



CVR Energy Reports 2018 First Quarter Results And Announces Cash Dividend of 50 Cents

SUGAR LAND, Texas (April 26, 2018) - CVR Energy, Inc. (NYSE: CVI) today announced net income of \$66 million, or 76 cents per diluted share, on net sales of \$1,537 million for the first quarter of 2018, compared to net income of \$22 million, or 26 cents per diluted share, on net sales of \$1,507 million for the 2017 first quarter. First quarter 2018 adjusted EBITDA, a non-GAAP financial measure, was \$86 million, compared to first quarter 2017 adjusted EBITDA of \$80 million.

“CVR Refining reported solid financial results for the 2018 first quarter,” said Dave Lamp, CVR Energy’s chief executive officer. “The quarter’s fiscal performance was driven by stronger crack spreads, hedging gains, a reduction to CVR Refining’s estimated Renewable Volume Obligation and lower Renewable Identification Number prices.

“CVR Partners' Coffeyville, Kansas, fertilizer plant performed extremely well during the 2018 first quarter, posting on-stream rates at or near 100 percent,” Lamp said. “While unfavorable weather conditions have delayed the start of the spring application, we expect a strong planting season due to lower than average customer inventory levels.”

Petroleum Business

The petroleum business, which is operated by CVR Refining and includes the Coffeyville and Wynnewood refineries, reported first quarter 2018 operating income of \$97 million on net sales of \$1,458 million, compared to operating income of \$66 million on net sales of \$1,424 million in the first quarter of 2017.

Refining margin adjusted for FIFO impact per crude oil throughput barrel, a non-GAAP financial measure, was \$13.77 in the 2018 first quarter, compared to \$11.54 during the same period in 2017. Direct operating expenses (exclusive of depreciation and amortization), excluding major scheduled turnaround expenses, per combined total throughput, for the 2018 first quarter were \$5.49, compared to \$4.34 in the first quarter of 2017.

First quarter 2018 combined crude oil throughput was approximately 178,000 barrels per day (bpd), compared to approximately 214,000 bpd of combined crude oil throughput for the first quarter of 2017.

Nitrogen Fertilizers Business

The fertilizer business, which is operated by CVR Partners and includes the Coffeyville and East Dubuque fertilizer facilities, reported a first quarter 2018 operating loss of \$3 million on net sales of \$80 million, compared to operating income of \$5 million on net sales of \$85 million for the first quarter of 2017.

For the first quarter of 2018, consolidated average realized gate prices for UAN and ammonia were \$153 per ton and \$322 per ton, respectively. Consolidated average realized gate prices for UAN and ammonia were \$160 per ton and \$308 per ton, respectively, for the same period in 2017.

CVR Partners' fertilizer facilities produced a combined 199,000 tons of ammonia during the first quarter of 2018, of which 59,000 net tons were available for sale while the rest was upgraded to other fertilizer products, including 339,000 tons of UAN. In the 2017 first quarter, the fertilizer facilities produced 219,000 tons of ammonia, of which 80,000 net tons were available for sale while the remainder was upgraded to other fertilizer products, including 342,000 tons of UAN.

Cash, Debt and Dividend

Consolidated cash and cash equivalents was \$420 million at March 31, 2018. Consolidated total debt was \$1,167 million at March 31, 2018. The company had no debt exclusive of CVR Refining's and CVR Partners' debt.

CVR Energy also announced a first quarter 2018 cash dividend of 50 cents per share. The dividend, as declared by CVR Energy's Board of Directors, will be paid on May 14, 2018, to stockholders of record on May 7, 2018.

Today, CVR Refining announced a 2018 first quarter cash distribution of 51 cents per common unit. CVR Partners announced that it will not pay a cash distribution for the 2018 first quarter.

First Quarter 2018 Earnings Conference Call

CVR Energy previously announced that it will host its first quarter 2018 Earnings Conference Call for analysts and investors on Thursday, April 26, at 3 p.m. Eastern. The Earnings Conference Call may also include discussion of company developments, forward-looking information and other material information about business and financial matters.

