on EBITDA ex. LCM for the trailing 12 months. (2) PE = Price to Earnings as calculated by Capital IQ and Bloomberg, except for LYB, which is based on earnings per share excluding LCM for the trailing 12 months.

# Appendix



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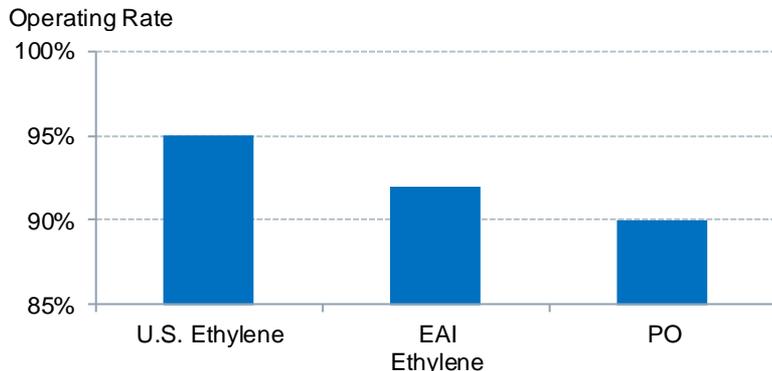
**CONSISTENT.**

**FOCUSED.**

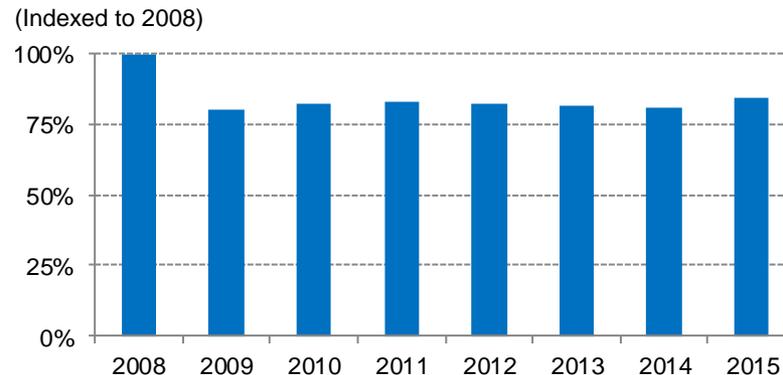
# Operating Reliability and Cost Management: Key Priorities and an LYB Advantage



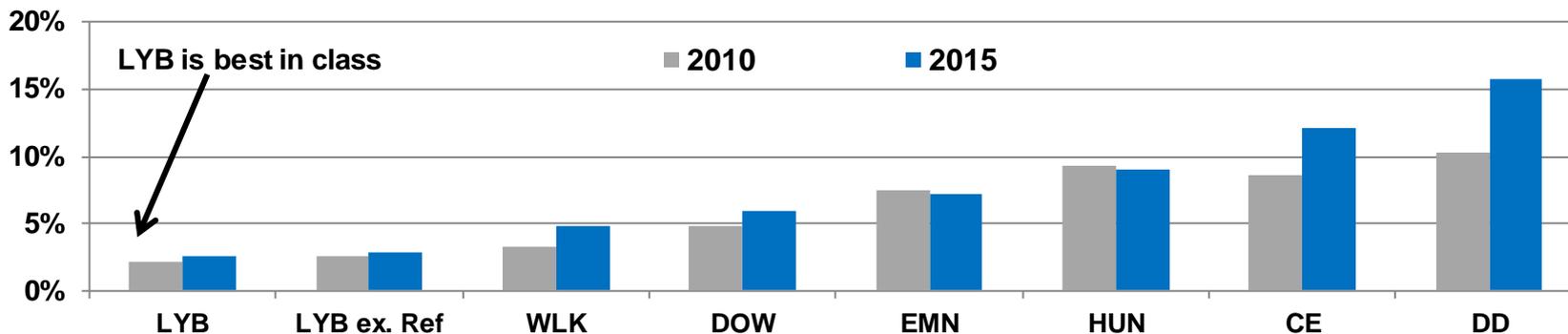
## 2015 LYB Operating Reliability



## Fixed Costs<sup>(1)</sup>



## SG&A as Percent of Revenue – LYB vs. Peer Companies



LYB continues to have intense focus on reliability and cost discipline, resulting in industry leading performance

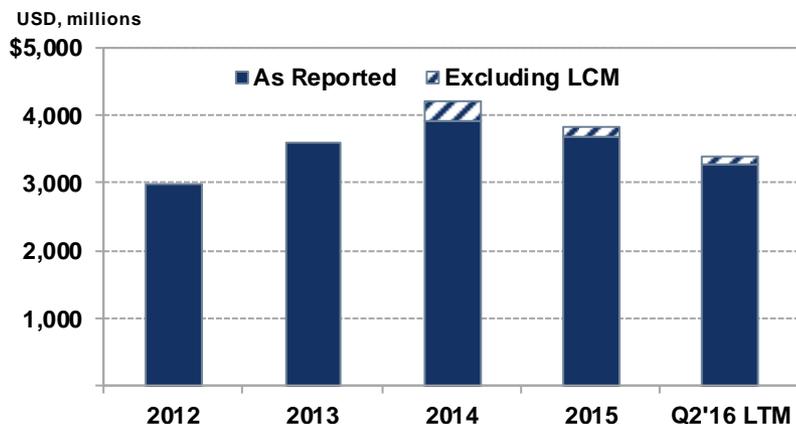
Source: Capital IQ and LYB. 1) Fixed costs are adjusted for annual bonuses and selected items, and to 2015 FX.

# O&P Americas

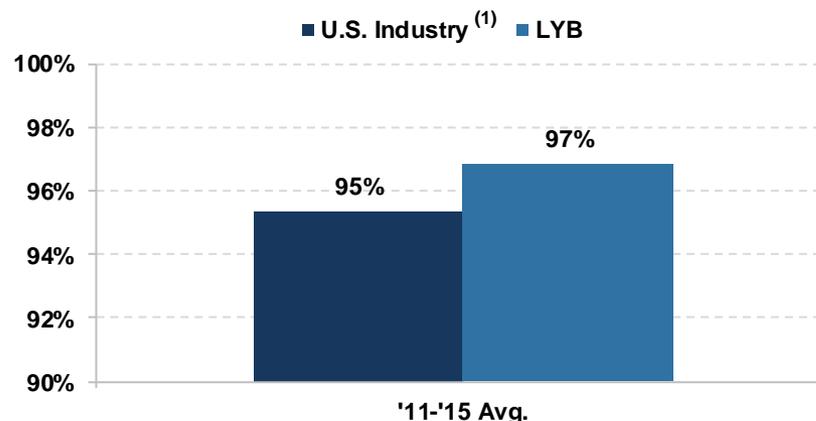
## NGL Advantage with Flexible, Reliable Operations



### EBITDA Performance



### Operating Reliability vs. U.S. Industry

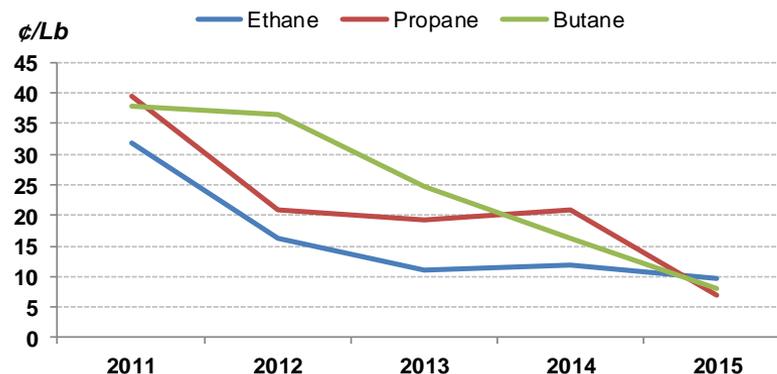


### LYB Flexibility

#### Maximum % Ethylene from Feedstock

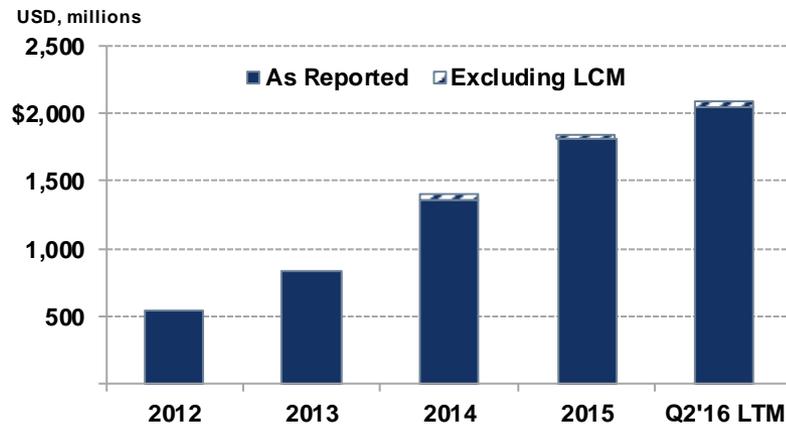
Feed	System
NGL	~90%
Ethane	~80%
Propane	~20%
Butane	~15%
Liquids	~55%
Minimum Liquids	~10%

