

## Reconciliation of EBITDA Excluding LCM Adjustments to EBITDA

In Millions of Dollars	Three Months Ended				
	December 31, 2016	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017
EBITDA Excluding LCM Adjustments:					
Olefins & Polyolefins - Americas	\$ 592	\$ 723	\$ 859	\$ 616	\$ 784
Olefins & Polyolefins - EAI	398	529	699	698	356
Intermediates & Derivatives	306	339	339	402	410
Refining	81	(30)	25	58	104
Technology	61	60	48	47	68
Other	(3)	(4)	-	-	4
Total	<u>1,435</u>	<u>1,617</u>	<u>1,970</u>	<u>1,821</u>	<u>1,726</u>
Less:					
LCM Adjustments:					
Olefins & Polyolefins - Americas	29	-	-	-	-
Olefins & Polyolefins - EAI	-	-	-	-	-
Intermediates & Derivatives	-	-	-	-	-
Refining	-	-	-	-	-
Technology	-	-	-	-	-
Other	-	-	-	-	-
Total	<u>29</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
EBITDA:					
Olefins & Polyolefins - Americas	563	723	859	616	784
Olefins & Polyolefins - EAI	398	529	699	698	356
Intermediates & Derivatives	306	339	339	402	410
Refining	81	(30)	25	58	104
Technology	61	60	48	47	68
Other	(3)	(4)	-	-	4
Total	<u>\$ 1,406</u>	<u>\$ 1,617</u>	<u>\$ 1,970</u>	<u>\$ 1,821</u>	<u>\$ 1,726</u>

**Reconciliation of EBITDA Excluding LCM Adjustments to EBITDA**

<b>In Millions of Dollars</b>	<b>For the Years Ended December 31,</b>					
	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>Average 2013 - 2017</b>
<b>EBITDA Excluding LCM Adjustments:</b>						
Olefins & Polyolefins - Americas	\$ 3,573	\$ 4,190	\$ 3,821	\$ 2,906	\$ 2,982	\$ 3,494
Olefins & Polyolefins - EAI	839	1,410	1,855	2,067	2,282	1,691
Intermediates & Derivatives	1,492	1,552	1,656	1,333	1,490	1,505
Refining	182	409	519	72	157	268
Technology	232	232	243	262	223	238
Other	(7)	17	(13)	(9)	-	(2)
Total	<u>6,311</u>	<u>7,810</u>	<u>8,081</u>	<u>6,631</u>	<u>7,134</u>	<u>7,194</u>
<b>Less:</b>						
<b>LCM Adjustments:</b>						
Olefins & Polyolefins - Americas	-	279	160	29	-	\$ 94
Olefins & Polyolefins - EAI	-	44	30	-	-	15
Intermediates & Derivatives	-	93	181	-	-	55
Refining	-	344	177	-	-	104
Technology	-	-	-	-	-	-
Other	-	-	-	-	-	-
Total	<u>-</u>	<u>760</u>	<u>548</u>	<u>29</u>	<u>-</u>	<u>268</u>
<b>EBITDA:</b>						
Olefins & Polyolefins - Americas	3,573	3,911	3,661	2,877	2,982	3,400
Olefins & Polyolefins - EAI	839	1,366	1,825	2,067	2,282	1,676
Intermediates & Derivatives	1,492	1,459	1,475	1,333	1,490	1,450
Refining	182	65	342	72	157	164
Technology	232	232	243	262	223	238
Other	(7)	17	(13)	(9)	-	(2)
Total	<u>\$ 6,311</u>	<u>\$ 7,050</u>	<u>\$ 7,533</u>	<u>\$ 6,602</u>	<u>\$ 7,134</u>	<u>\$ 6,926</u>

**Reconciliation of Net Income To EBITDA**

<u>In Millions of Dollars</u>	<b>Three Months Ended</b>				
	<b>December 31, 2016</b>	<b>March 31, 2017</b>	<b>June 30, 2017</b>	<b>September 30, 2017</b>	<b>December 31, 2017</b>
Net Income	\$ 763	\$ 797	\$ 1,130	\$ 1,056	\$ 1,894
Loss from Discontinued Operations	7	8	4	2	4
LCM Adjustments, After Tax	18	-	-	-	-
Income from Continuing Operations Excluding LCM Adjustments	788	805	1,134	1,058	1,898
Less:					
LCM Adjustments, After Tax	(18)	-	-	-	-
Income from Continuing Operations	770	805	1,134	1,058	1,898
Provision for (benefit from) Income Taxes	282	315	459	380	(556)
Depreciation and Amortization	273	296	286	294	298
Interest expense, net	81	201	91	89	86
LCM Adjustments, Pre Tax	29	-	-	-	-
EBITDA Excluding LCM Adjustments	1,435	1,617	1,970	1,821	1,726
LCM Adjustments, Pre Tax	(29)	-	-	-	-
EBITDA	<u>\$ 1,406</u>	<u>\$ 1,617</u>	<u>\$ 1,970</u>	<u>\$ 1,821</u>	<u>\$ 1,726</u>