The Earnings Conference Call will be broadcast live over the Internet at <http://edge.media-server.com/m6/p/5vre2rts>. For investors or analysts who want to participate during the call, the dial-in number is (877) 407-8291.

For those unable to listen live, the webcast will be archived and available for 14 days at <http://edge.media-server.com/m6/p/5vre2rts>. A repeat of the conference call can be accessed by dialing (877) 660-6853, conference ID 13678612.

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Forward-Looking Statements

This news release may contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. You can generally identify forward-looking statements by our use of forward-looking terminology such as “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “explore,” “evaluate,” “intend,” “may,” “might,” “plan,” “potential,” “predict,” “seek,” “should,” or “will,” or the negative thereof or other variations thereon or comparable terminology. These forward-looking statements are only predictions and involve known and unknown risks and uncertainties, many of which are beyond our control. For a discussion of risk factors which may affect our results, please see the risk factors and other disclosures included in our most recent Annual Report on Form 10-K, any subsequently filed Quarterly Reports on Form 10-Q and our other SEC filings. These risks may cause our actual results, performance or achievements to differ materially from any future results, performance or achievements expressed or implied by these forward-looking statements. Given these risks and uncertainties, you are cautioned not to place undue reliance on such forward-looking statements. The forward-looking statements included in this press release are made only as of the date hereof. CVR Energy disclaims any intention or obligation to update publicly or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except to the extent required by law.

About CVR Energy, Inc.

Headquartered in Sugar Land, Texas, CVR Energy is a diversified holding company primarily engaged in the petroleum refining and nitrogen fertilizer manufacturing industries through its holdings in two limited partnerships, CVR Refining, LP and CVR Partners, LP. CVR Energy subsidiaries serve as the general partner and own 66 percent of the common units of CVR Refining and 34 percent of the common units of CVR Partners.

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Financial and Operational Data (all information in this release is unaudited other than the balance sheet data as of December 31, 2017).

	Three Months Ended March 31,	
	2018	2017
(in millions, except per share data)		
Consolidated Statement of Operations Data:		
Net sales	\$ 1,536.5	\$ 1,507.1
Operating costs and expenses:		
Cost of materials and other	1,238.3	1,221.2
Direct operating expenses(1)	131.9	138.1
Depreciation and amortization	49.1	48.6
Cost of sales	<u>1,419.3</u>	<u>1,407.9</u>
Selling, general and administrative expenses(1)	23.9	29.1
Depreciation and amortization	<u>2.8</u>	<u>2.5</u>
Operating income	90.5	67.6
Interest expense and other financing costs	(27.1)	(27.0)
Interest income	0.2	0.2
Gain on derivatives, net	59.3	12.2
Other income, net	1.5	—
Income before income tax expense	<u>124.4</u>	<u>53.0</u>
Income tax expense	20.8	14.8
Net income	<u>103.6</u>	<u>38.2</u>
Less: Net income attributable to noncontrolling interest	37.4	16.0
Net income attributable to CVR Energy stockholders	<u>\$ 66.2</u>	<u>\$ 22.2</u>
Basic and diluted earnings per share	\$ 0.76	\$ 0.26
Dividends declared per share	\$ 0.50	\$ 0.50
Adjusted EBITDA*	\$ 85.9	\$ 80.4
Adjusted net income*	\$ 34.0	\$ 23.1
Adjusted net income per diluted share*	\$ 0.39	\$ 0.27
Weighted-average common shares outstanding - basic and diluted	86.8	86.8

* See “Use of Non-GAAP Financial Measures” below.

- (1) Direct operating expenses and selling, general and administrative expenses for the three months ended March 31, 2018 and 2017 are shown exclusive of depreciation and amortization, which amounts are presented separately below direct operating expenses and selling, general and administrative expenses.