### Cost of Ethylene Production



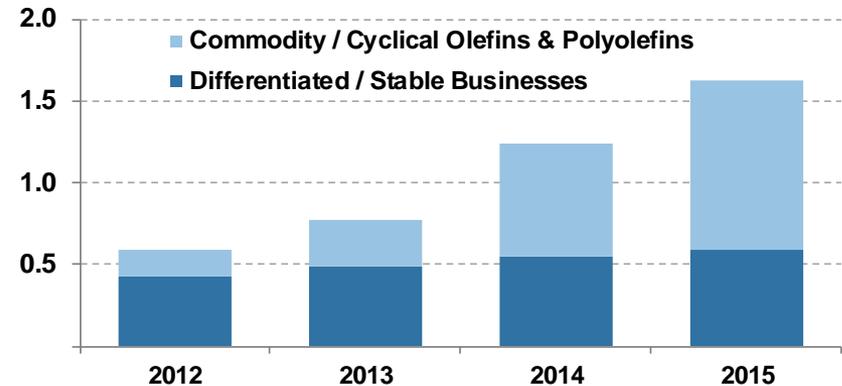
(1) U.S. Industry excluding LYB

### EBITDA Performance

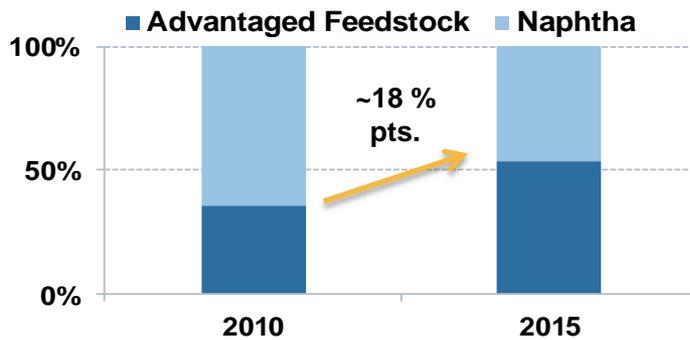


### Indexed O&P EAI EBITDA<sup>(1)</sup>

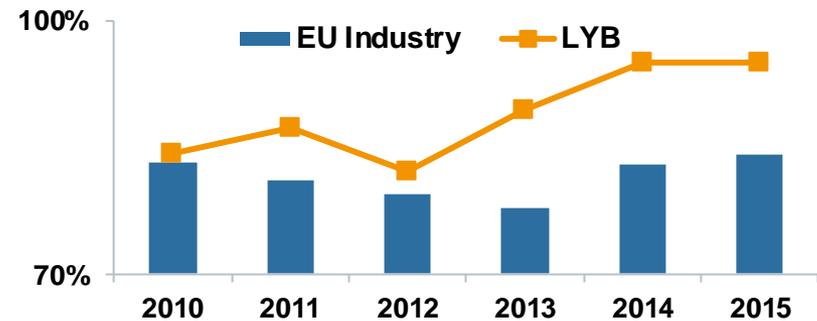
(EBITDA Indexed, Mid-Cycle = 1.0)



### Producing from Advantaged Feedstock



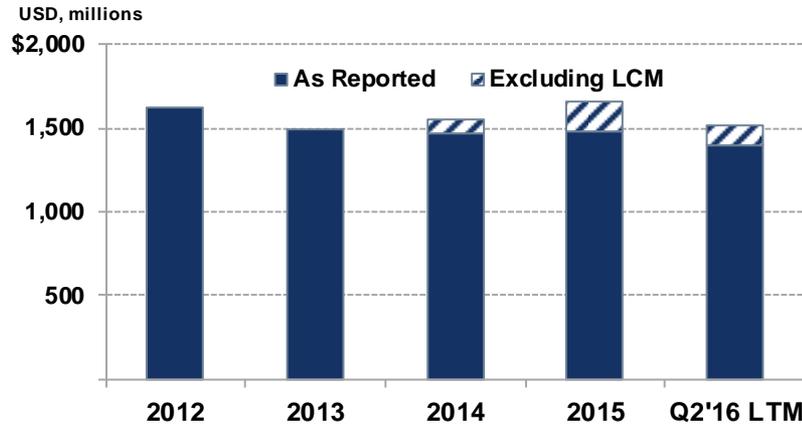
### Western Europe Olefins Operating Rate



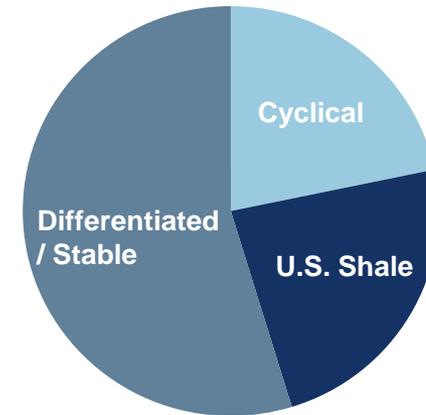
Source: LYB.

(1) O&P EAI trough, mid-cycle and peak EBITDA values are based on LYB estimates. 2014 and 2015 LTM EBITDA excludes the impact of the LCM adjustment.

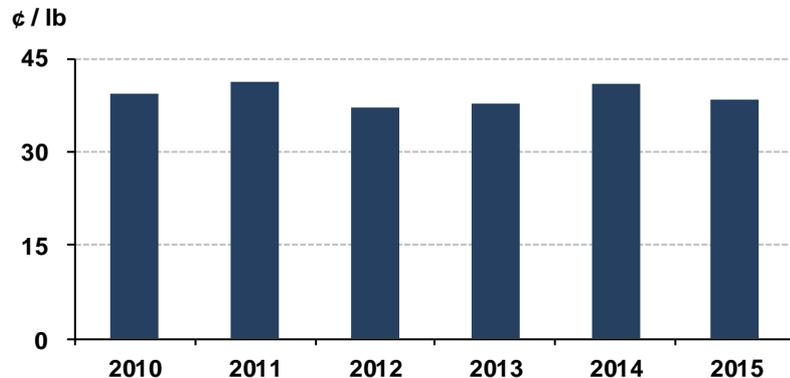
**EBITDA Performance**



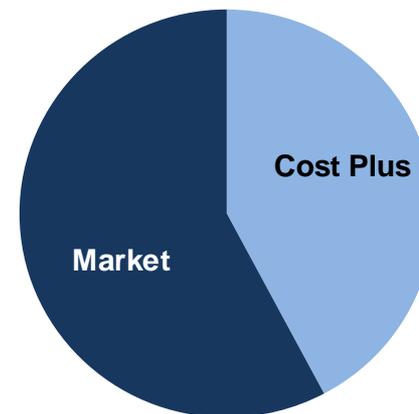
**Differentiated Proprietary Technology (2015 EBITDA)**



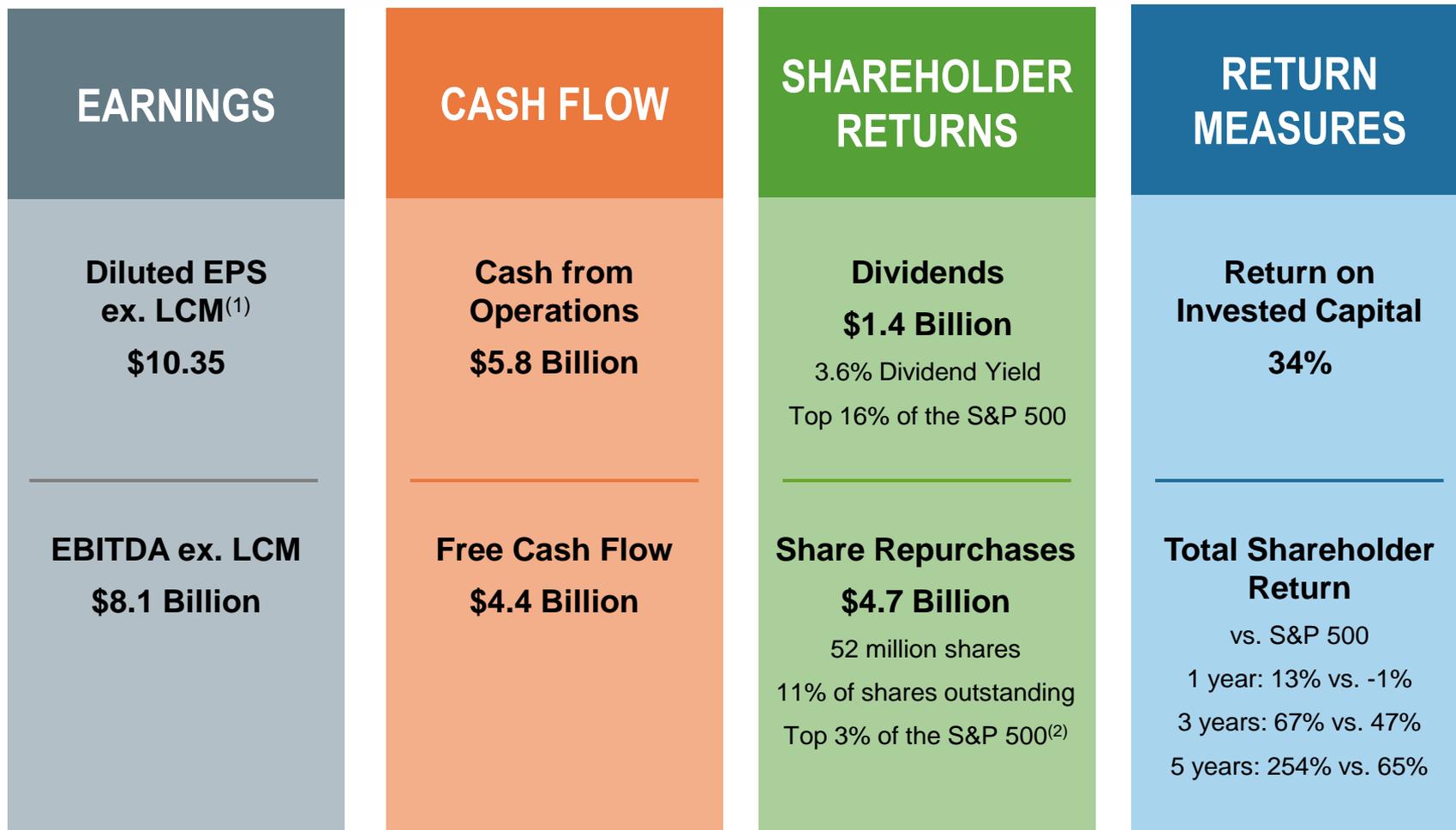
**Propylene Glycol Raw Material Margin**



**Contracting Strategy<sup>(1)</sup>**



Source: LYB, Chemical Data (PG Raw Material Margin)  
 (1) Internal LYB estimates derived from forecasted third party sales, 2015.