**Reconciliation of Net Income To EBITDA**

	<b>For the Years Ended December 31,</b>				
<b><u>In Millions of Dollars</u></b>	<b><u>2013</u></b>	<b><u>2014</u></b>	<b><u>2015</u></b>	<b><u>2016</u></b>	<b><u>2017</u></b>
Net Income	\$ 3,853	\$ 4,168	\$ 4,474	\$ 3,837	\$ 4,877
Loss from Discontinued Operations	7	4	5	10	18
LCM Adjustments, After Tax	-	483	351	18	-
Income from Continuing Operations Excluding LCM Adjustments	3,860	4,655	4,830	3,865	4,895
Less:					
LCM Adjustments, After Tax	-	(483)	(351)	(18)	-
Income from Continuing Operations	3,860	4,172	4,479	3,847	4,895
Provision for Income Taxes	1,136	1,540	1,730	1,386	598
Depreciation and Amortization	1,021	1,019	1,047	1,064	1,174
Interest expense, net	294	319	277	305	467
LCM Adjustments, Pre Tax	-	760	548	29	-
EBITDA Excluding LCM Adjustments	6,311	7,810	8,081	6,631	7,134
LCM Adjustments, Pre Tax	-	(760)	(548)	(29)	-
EBITDA	<u>\$ 6,311</u>	<u>\$ 7,050</u>	<u>\$ 7,533</u>	<u>\$ 6,602</u>	<u>\$ 7,134</u>

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

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	<b>Three Months Ended</b>				
	<b>December 31, 2016</b>	<b>March 31, 2017</b>	<b>June 30, 2017</b>	<b>September 30, 2017</b>	<b>December 31, 2017</b>
Diluted Earnings Per Share from Continuing Operations Excluding LCM Adjustments	\$ 1.94	\$ 2.00	\$ 2.82	\$ 2.67	\$ 4.80
Less:					
LCM Adjustments	0.05	-	-	-	-
Diluted Earnings Per Share from Continuing Operations	<u>\$ 1.89</u>	<u>\$ 2.00</u>	<u>\$ 2.82</u>	<u>\$ 2.67</u>	<u>\$ 4.80</u>

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

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	<b>For the Years Ended December 31,</b>				
	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Diluted Earnings Per Share from Continuing Operations Excluding LCM Adjustments	\$ 6.76	\$ 8.92	\$ 10.35	\$ 9.20	\$ 12.28
Less:					
LCM Adjustments	-	0.92	0.75	0.05	-
Diluted Earnings Per Share from Continuing Operations	<u>\$ 6.76</u>	<u>\$ 8.00</u>	<u>\$ 9.60</u>	<u>\$ 9.15</u>	<u>\$ 12.28</u>

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## Components of Cash and Liquid Investments

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<u>In Millions of Dollars</u>	<u>December 31, 2016</u>	<u>September 30, 2017</u>	<u>December 31, 2017</u>
Cash and Cash Equivalents and Restricted Cash	\$ 878	\$ 1,211	\$ 1,528
Short-Term Investments	1,147	1,295	1,307
Repurchase Agreements	369	561	570
Cash and Liquid Investments	<u>\$ 2,394</u>	<u>\$ 3,067</u>	<u>\$ 3,405</u>

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## **Calculation of Free Cash Flow Yield**

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<b><u>In Millions of Dollars (except share data)</u></b>	<b><u>Year Ended December 31, 2017</u></b>
Net Cash Provided by Operating Activities	\$ 5,206
Less:	
Capital Expenditures	<u>1,547</u>
Free Cash Flow	\$ <u>3,659</u>
Divided by:	
Market Capital:	
Common stock outstanding	394,512,054
Closing Share Price, end of period	<u>\$ 110.32</u>
Market Capital	\$ <u>43,523</u>
Free Cash Flow Yield	<u><u>8.4%</u></u>

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**Schedule of Spending for Dividends and Share Repurchases**

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**For the Years Ended December 31,**

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**In Millions of Dollars**

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
Dividends	\$ 1,127	\$ 1,403	\$ 1,410	\$ 1,395	\$ 1,415
Repurchases of Ordinary Shares	1,949	5,788	4,656	2,938	866
Total	<u>\$ 3,076</u>	<u>\$ 7,191</u>	<u>\$ 6,066</u>	<u>\$ 4,333</u>	<u>\$ 2,281</u>

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

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<u>In Million of Dollars</u>	<u>Years Ended December 31,</u>	
	<u>2016</u>	<u>2017</u>
Income from Continuing Operations		\$ 4,895
Less:		
Tax Benefit due to change in tax law		
from U.S. Tax Cuts and Jobs Act		819
Add:		
Interest Expense, Net		467
Effective Tax Rate (excluding Tax Benefit due to change in tax law)		<u>25.8%</u>
Interest Expense, Net, After Tax		<u>347</u>
Adjusted Income from Continuing Operations		<u>4,423</u>
Divided by:		
Average Invested Capital:		
Property, Plant & Equipment, Net	10,137	10,997
Current Assets	9,599	11,738
Less:		
Current Liabilities	4,540	4,777
Cash and Cash Equivalents	<u>875</u>	<u>1,523</u>
	<u>\$ 14,321</u>	<u>16,435</u>
Average Invested Capital		<u>\$ 15,378</u>
Return on Invested Capital		<u>29%</u>

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**Reconciliation of Ratio of Total Debt to EBITDA**

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	Three Months Ended				Year Ended
	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017	December 31, 2017
<u>In Millions of Dollars</u>					
Current Maturities of Long-Term Debt					\$ 2
Short-Term Debt					68
Long-Term Debt					8,549
Total Debt as of December 31, 2017					<u>8,619</u>
Divided by:					
EBITDA	\$ 1,617	\$ 1,970	\$ 1,821	\$ 1,726	\$ 7,134
Ratio of Total Debt to EBITDA					<u>1.2</u>

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