	<u>As of March 31, 2018</u>	<u>As of December 31, 2017</u>
	(in millions)	
Balance Sheet Data:		
Cash and cash equivalents	\$ 420.0	\$ 481.8
Working capital	624.8	550.5
Total assets	3,823.3	3,806.7
Total debt, including current portion	1,167.0	1,166.5
Total CVR stockholders' equity	941.6	918.8

	<u>Three Months Ended March 31,</u>	
	<u>2018</u>	<u>2017</u>
	(in millions)	
Cash Flow Data:		
Net cash flow provided by (used in):		
Operating activities	\$ 24.5	\$ 137.2
Investing activities	(19.8)	(25.6)
Financing activities	(66.5)	(43.8)
Net increase (decrease) in cash and cash equivalents	<u>\$ (61.8)</u>	<u>\$ 67.8</u>

Segment Information

Our operations are organized into two reportable segments, Petroleum and Nitrogen Fertilizer. Our operations that are not included in the Petroleum and Nitrogen Fertilizer segments are included in the Corporate and Other segment (along with elimination of intersegment transactions). The Petroleum segment is operated by CVR Refining, LP ("CVR Refining"), in which we own a majority interest as well as serve as the general partner. The Petroleum segment includes the operations of the Coffeyville, Kansas and Wynnewood, Oklahoma refineries along with the crude oil gathering and pipeline systems. Detailed operating results for the Petroleum segment for the three months ended March 31, 2018 are included in CVR Refining's press release dated April 26, 2018. The Nitrogen Fertilizer segment is operated by CVR Partners, LP ("CVR Partners"), in which we own approximately 34% of the common units as of March 31, 2018 and serve as the general partner. The Nitrogen Fertilizer segment consists of nitrogen fertilizer manufacturing facilities located in Coffeyville, Kansas and East Dubuque, Illinois. Detailed operating results for the Nitrogen Fertilizer segment for the three months ended March 31, 2018 are included in CVR Partners' press release dated April 26, 2018.

	Petroleum (CVR Refining)	Nitrogen Fertilizer (CVR Partners)	Corporate and Other	Consolidated
	(in millions)			
Three Months Ended March 31, 2018				
Net sales	\$ 1,458.2	\$ 79.9	\$ (1.6)	\$ 1,536.5
Cost of materials and other	1,217.7	22.3	(1.7)	1,238.3
Direct operating expenses (1)	93.0	38.9	—	131.9
Major scheduled turnaround expenses	—	—	—	—
Selling, general and administrative	16.6	5.7	1.6	23.9
Depreciation and amortization	33.7	16.4	1.8	51.9
Operating income (loss)	<u>\$ 97.2</u>	<u>\$ (3.4)</u>	<u>\$ (3.3)</u>	<u>\$ 90.5</u>
Capital expenditures	\$ 16.0	\$ 2.7	\$ 1.3	\$ 20.0

	Petroleum (CVR Refining)	Nitrogen Fertilizer (CVR Partners)	Corporate and Other	Consolidated
	(in millions)			
Three Months Ended March 31, 2017				
Net sales	\$ 1,423.5	\$ 85.3	\$ (1.7)	\$ 1,507.1
Cost of materials and other	1,201.3	21.8	(1.9)	1,221.2
Direct operating expenses (1)	89.2	35.9	0.1	125.2
Major scheduled turnaround expenses	12.9	—	—	12.9
Selling, general and administrative	20.0	6.9	2.2	29.1
Depreciation and amortization	34.1	15.4	1.6	51.1
Operating income (loss)	<u>\$ 66.0</u>	<u>\$ 5.3</u>	<u>\$ (3.7)</u>	<u>\$ 67.6</u>
Capital expenditures	\$ 19.6	\$ 4.1	\$ 0.5	\$ 24.2

(1) Excluding turnaround expenses.