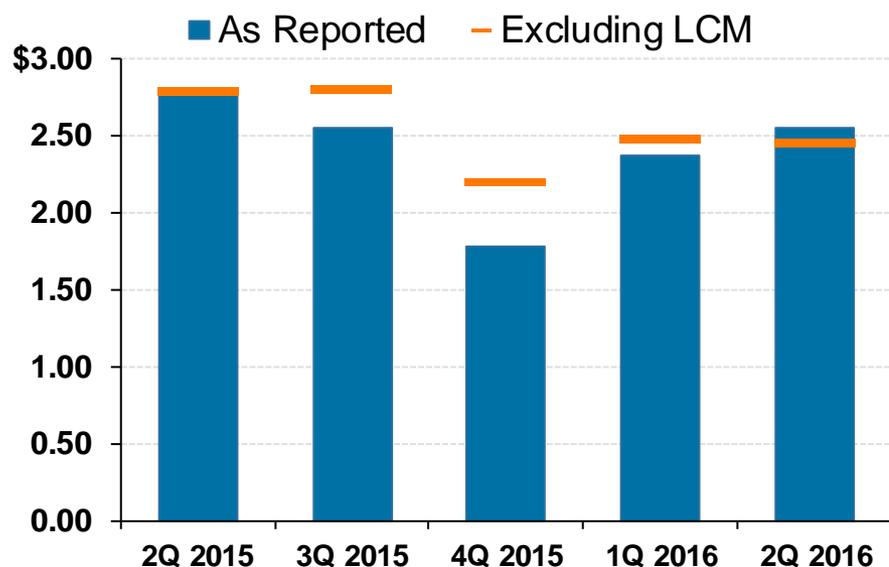
(1) LCM stands for "lower cost or market". Further detail regarding LCM adjustments can be found under "Information Related to Financial Measures."

(2) Share repurchases ranked as a percentage of LTM Average Enterprise Value.

# 2Q 2016 Highlights

(\$ in millions, except per share data)	As Reported			Excluding LCM <sup>(1)</sup>		
	2Q15	1Q16	2Q16	2Q15	1Q16	2Q16
EBITDA	\$2,186	\$1,807	\$1,783	\$2,177	\$1,875	\$1,715
Income from Continuing Operations	\$1,326	\$1,030	\$1,092	\$1,320	\$1,077	\$1,045
Diluted Earnings (\$ / share) from Continuing Operations	\$2.81	\$2.37	\$2.56	\$2.79	\$2.48	\$2.45

## Strong EPS Performance



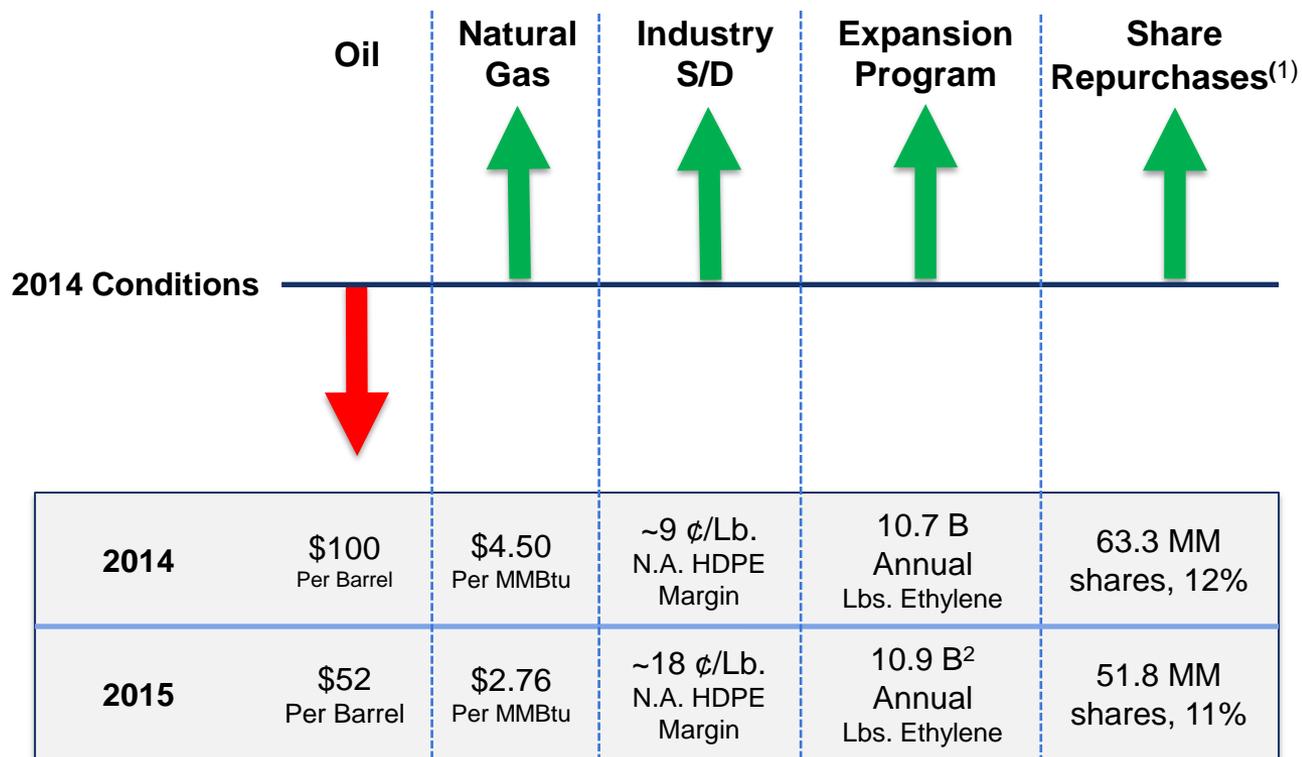
## Highlights

- Polyolefins capturing strong O&P chain margins
- Industry trends provided improved olefin, refining and oxyfuel pricing
- Refinery returned to normal production mid-July
- \$1.1 billion in 2Q16 share repurchases and dividends
- Authorized a fourth share repurchase program of up to 10% of shares over next 18 months
- Increased interim dividend by 9% to \$0.85 per share

(1) LCM stands for "lower of cost or market." An explanation of LCM and why we have excluded it from our financial information in this presentation can be found on the third page of this presentation under "Information Related to Financial Measures."

Note: All results for Q1'16 include \$78 million after-tax gain on sale of Petroken: \$57 million gain for O&P Americas for polypropylene business and \$21 million gain for O&P EAI for polypropylene compounding business.

# Strong 2015 EPS Despite Oil Decline



EPS is supported by low U.S. natural gas prices, tightened market conditions, our expansion program, and share repurchases

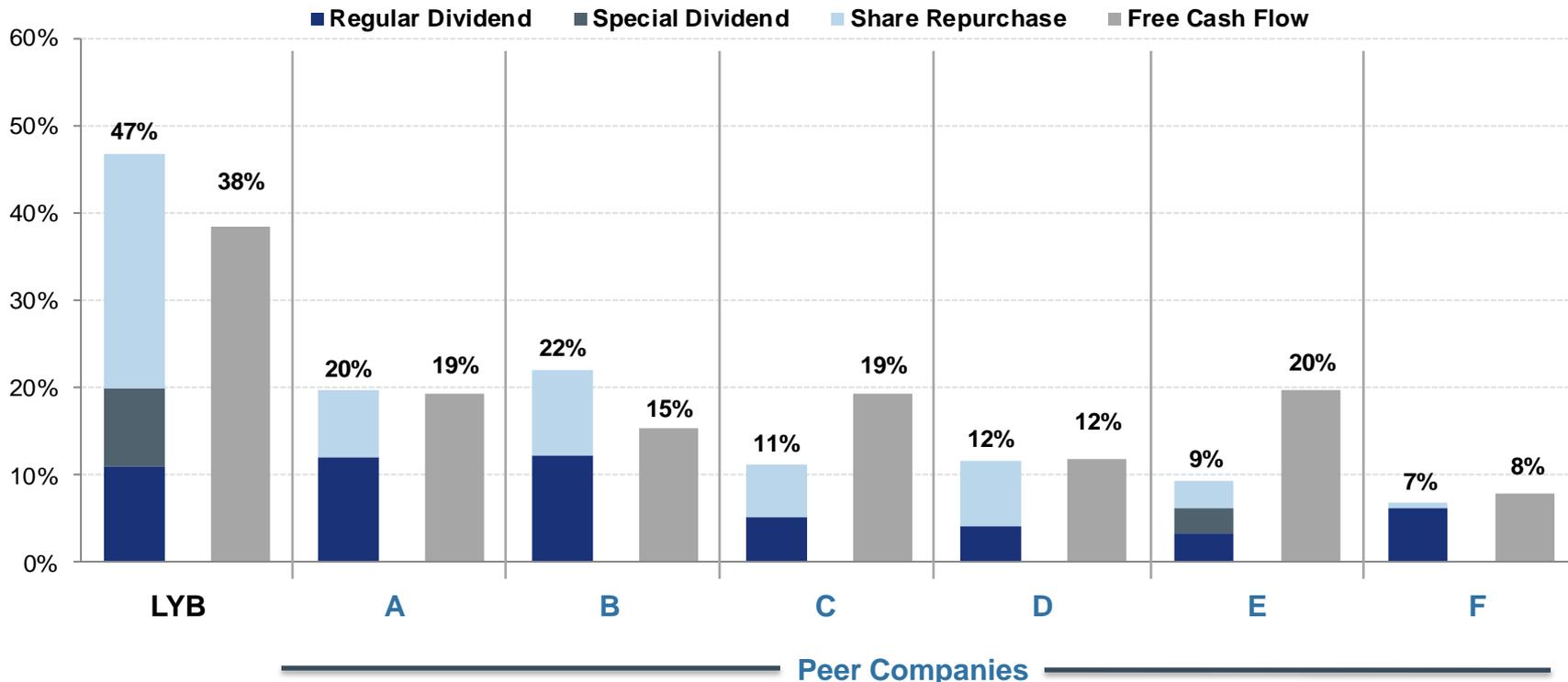
Source: LYB, IHS as of year end 2015.

(1) Share repurchase percentage is calculated off of the outstanding shares as of Dec. 31, 2013 and 2014, respectively.

(2) Capacity for 2015 includes the full annual capacity addition of 250 MM pounds completed at our Channelview site during 2015.