	Petroleum (CVR Refining)	Nitrogen Fertilizer (CVR Partners)	Corporate and Other	Consolidated
	(in millions)			
March 31, 2018				
Cash and cash equivalents	\$ 106.9	\$ 61.1	\$ 252.0	\$ 420.0
Total assets	2,295.3	1,239.5	288.5	3,823.3
Total debt, including current portion	540.4	626.6	—	1,167.0
December 31, 2017				
Cash and cash equivalents	\$ 173.8	\$ 49.2	\$ 258.8	\$ 481.8
Total assets	2,269.9	1,234.3	302.5	3,806.7
Total debt, including current portion	540.6	625.9	—	1,166.5

Petroleum Segment Operating Data

The following tables set forth information about our consolidated Petroleum segment operated by CVR Refining, of which we own a majority interest and serve as the general partner, and the Coffeyville and Wynnewood refineries. Reconciliations of certain non-GAAP financial measures are provided under “Use of Non-GAAP Financial Measures” below. Additional discussion of operating results for the Petroleum segment for the three months ended March 31, 2018 are included in CVR Refining’s press release dated April 26, 2018.

	Three Months Ended March 31,	
	2018	2017
(in millions)		
Petroleum Segment Summary Financial Results:		
Net sales	\$ 1,458.2	\$ 1,423.5
Operating costs and expenses:		
Cost of materials and other	1,217.7	1,201.3
Direct operating expenses(1)	93.0	89.2
Major scheduled turnaround expenses	—	12.9
Depreciation and amortization	32.7	33.3
Cost of sales	1,343.4	1,336.7
Selling, general and administrative expenses(1)	16.6	20.0
Depreciation and amortization	1.0	0.8
Operating income	97.2	66.0
Interest expense and other financing costs	(11.4)	(11.2)
Interest income	0.1	—
Gain on derivatives, net	59.3	12.2
Other income, net	1.5	—
Income before income tax expense	146.7	67.0
Income tax expense	—	—
Net income	\$ 146.7	\$ 67.0
Gross profit	\$ 114.8	\$ 86.8
Refining margin*	\$ 240.5	\$ 222.2
Refining margin adjusted for FIFO impact*	\$ 220.1	\$ 222.5
Adjusted Petroleum EBITDA*	\$ 125.7	\$ 114.5

* See “Use of Non-GAAP Financial Measures” below.

- (1) Direct operating expense for the three months ended March 31, 2018 and 2017 are shown exclusive of depreciation and amortization and major scheduled turnaround expenses, which amounts are presented separately below direct operating expenses. Selling, general and administrative expense for the three months ended March 31, 2018 and 2017 are shown exclusive of depreciation and amortization, which amounts are presented separately below selling, general and administrative expenses.

**Three Months Ended
March 31,**

2018 2017

(dollars per barrel)

Petroleum Segment Key Operating Statistics:

Per crude oil throughput barrel:

Gross profit	\$ 7.18	\$ 4.50
Refining margin*	15.04	11.52
FIFO impact, (favorable) unfavorable	(1.27)	0.02
Refining margin adjusted for FIFO impact*	13.77	11.54
Direct operating expenses and major scheduled turnaround expenses	5.82	5.29
Direct operating expenses excluding major scheduled turnaround expenses	5.82	4.63
Per total throughput barrel:		
Direct operating expenses and major scheduled turnaround expenses	5.49	4.96
Direct operating expenses excluding major scheduled turnaround expenses	5.49	4.34

* See "Use of Non-GAAP Financial Measures" below.