# Industry Leading Shareholder Returns

## 2011 - 2015 Shareholder Returns of Capital and Free Cash Flow as % of Average 2015 Enterprise Value



**Exceeding peers in absolute cash returned and as a percentage of enterprise value**

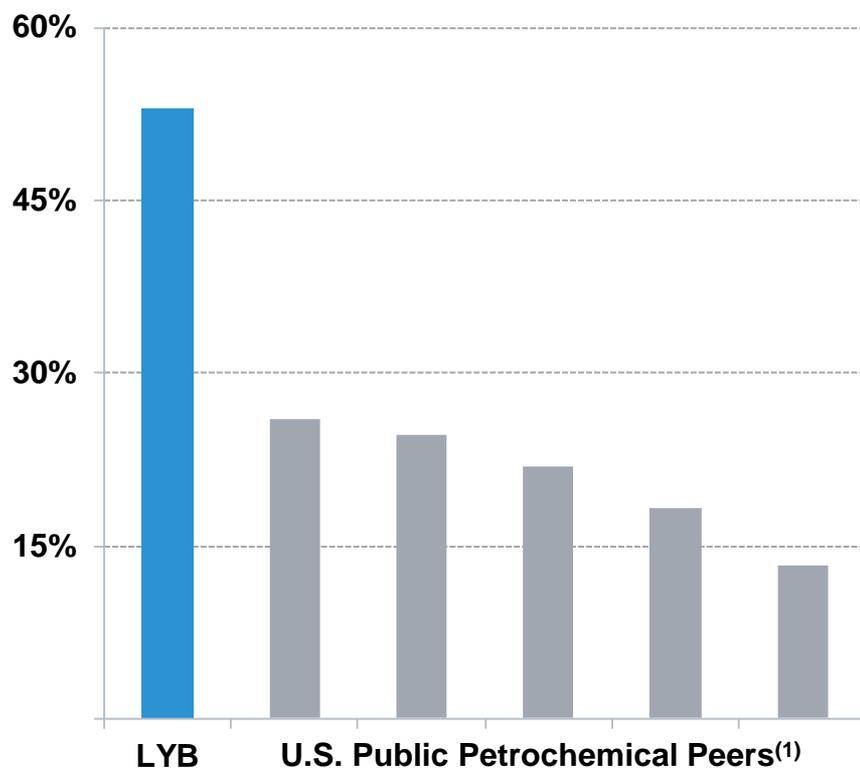
Source: SEC filings, Bloomberg, CapitalIQ

Enterprise Value for LYB is calculated based on reported line items. For Peer Companies, Enterprise Value is calculated as the average of the daily share price multiplied by the number of shares outstanding during 2015 as per CapitalIQ.

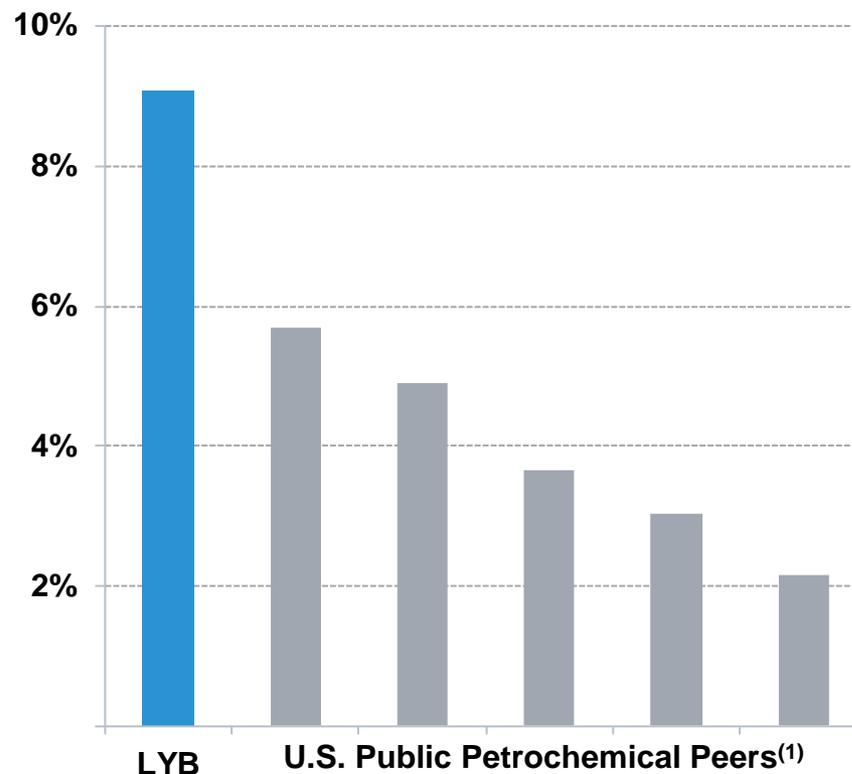
For definitions and peer group definitions, please see the Glossary in this Appendix.

# LYB Delivers More Cash to the Bottom Line

**'11 – '15 Free Cash Flow<sup>(1)</sup>  
as % of EBITDA ex LCM<sup>(2)</sup>**



**'11 – '15 Avg. Annual Free Cash Flow<sup>(1)</sup>  
as % of Dec. 31, 2015 Market Cap**



**LYB free cash flow generation significantly exceeds comparable U.S. public peer group**

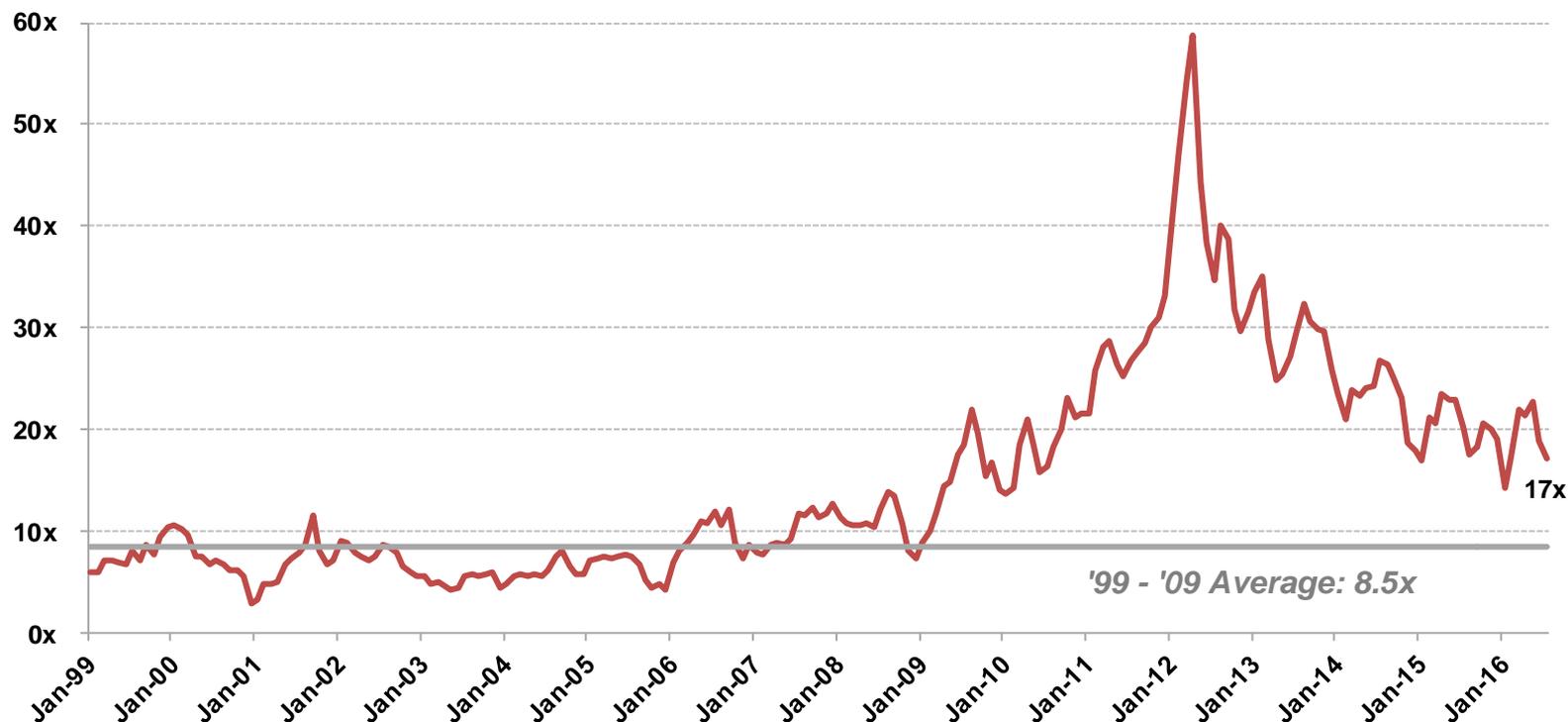
Source: Company filings, Capital IQ

Notes: LYB calculations are based on as reported line items. Peer calculations are based on Capital IQ calculated line items.

(1) For definitions and peer group definitions, please see the Glossary in this Appendix.

(2) For purposes of peer comparison, LYB EBITDA ex LCM is as reported. Peer EBITDA = Revenue – COGS – SG&A – R&D + D&A + equity income as calculated by Capital IQ.

## Historic Oil/Gas Ratio

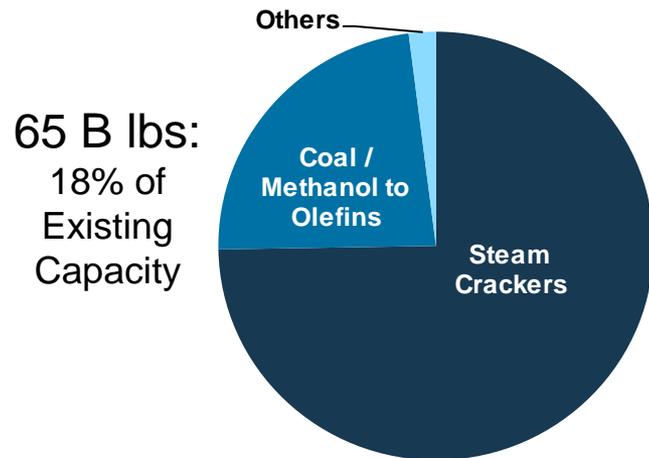


- Current oil to gas ratio remains healthy and well above the pre-shale average
- Historic equivalent value of crude oil to gas implies a price of ~ \$15-25 per barrel

Source: NYMEX, ICE.