**Three Months Ended
March 31,**

2018

2017

%

%

Petroleum Segment Summary

Refining Throughput and Production Data (bpd):

Throughput:

Condensate	17,714	9.4	7,503	3.3
Sweet	159,495	84.7	190,350	83.3
Sour	—	—	—	—
Heavy sour	490	0.3	16,516	7.2
Total crude oil throughput	177,699	94.4	214,369	93.8
All other feedstocks and blendstocks	10,669	5.6	14,243	6.2
Total throughput	188,368	100.0	228,612	100.0

Production:

Gasoline	92,048	48.9	118,955	51.9
Distillate	78,866	41.9	89,907	39.2
Other (excluding internally produced fuel)	17,396	9.2	20,298	8.9
Total refining production (excluding internally produced fuel)	188,310	100.0	229,160	100.0

	Three Months Ended March 31,	
	2018	2017
Market Indicators (dollars per barrel):		
West Texas Intermediate (WTI) NYMEX	\$ 62.89	\$ 51.78
Crude Oil Differentials:		
WTI less WTS (light/medium sour)	1.43	1.42
WTI less WCS (heavy sour)	25.74	13.77
WTI less condensate	0.38	0.10
Midland Cushing Differential	0.38	(0.02)
NYMEX Crack Spreads:		
Gasoline	15.35	14.68
Heating Oil	20.46	15.54
NYMEX 2-1-1 Crack Spread	17.91	15.11
PADD II Group 3 Basis:		
Gasoline	(1.87)	(1.96)
Ultra Low Sulfur Diesel	(0.61)	(1.58)
PADD II Group 3 Product Crack Spread:		
Gasoline	13.48	12.71
Ultra Low Sulfur Diesel	19.85	13.96
PADD II Group 3 2-1-1	16.67	13.34

	Three Months Ended March 31,			
	2018		2017	
		%		%
Coffeyville Refinery Throughput and Production Data (bpd):				
Throughput:				
Condensate	17,714	17.0	7,503	5.3
Sweet	80,527	77.4	106,740	75.3
Sour	—	—	—	—
Heavy sour	490	0.5	16,516	11.7
Total crude oil throughput	98,731	94.9	130,759	92.3
All other feedstocks and blendstocks	5,365	5.1	10,915	7.7
Total throughput	104,096	100.0	141,674	100.0
Production:				
Gasoline	48,453	45.9	74,538	51.6
Distillate	44,245	41.9	59,444	41.2
Other (excluding internally produced fuel)	12,831	12.2	10,335	7.2
Total refining production (excluding internally produced fuel)	105,529	100.0	144,317	100.0

**Three Months Ended
March 31,**

	2018		2017	
	%		%	
Wynnewood Refinery Throughput and Production Data (bpd):				
Throughput:				
Condensate	—	—	—	—
Sweet	78,968	93.7	83,610	96.2
Sour	—	—	—	—
Heavy sour	—	—	—	—
Total crude oil throughput	78,968	93.7	83,610	96.2
All other feedstocks and blendstocks	5,304	6.3	3,328	3.8
Total throughput	84,272	100.0	86,938	100.0
Production:				
Gasoline	43,595	52.7	44,417	52.4
Distillate	34,621	41.8	30,463	35.9
Other (excluding internally produced fuel)	4,565	5.5	9,963	11.7
Total refining production (excluding internally produced fuel)	82,781	100.0	84,843	100.0

Nitrogen Fertilizer Segment Operating Data

The following tables set forth information about the Nitrogen Fertilizer segment operated by CVR Partners, of which we own approximately 34% of the common units as of March 31, 2018 and serve as the general partner. Reconciliations of certain non-GAAP financial measures are provided under “Use of Non-GAAP Financial Measures” below. Additional discussion of operating results for the Nitrogen Fertilizer segment for the three months ended March 31, 2018 are included in CVR Partners’ press release dated April 26, 2018.