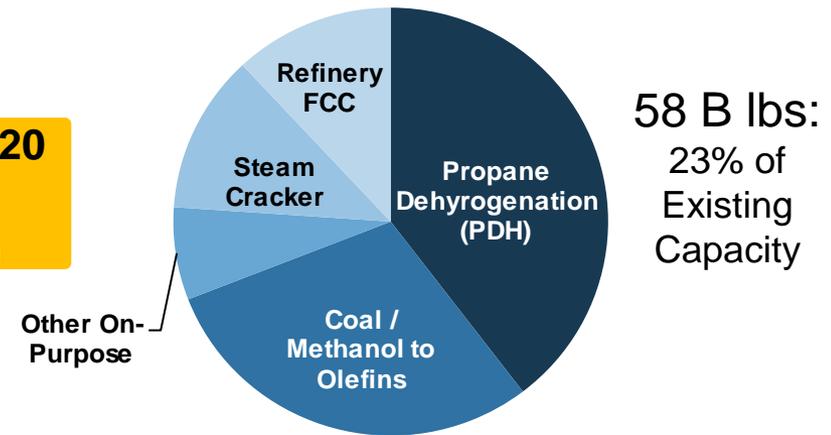
# 2016 – 2020: On-purpose Propylene Dominates Global Capacity Growth

## Ethylene Capacity Growth



## Propylene Capacity Growth <sup>(1)</sup>

**2016 – 2020  
Global  
Growth**

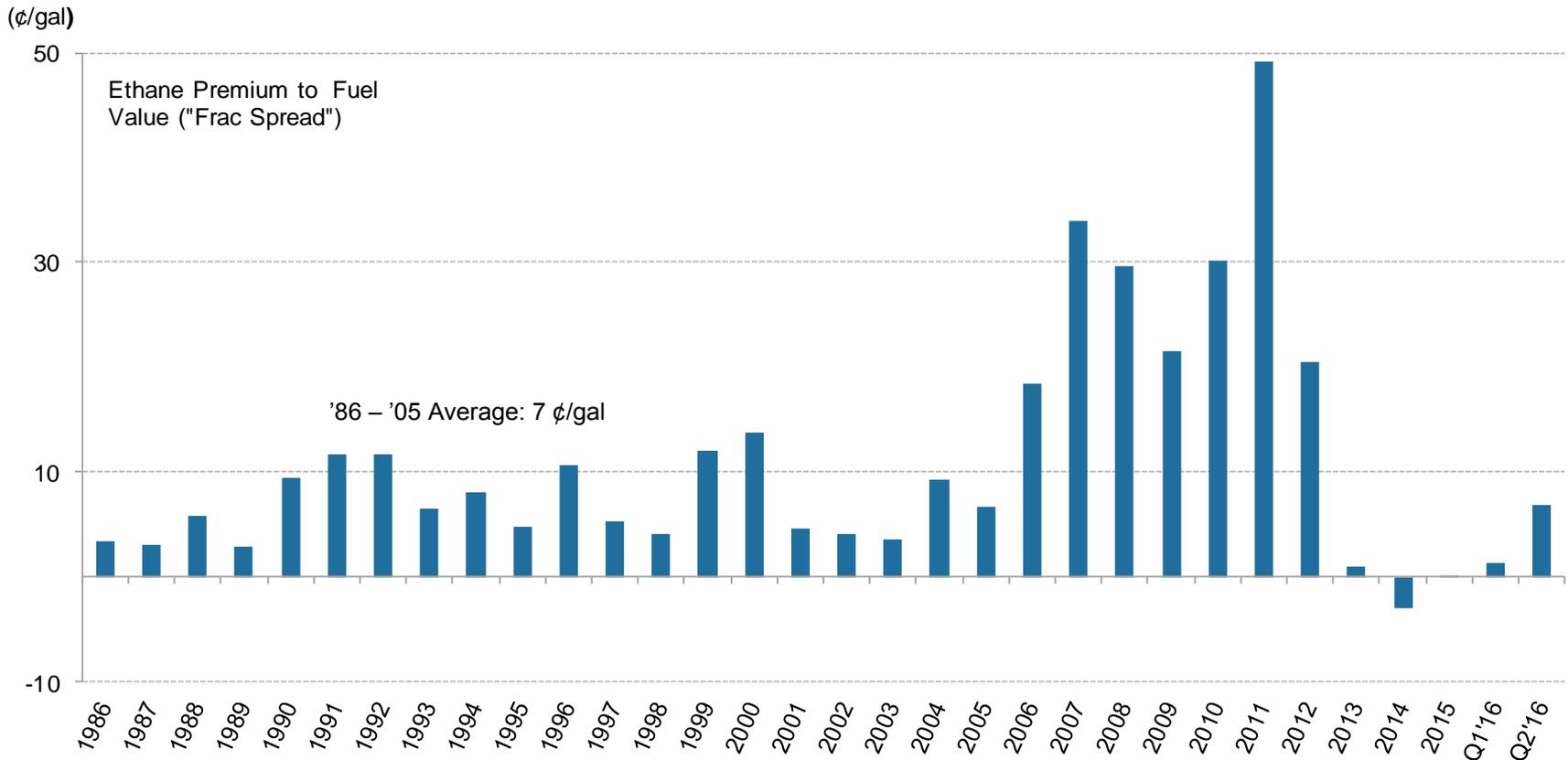


- Ethylene Demand Growth ~ 65 Blbs
- Ethylene Supply Growth ~ 75% conventional

- Propylene Demand Growth ~ 52 Blbs
- Propylene Supply Growth ~ 75% On-purpose

Source: IHS. (1) Excludes refinery-grade propylene.

# Ethane Frac Spread

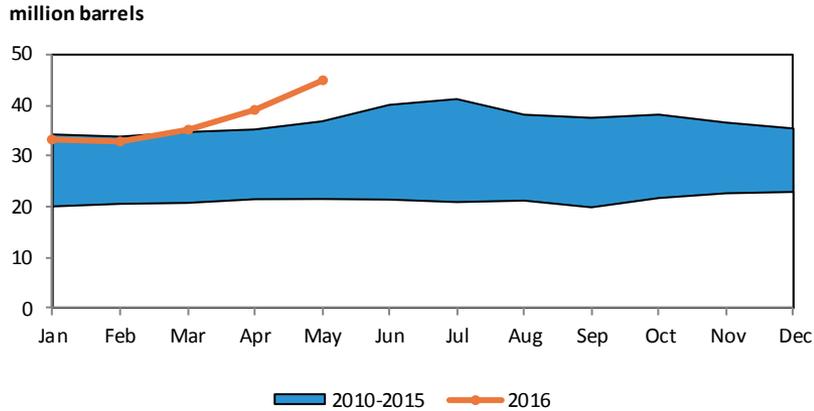


- Long term ethane has generally traded with a 7 ¢/gal frac spread
- Infrastructure constraints drove 2006 – 2012 premiums