	Three Months Ended	
	March 31,	
	2018	2017
	(in millions)	
Nitrogen Fertilizer Segment Business Financial Results:		
Net sales	\$ 79.9	\$ 85.3
Cost of materials and other	22.3	21.8
Direct operating expenses(1)	38.9	35.9
Major scheduled turnaround expenses	—	—
Depreciation and amortization	16.4	15.4
Cost of sales	<u>77.6</u>	<u>73.1</u>
Selling, general and administrative expenses	5.7	6.9
Operating income (loss)	<u>(3.4)</u>	<u>5.3</u>
Interest expense and other financing costs	(15.7)	(15.7)
Other income, net	—	0.1
Loss before income tax expense	<u>(19.1)</u>	<u>(10.3)</u>
Income tax expense	—	—
Net loss	<u>\$ (19.1)</u>	<u>\$ (10.3)</u>
Adjusted Nitrogen Fertilizer EBITDA*	\$ 13.0	\$ 20.8

* See “Use of Non-GAAP Financial Measures” below.

- (1) Direct operating expenses for the three months ended March 31, 2018 and 2017 are shown exclusive of depreciation and amortization and major scheduled turnaround expenses, which amounts are presented separately below direct operating expenses.

**Three Months Ended
March 31,**

2018 2017

Nitrogen Fertilizer Segment Key Operating Statistics:

Consolidated sales (thousand tons):

Ammonia	36.1	61.9
UAN	345.3	321.6

Consolidated product pricing at gate (dollars per ton) (1):

Ammonia	\$ 322	\$ 308
UAN	\$ 153	\$ 160

Consolidated production volume (thousand tons):

Ammonia (gross produced) (2)	199.2	219.2
Ammonia (net available for sale) (2)	58.9	80.0
UAN	339.3	341.9

Feedstock:

Petroleum coke used in production (thousand tons)	118.2	132.6
Petroleum coke used in production (dollars per ton)	\$ 18	\$ 14
Natural gas used in production (thousands of MMBtus)(3)	1,850.3	2,091.2
Natural gas used in production (dollars per MMBtu)(3)(4)	\$ 3.24	\$ 3.41
Natural gas in cost of materials and other (thousands of MMBtus)(3)	1,257.7	1,476.0
Natural gas in cost of materials and other (dollars per MMBtu)(3)(4)	\$ 3.48	\$ 3.59

Coffeyville Facility on-stream factor (5):

Gasification	100.0%	98.9%
Ammonia	99.8%	98.5%
UAN	99.2%	96.8%

East Dubuque Facility on-stream factors (5):

Ammonia	86.7%	99.6%
UAN	87.0%	98.2%

Market Indicators:

Ammonia — Southern Plains (dollars per ton)	\$ 382	\$ 387
Ammonia — Corn belt (dollars per ton)	\$ 427	\$ 424
UAN — Corn belt (dollars per ton)	\$ 210	\$ 215
Natural gas NYMEX (dollars per MMBtu)	\$ 2.85	\$ 3.06

- (1) Product pricing at gate represents net sales less freight revenue divided by product sales volume in tons and is shown in order to provide a pricing measure that is comparable across the fertilizer industry.
- (2) Gross tons produced for ammonia represent total ammonia produced, including ammonia produced that was upgraded into other fertilizer products. Net tons available for sale represent the ammonia available for sale that was not upgraded into other fertilizer products.
- (3) The feedstock natural gas shown above does not include natural gas used for fuel. The cost of fuel natural gas is included in direct operating expense (exclusive of depreciation and amortization).

- (4) The cost per MMBtu excludes derivative activity, when applicable. The impact of natural gas derivative activity during the periods presented was not material.
- (5) On-stream factor is the total number of hours operated divided by the total number of hours in the reporting period and is included as a measure of operating efficiency.

Use of Non-GAAP Financial Measures

To supplement our actual results in accordance with accounting principles generally accepted in the United States of America ("GAAP") for the applicable periods, we also use the non-GAAP financial measures noted above, which are reconciled to our GAAP-based results below. These non-GAAP financial measures should not be considered an alternative for GAAP results. The adjustments are provided to enhance an overall understanding of our financial performance for the applicable periods and are indicators management believes are relevant and useful for planning and forecasting future periods.