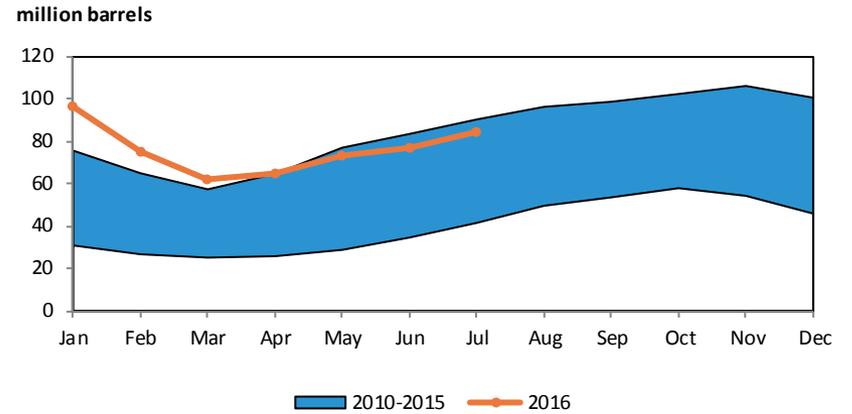
Source: IHS

# NGLs Remain Abundant

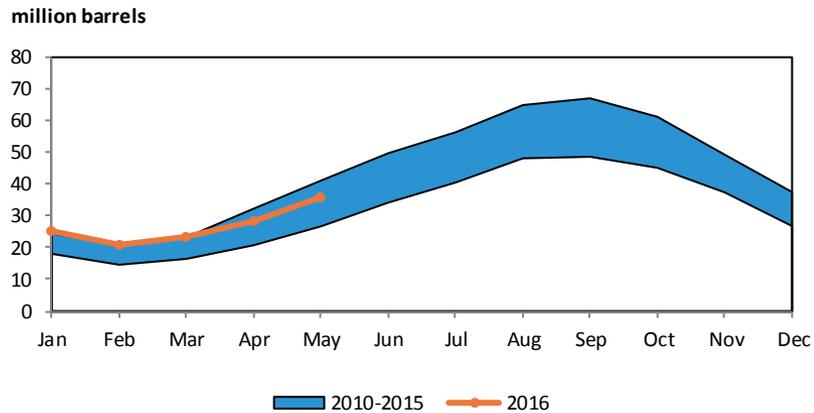
## Ethane Inventory



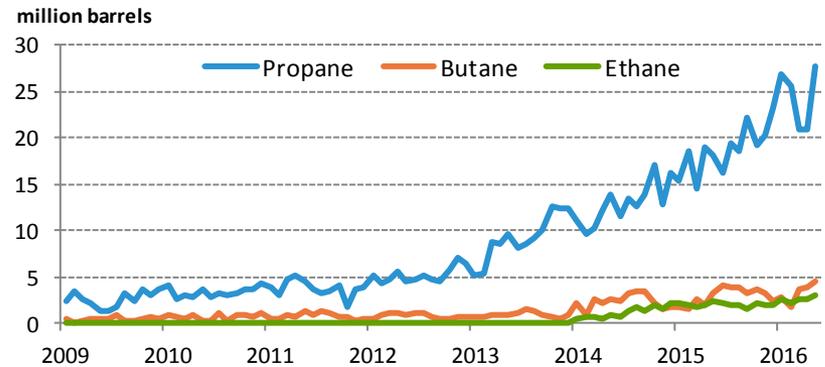
## Propane Inventory



## Butane Inventory

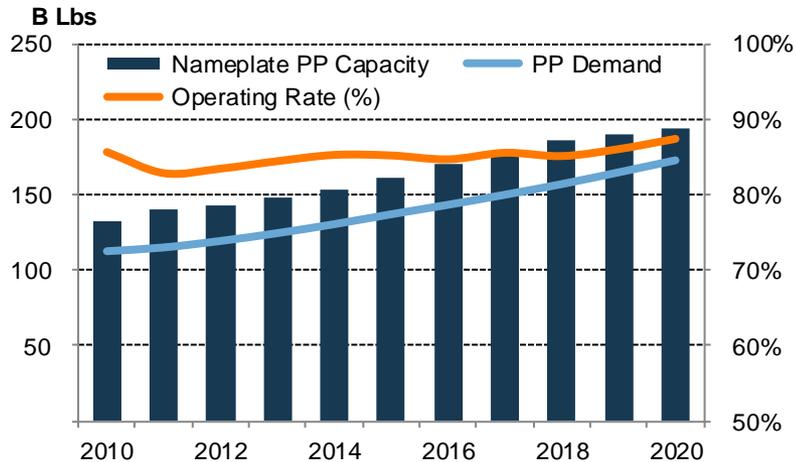


## NGL Exports

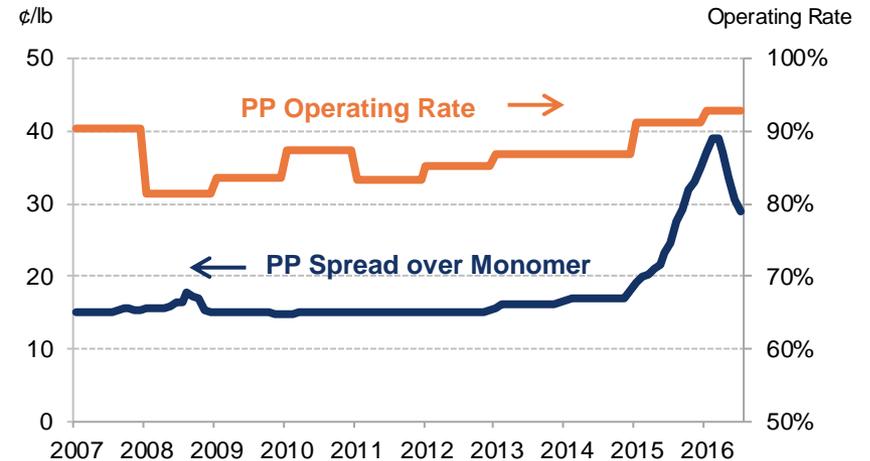


Source: EIA

## Polypropylene Supply / Demand



## NA PP: Tight Market Driving Margin



## Polypropylene Advantages

- Low density, lightweight
- Impact resistance
- Recyclability
- Chemical resistance
- Wide temperature performance
- Plasticizer-free
- Replacement for higher-cost resins and PVC
- Abundant, low-priced propylene will enable continued PP growth.

Source: IHS. Spreads and margins depicted as 3-month moving averages. Spread is contract homopolymer less contract polymer-grade monomer price. Homopolymer prices prior to 2015 are adjusted to account for the January 2015 IHS non-market reduction. Margin is IHS discounted contract pre-tax non-integrated margin.

# Status of Growth Projects

	Project	Scope (million Lbs.)	Start-up	Cost (\$ million)	Potential EBITDA <sup>(1)</sup> (\$ million / year)	
					2011-15 Avg. Margins	2015 Margins
<b>COMPLETED</b>	Increase Ethane Capability	500	2012	~\$25	\$60 – 80	\$30 – 50
	Midwest Ethylene / PE	120	2012	~\$25	\$30 – 40	\$20 – 30
	EU Butadiene Expansion <sup>(2)</sup>	155	Mid 2013	~\$100	\$40 – 50	\$40 – 50
	Methanol Restart	250 MM Gal.	Dec. 2013	~\$180	\$210 – 230	\$170 – 190
	Matagorda PE Debottleneck	220	Early 2014	~\$20	\$5 – 10	\$40 – 50
	La Porte Ethylene Expansion	800	Mid 2014	~\$500	\$190 – 250	\$150 – 220
	Channelview Ethylene Expansion (I)	250	Mid 2015	~\$200	\$60 – 80	\$50 – 70
	<b>Completed Projects</b>			<b>~\$1,050</b>	<b>\$595 – 740</b>	<b>\$500 – 660</b>
<b>PROGRESSING</b>	Corpus Christi Ethylene Expansion	800	Q3 2016	~\$800	\$190 – 250	\$150 – 220
	New PO/TBA Plant	1,000 PO 29 MBPD Oxyfuels	2020	~\$2,000 – 2,200	\$490 – 540	\$450 – 510
	HDPE Plant	1100	2019	~\$700	\$30 – 70	\$180 – 230
	<b>Remaining Projects</b>			<b>~\$3,500 – 3,700</b>	<b>\$710 – 860</b>	<b>\$780 – 960</b>
	<b>Total</b>			<b>~\$4,550 – 4,750</b>	<b>\$1,305 – 1,600</b>	<b>\$1,280 – 1,620</b>

Source: LYB, Chemical Data and IHS.

(1) Potential EBITDA assumes 100% utilization and is based on third party consultant industry margins for 2015, and 2011-2015 average as of January 13, 2016.

(2) The EU Butadiene expansion benefits from a fixed margin and thus the potential EBITDA benefit has not changed.

This presentation makes reference to certain “non-GAAP” financial measures as defined in Regulation G of the U.S. Securities Exchange Act of 1934, as amended. The non-GAAP measures we have presented include income from continuing operations excluding LCM, diluted earnings per share excluding LCM, EBITDA and EBITDA excluding LCM. LCM stands for “lower of cost or market,” which is an accounting rule consistent with GAAP related to the valuation of inventory. Our inventories are stated at the lower of cost or market. Cost is determined using the last-in, first-out (“LIFO”) inventory valuation methodology, which means that the most recently incurred costs are charged to cost of sales and inventories are valued at the earliest acquisition costs. Market is determined based on an assessment of the current estimated replacement cost and selling price of the inventory. In periods where the market price of our inventory declines substantially, cost values of inventory may be higher than the market value, which results in us writing down the value of inventory to market value in accordance with the LCM rule, consistent with GAAP. This adjustment is related to our use of LIFO accounting and the recent decline in pricing for many of our raw material and finished goods inventories. We report our financial results in accordance with U.S. generally accepted accounting principles, but believe that certain non-GAAP financial measures, such as EBITDA and earnings and EBITDA excluding LCM, provide useful supplemental information to investors regarding the underlying business trends and performance of the company's ongoing operations and are useful for period-over-period comparisons of such operations. Non-GAAP financial measures should be considered as a supplement to, and not as a substitute for, or superior to, the financial measures prepared in accordance with GAAP.

EBITDA, as presented herein, may not be comparable to a similarly titled measure reported by other companies due to differences in the way the measure is calculated. We calculate EBITDA as income from continuing operations plus interest expense (net), provision for (benefit from) income taxes, and depreciation & amortization. EBITDA should not be considered an alternative to profit or operating profit for any period as an indicator of our performance, or as an alternative to operating cash flows as a measure of our liquidity. We have also presented financial information herein exclusive of adjustments for LCM.

While we also believe that free cash flow, free cash flow as a percent of average enterprise value, free cash flow as a percent of EBITDA, and average annual free cash flow as a percent of market cap are measures commonly used by investors. The measures, as presented herein, may not be comparable to similarly titled measures reported by other companies due to differences in the way the measures are calculated. For purposes of this presentation, free cash flow means net cash provided by operating activities minus capital expenditures. Free cash flow as a percent of average enterprise value means the sum of the free cash flow for the period divided by the average enterprise value where the average enterprise value is calculated using the average daily closing share price for the period. Free cash flow as a percent of EBITDA means the sum of the free cash flow for the period divided by the sum of the EBITDA for the period. Average annual free cash flow as a percent of market cap means the yearly average of the free cash flow for the period divided by the market cap.

Additionally, EBITDA per pound of ethylene capacity and EV/EBITDA are measures which provide an indicator of firm value to investors. For purposes of this presentation, EBITDA per pound of ethylene capacity means annual segment EBITDA divided by end of year segment ethylene capacity in pounds and EV/EBITDA means the average enterprise value where the average enterprise value is calculated using the average daily closing share price for the period divided by the EBITDA for the period.

Reconciliations for our non-GAAP measures can be found on the following slides.

- **COGS:** Cost of Goods Sold
- **D&A:** Depreciation and Amortization
- **EBITDA (as used for peers):** Earnings before Interest, Taxes and Depreciation and Amortization = Revenue - COGS - SG&A - R&D + D&A + Equity Income
- **EV:** Enterprise Value calculated using the average daily closing share price for the last 12 months ended June 30, 2015 multiplied by the common shares outstanding as of June 30, 2016.
- **Free Cash Flow** = Cash from Operations – Capital Expenditures
- **R&D:** Research and Development
- **SG&A:** Sales, General and Administrative

## Peer Groups

- **Americas Peers:** Dow, CP Chemical, Ineos and Westlake
- **EAI Peers:** Borealis and Ineos
- **Large Peers:** Dow, DuPont
- **Other Peers:** Celanese, Eastman, Huntsman and Westlake
- **Peer Companies:** Celanese, Dow, DuPont, Eastman, Huntsman and Westlake
- **S&P 500:** S&P 500 Index
- **S&P Chemicals:** S&P Chemicals Index
- **U.S. Public Petrochemical Peers:** Celanese, Dow, Eastman, Huntsman and Westlake

\* See reconciliations at end of presentation.

# EBITDA Excluding LCM Adjustments 2011 - 2015



## Reconciliation of EBITDA Excluding LCM Adjustments to EBITDA - 2011 Through 2015

<u>In Million of Dollars</u>	<u>For the Twelve Months Ended December 31,</u>				
	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
<b>EBITDA Excluding LCM Adjustments:</b>					
Olefins & Polyolefins - Americas	\$ 2,137	\$ 2,968	\$ 3,573	\$ 4,190	\$ 3,821
Olefins & Polyolefins - EAI	865	548	839	1,410	1,855
Intermediates & Derivatives	1,410	1,621	1,492	1,552	1,656
Refining	977	481	182	409	519
Technology	191	197	232	232	243
Other	(111)	(7)	(7)	17	(13)
Total	<u>5,469</u>	<u>5,808</u>	<u>6,311</u>	<u>7,810</u>	<u>8,081</u>
<b>Less:</b>					
<b>LCM Adjustments:</b>					
Olefins & Polyolefins - Americas	-	-	-	279	160
Olefins & Polyolefins - EAI	-	-	-	44	30
Intermediates & Derivatives	-	-	-	93	181
Refining	-	-	-	344	177
Technology	-	-	-	-	-
Other	-	-	-	-	-
Total	<u>-</u>	<u>-</u>	<u>-</u>	<u>760</u>	<u>548</u>
<b>EBITDA:</b>					
Olefins & Polyolefins - Americas	2,137	2,968	3,573	3,911	3,661
Olefins & Polyolefins - EAI	865	548	839	1,366	1,825
Intermediates & Derivatives	1,410	1,621	1,492	1,459	1,475
Refining	977	481	182	65	342
Technology	191	197	232	232	243
Other	(111)	(7)	(7)	17	(13)
Total	<u>\$ 5,469</u>	<u>\$ 5,808</u>	<u>\$ 6,311</u>	<u>\$ 7,050</u>	<u>\$ 7,533</u>

# Net Income to EBITDA

## 2011 - 2015



### Reconciliation of Net Income to EBITDA

<u>In Million of Dollars</u>	For the Twelve Months Ended December 31,				
	2011	2012	2013	2014	2015
Net Income	\$ 2,140	\$ 2,834	\$ 3,853	\$ 4,168	\$ 4,474
(Income) Loss from Discontinued Operations	332	24	7	4	5
LCM Adjustments, After Tax	-	-	-	483	351
Income from Continuing Operations Excluding LCM Adjustments	2,472	2,858	3,860	4,655	4,830
Less:					
LCM Adjustments, After Tax	-	-	-	(483)	(351)
Income from Continuing Operations	2,472	2,858	3,860	4,172	4,479
Provision for Income Taxes	1,059	1,327	1,136	1,540	1,730
Depreciation and Amortization	931	983	1,021	1,019	1,047
Interest expense, net	1,007	640	294	319	277
Add:					
LCM Adjustments, Before Tax	-	-	-	760	548
EBITDA Excluding LCM Adjustments	5,469	5,808	6,311	7,810	8,081
Less:					
LCM Adjustments, Before Tax	-	-	-	760	548
EBITDA	\$ 5,469	\$ 5,808	\$ 6,311	\$ 7,050	\$ 7,533

# EBITDA Excluding LCM Adjustments to Reported EBITDA



## Reconciliation of EBITDA Excluding LCM Adjustments to EBITDA

In Millions of Dollars	Three Months Ended					Three Months Ended		Six Months Ended			Six Months Ended		Last Twelve Months
	March 31,	June 30,	September 30,	December 31,	2015	March 31,	June 30,	June 30,	June 30,	2015	June 30,	June 30,	June 30,
	2015	2015	2015	2015		2016	2016	2016	2015		2015	2016	2016
<b>EBITDA Excluding LCM Adjustments:</b>													
Olefins & Polyolefins - Americas	\$ 1,074	\$ 993	\$ 920	\$ 834	\$ 3,821	\$ 878	\$ 754	\$ 1,632	\$ 2,067	\$ 3,821	\$ (2,067)	\$ 1,632	\$ 3,386
Olefins & Polyolefins - EAI	357	492	555	451	1,855	549	536	1,085	849	1,855	(849)	1,085	2,091
Intermediates & Derivatives	381	483	506	286	1,656	354	369	723	864	1,656	(864)	723	1,515
Refining	154	154	143	68	519	14	(13)	1	308	519	(308)	1	212
Technology	76	57	45	65	243	83	73	156	133	243	(133)	156	266
Other	2	(2)	13	(26)	(13)	(3)	(4)	(7)	-	(13)	-	(7)	(20)
Total	2,044	2,177	2,182	1,678	8,081	1,875	1,715	3,590	4,221	8,081	(4,221)	3,590	7,450
<b>Less:</b>													
<b>LCM Adjustments:</b>													
Olefins & Polyolefins - Americas	43	(21)	79	59	160	-	-	-	22	160	(22)	-	138
Olefins & Polyolefins - EAI	-	-	6	24	30	40	(40)	-	-	30	-	-	30
Intermediates & Derivatives	44	17	46	74	181	28	(28)	-	61	181	(61)	-	120
Refining	5	(5)	50	127	177	-	-	-	-	177	-	-	177
Technology	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	92	(9)	181	284	548	68	(68)	-	83	548	(83)	-	465
<b>EBITDA:</b>													
Olefins & Polyolefins - Americas	1,031	1,014	841	775	3,661	878	754	1,632	2,045	3,661	(2,045)	1,632	3,248
Olefins & Polyolefins - EAI	357	492	549	427	1,825	509	576	1,085	849	1,825	(849)	1,085	2,061
Intermediates & Derivatives	337	466	460	212	1,475	326	397	723	803	1,475	(803)	723	1,395
Refining	149	159	93	(59)	342	14	(13)	1	308	342	(308)	1	35
Technology	76	57	45	65	243	83	73	156	133	243	(133)	156	266
Other	2	(2)	13	(26)	(13)	(3)	(4)	(7)	-	(13)	-	(7)	(20)
Total	\$ 1,952	\$ 2,186	\$ 2,001	\$ 1,394	\$ 7,533	\$ 1,807	\$ 1,783	\$ 3,590	\$ 4,138	\$ 7,533	\$ (4,138)	\$ 3,590	\$ 6,985

# Net Income to EBITDA



## Reconciliation of Net Income To EBITDA

In Millions of Dollars	Three Months Ended					Three Months Ended			Six Months Ended			Six Months Ended		Last Twelve Months
	March 31, 2015	June 30, 2015	September 30, 2015	December 31, 2015	2015	March 31, 2016	June 30, 2016	June 30, 2016	June 30, 2015	2015	June 30, 2015	June 30, 2016	June 30, 2016	
	Net Income	\$ 1,164	\$ 1,329	\$ 1,186	\$ 795	\$ 4,474	\$ 1,030	\$ 1,091	\$ 2,121	\$ 2,493	\$ 4,474	\$ (2,493)	\$ 2,121	\$ 4,102
(Income) Loss from Discontinued Operations	3	(3)	3	2	5	-	1	1	-	5	-	1	6	
LCM Adjustments, After Tax	58	(6)	114	185	351	47	(47)	-	52	351	(52)	-	299	
Income from Continuing Operations Excluding LCM Adjustments	1,225	1,320	1,303	982	4,830	1,077	1,045	2,122	2,545	4,830	(2,545)	2,122	4,407	
Less:														
LCM Adjustments, After Tax	(58)	6	(114)	(185)	(351)	(47)	47	-	(52)	(351)	52	-	(299)	
Income from Continuing Operations	1,167	1,326	1,189	797	4,479	1,030	1,092	2,122	2,493	4,479	(2,493)	2,122	4,108	
Provision for Income Taxes	440	541	487	262	1,730	432	346	778	981	1,730	(981)	778	1,527	
Depreciation and Amortization	287	247	248	265	1,047	268	266	534	534	1,047	(534)	534	1,047	
Interest expense, net	58	72	77	70	277	77	79	156	130	277	(130)	156	303	
LCM Adjustments, Pre Tax	92	(9)	181	284	548	68	(68)	-	83	548	(83)	-	465	
EBITDA Excluding LCM Adjustments	2,044	2,177	2,182	1,678	8,081	1,875	1,715	3,590	4,221	8,081	(4,221)	3,590	7,450	
LCM Adjustments, Pre Tax	(92)	9	(181)	(284)	(548)	(68)	68	-	(83)	(548)	83	-	(465)	
EBITDA	\$ 1,952	\$ 2,186	\$ 2,001	\$ 1,394	\$ 7,533	\$ 1,807	\$ 1,783	\$ 3,590	\$ 4,138	\$ 7,533	\$ (4,138)	\$ 3,590	\$ 6,985	

# Diluted EPS from Continuing Operations ex. LCM to Diluted EPS from Continuing Operations



## Reconciliation of Diluted EPS from Continuing Operations Excluding LCM Adjustments to Diluted EPS from Continuing Operations

	For the Twelve Months Ended December 31,				
	2011	2012	2013	2014	2015
Diluted Earnings Per Share from Continuing Operations Excluding LCM Adjustments	\$ 4.32	\$ 4.96	\$ 6.76	\$ 8.92	\$ 10.35
Less:					
LCM Adjustments	-	-	-	0.92	0.75
Diluted Earnings Per Share from Continuing Operations	<u>\$ 4.32</u>	<u>\$ 4.96</u>	<u>\$ 6.76</u>	<u>\$ 8.00</u>	<u>\$ 9.60</u>

## Reconciliation of Diluted EPS from Continuing Operations Excluding LCM Adjustments to Diluted EPS

	Three Months Ended				2015	Three Months Ended		Six Months Ended		Last Twelve Months
	March 31, 2015	June 30, 2015	September 30, 2015	December 31, 2015		March 31, 2016	June 30, 2016	June 30, 2016	June 30, 2015	June 30, 2016
Diluted Earnings Per Share from Continuing Operations										
Excluding LCM Adjustments	\$ 2.54	\$ 2.79	\$ 2.80	\$ 2.20	\$ 10.35	\$ 2.48	\$ 2.45	\$ 4.93	\$ 5.33	\$ 9.94
Less:										
LCM Adjustments	0.12	(0.02)	0.25	0.42	0.75	0.11	(0.11)	-	0.11	0.68
Diluted Earnings Per Share	<u>\$ 2.42</u>	<u>\$ 2.81</u>	<u>\$ 2.55</u>	<u>\$ 1.78</u>	<u>\$ 9.60</u>	<u>\$ 2.37</u>	<u>\$ 2.56</u>	<u>\$ 4.93</u>	<u>\$ 5.22</u>	<u>\$ 9.26</u>

# Free Cash Flow to Net Cash Provided by Operating Activities



## Reconciliation of Free Cash Flow to Net Cash Provided by Operating Activities

	For the Years Ended December 31,				Three Months Ended		Three Months Ended		For the Year	Six Months Ended		Last Twelve
	2012	2013	2014	2015	March 31, 2016	June 30, 2016	March 31, 2015	June 30, 2015	Ended December 31, 2015	June 30, 2015	June 30, 2016	Months June 30, 2016
<b>In Millions of Dollars</b>												
Free Cash Flow	\$ 3,727	\$ 3,274	\$ 4,549	\$ 4,402	\$ 773	\$ 698	\$ 1,162	\$ 1,168	\$ 4,402	\$ (2,330)	\$ 1,471	\$ 3,543
Add:												
Capital Expenditures	1,060	1,561	1,499	1,440	527	563	306	278	1,440	(584)	1,090	1,946
Net Cash Provided by Operating Activities	<u>\$4,787</u>	<u>\$ 4,835</u>	<u>\$ 6,048</u>	<u>\$ 5,842</u>	<u>\$ 1,300</u>	<u>\$ 1,261</u>	<u>\$ 1,468</u>	<u>\$ 1,446</u>	<u>\$ 5,842</u>	<u>\$ (2,914)</u>	<u>\$ 2,561</u>	<u>\$ 5,489</u>

# LYB Enterprise Value to EBITDA

## Calculation of Ratio of LYB Enterprise Value (EV) to EBITDA Excluding LCM

### In Million of Dollars except for common shares outstanding

Common Shares Outstanding, June 30, 2016	419,381,566
Multiplied by:	
Closing Share Price, June 30, 2016	<u>\$ 86.01</u>
Market Capitalization	\$ 36,071
Add:	
Current Maturities of Long-Term Debt	4
Short-Term Debt	616
Long-Term Debt	8,485
Less:	
Cash	1,060
Short-Term Investments	<u>1,023</u>
Net Debt	7,022
Non-Controlling Interests	<u>24</u>
Enterprise Value	43,117
Divided by:	
Last 12 Months EBITDA Excluding LCM	<u>7,450</u>
Ratio of Enterprise Value to EBITDA Excluding LCM	<u><u>5.8</u></u>

# Average Free Cash Flow as a Percent of EBITDA

## Reconciliation of Average Free Cash Flow (2011 through 2015) as a Percent of EBITDA Excluding LCM Adjustments

<u>In Million of Dollars</u>	For the Years Ended December 31,					Average
	2011	2012	2013	2014	2015	2011 - 2015
Net Cash Provided by Operating Activities	\$ 2,860	\$ 4,787	\$ 4,835	\$ 6,048	\$ 5,842	\$ 4,874
Less:						
Capital Expenditures	1,050	1,060	1,561	1,499	1,440	1,322
Free Cash Flow	<u>\$ 1,810</u>	<u>\$ 3,727</u>	<u>\$ 3,274</u>	<u>\$ 4,549</u>	<u>\$ 4,402</u>	<u>\$ 3,552</u>
EBITDA ex LCM	<u>\$ 5,469</u>	<u>\$ 5,808</u>	<u>\$ 6,311</u>	<u>\$ 7,810</u>	<u>\$ 8,081</u>	<u>\$ 6,696</u>
Free Cash Flow as a Percent of EBITDA	<u>33%</u>	<u>64%</u>	<u>52%</u>	<u>58%</u>	<u>54%</u>	<u>53%</u>

# Free Cash Flow to Average Enterprise Value

## Calculation of Ratio of Free Cash Flow to Average Enterprise Value (EV)

### In Million of Dollars except for common shares outstanding

Free Cash Flow (2011-2015) \$ 17,762

### Average 2015 Enterprise Value

Common Shares Outstanding, December 31, 2015 440,150,069

Multiplied by:

Average Daily Closing Share Price, 2015 91.47

Market Capitalization \$ 40,261

Add:

Current Maturities of Long-Term Debt 4

Short-Term Debt 353

Long-Term Debt 7,671

Less:

Cash 924

Short-Term Investments 1,064

Net Debt 6,040

Non-Controlling Interests 24

Enterprise Value \$ 46,325

Ratio of Free Cash Flow to Average Enterprise Value 38%

# Free Cash Flow as a Percent of Market Capitalization



## Reconciliation of Free Cash Flow as a Percent of Market Capitalization - 2011 Through 2015

<b>In Million of Dollars</b>	<b>For the Years Ended December 31,</b>					<b>Average</b>
	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2011 - 2015</b>
Net Cash Provided by Operating Activities	\$ 2,860	\$ 4,787	\$ 4,835	\$ 6,048	\$ 5,842	\$ 4,874
Less:						
Capital Expenditures	1,050	1,060	1,561	1,499	1,440	1,322
Free Cash Flow	<u>\$ 1,810</u>	<u>\$ 3,727</u>	<u>\$ 3,274</u>	<u>\$ 4,549</u>	<u>\$ 4,402</u>	<u>\$ 3,552</u>
Market Capitalization at December 31, 2015						<u>\$ 40,261</u>
Free Cash Flow as a Percent of Market Capitalization						<u>8.8%</u>

# Return on Invested Capital

## Calculation of LYB Return on Invested Capital (ROIC)

<u>In Million of Dollars</u>	<u>Years Ended December 31,</u>	
	<u>2014</u>	<u>2015</u>
Income from Continuing Operations		\$ 4,479
Add:		
Interest Expense, Net		277
Effective Tax Rate		<u>27.9%</u>
Interest Expense, Net, After Tax		<u>200</u>
Adjusted Income from Continuing Operations		<u>4,679</u>
Divided by:		
Average Invested Capital:		
Property, Plant & Equipment, Net	\$ 8,758	8,991
Current Assets	11,645	9,789
Less:		
Current Liabilities	5,437	4,349
Cash and Cash Equivalents	<u>1,031</u>	<u>924</u>
	<u>\$ 13,935</u>	<u>13,507</u>
Average Invested Capital		<u>\$ 13,721</u>
Return on Invested Capital		<u>34%</u>

# Dividends and Share Repurchases



## Schedule of Spending for Dividends and Share Repurchases

<u>In Millions of Dollars</u>	For the Years Ended December 31,				Three Months Ended				For the Year	Six Months Ended		Last Twelve
	2012	2013	2014	2015	March 31,	June 30,	March 31,	June 30,	Ended	June 30, 2015	June 30, 2016	Months
					2016	2016	2015	2015	December 31,			June 30, 2016
Interim Dividends	\$ 833	\$ 1,127	\$ 1,403	\$ 1,410	\$ 336	\$ 362	\$ 334	\$ 368	\$ 1,410	\$ (702)	\$ 698	\$ 1,406
Special Dividends	1,582											
	2,415	1,127	1,403	1,410	336	362	334	368	1,410	(702)	698	1,406
Repurchases of Ordinary Shares	-	1,949	5,788	4,656	986	\$ 696	1,359	\$ 778	4,656	(2,137)	1,682	4,201
Total	\$ 2,415	\$ 3,076	\$ 7,191	\$ 6,066	\$ 1,322	\$ 1,058	\$ 1,693	\$ 1,146	\$ 6,066	\$ (2,839)	\$ 2,380	\$ 5,607

# Ratio of Shareholder Returns of Capital to Average Enterprise Value



## Calculation of Ratio of Shareholder Returns of Capital (2011 - 2015) to Average Enterprise Value (EV)

### In Million of Dollars except for share data

#### Shareholder Returns of Capital (2011 - 2015)

Share Repurchases	\$	12,393
Special Dividends		4,162
Interim/Regular Dividends		5,086
		<u>21,641</u>

#### Average 2015 Enterprise Value

Common Shares Outstanding, December 31, 2015		440,150,069
Multiplied by:		
Average Daily Closing Share Price, 2015		<u>91.47</u>
Market Capitalization	\$	40,261
Add:		
Current Maturities of Long-Term Debt		4
Short-Term Debt		353
Long-Term Debt		7,671
Less:		
Cash		924
Short-Term Investments		<u>1,064</u>
Net Debt		6,040
Non-Controlling Interests		<u>24</u>
Enterprise Value	\$	<u>46,325</u>

#### Ratio of Shareholder Returns of Capital (2011 - 2015) to Average Enterprise Value

Share Repurchases		27%
Special Dividends		9%
Interim/Regular Dividends		<u>11%</u>
Total		<u>47%</u>

# EBITDA Excluding LCM per Average Pound of Ethylene Capacity



## Reconciliation of EBITDA Excluding LCM per Average Pound of Ethylene Capacity

<u>In Million of Dollars Unless Otherwise Indicated</u>	For the Years Ended December 31,				
	2011	2012	2013	2014	2015
EBITDA Excluding LCM:					
O&P–Americas	\$ 2,137	\$ 2,968	\$ 3,573	\$ 4,190	\$ 3,821
O&P–EAI	865	548	839	1,410	1,855
Average Annual Ethylene Capacity (Millions of Pounds):					
O&P–Americas	9,590	9,750	9,780	10,070	10,733
O&P–EAI	4,829	4,829	4,829	4,829	4,829
EBITDA Excluding LCM per Average Pound of Ethylene Capacity:					
O&P–Americas	22.3¢	30.4¢	36.5¢	41.6¢	35.6¢
O&P–EAI	17.9¢	11.3¢	17.4¢	29.2¢	38.4¢