Adjusted net income is not a recognized term under GAAP and should not be substituted for net income (loss) as a measure of our performance, but rather should be utilized as a supplemental measure of financial performance in evaluating our business. Management believes that adjusted net income provides relevant and useful information that enables external users of our financial statements, such as industry analysts, investors, lenders and rating agencies, to better understand and evaluate our ongoing operating results and allow for greater transparency in the review of our overall financial, operational and economic performance. Adjusted net income per diluted share represents adjusted net income divided by the weighted-average diluted shares outstanding. Adjusted net income represents net income (loss), as adjusted, that is attributable to CVR Energy stockholders.

Three Months Ended March 31,	
2018	2017
(in millions, except per share data)	

Reconciliation of Income before income tax expense to Adjusted Net Income:

Income before income tax expense	\$ 124.4	\$ 53.0
Adjustments:		
FIFO impact, (favorable) unfavorable	(20.4)	0.3
Major scheduled turnaround expenses	—	12.9
Gain on derivatives, net	(59.3)	(12.2)
Current period settlement on derivative contracts (1)	13.7	1.2
Adjusted net income before income tax expense and noncontrolling interest	58.4	55.2
Adjusted net income attributed to noncontrolling interest	(14.9)	(16.7)
Income tax expense, as adjusted	(9.5)	(15.4)
Adjusted net income	\$ 34.0	\$ 23.1
Adjusted net income per diluted share	\$ 0.39	\$ 0.27

Refining margin per crude oil throughput barrel is a measurement calculated as the difference between the Petroleum segment's net sales and cost of materials and other. Refining margin is a non-GAAP measure that we believe is important to investors in evaluating the refineries' performance as a general indication of the amount above their cost of materials and other at which they are able to sell refined products. Each of the components used in this calculation (net sales and cost of materials and other) can be taken directly from our Petroleum segment's Statements of Operations. Our calculation of refining margin may differ from similar calculations of other companies in the industry, thereby limiting its usefulness as a comparative measure. In order to derive the refining margin per crude oil throughput barrel, we utilize the total dollar figures for refining margin as derived above and divide by the applicable number of crude oil throughput barrels for the period. We believe that refining margin and refining margin per crude oil throughput barrel are important to enable investors to better understand and evaluate the Petroleum segment's ongoing operating results and allow for greater transparency in the review of our overall financial, operational and economic performance.

Refining margin per crude oil throughput barrel adjusted for FIFO impact is a measurement calculated as the difference between the Petroleum segment's net sales and cost of materials and other adjusted for FIFO impact. Refining margin adjusted for FIFO impact is a non-GAAP measure that we believe is important to investors in evaluating the refineries' performance as a general indication of the amount above their cost of materials and other (taking into account the impact of the utilization of FIFO) at which they are able to sell refined products. Our calculation of refining margin adjusted for FIFO impact may differ from calculations of other companies in the industry, thereby limiting its usefulness as a comparative measure. Under the FIFO accounting method, changes in crude oil prices can cause fluctuations in the inventory valuation of crude oil, work in process and finished goods, thereby resulting in a favorable FIFO impact when crude oil prices increase and an unfavorable FIFO impact when crude oil prices decrease. In order to derive the refining margin per crude oil throughput barrel adjusted for FIFO impact, we utilize the total dollar figures for refining margin adjusted for FIFO impact as derived above and divide by the applicable number of crude oil throughput barrels for the period. We believe that refining margin adjusted for FIFO impact and refining margin per crude oil throughput barrel adjusted for FIFO impact are important to enable investors to better understand and evaluate the petroleum business' ongoing operating results and allow for greater transparency in the review of our overall financial, operational and economic performance.

The calculation of refining margin, refining margin adjusted for FIFO impact, refining margin per crude oil throughput barrel, and refining margin adjusted for FIFO impact per crude oil throughput barrel (each a non-GAAP financial measure), including a reconciliation to the most directly comparable GAAP financial measure for the three months ended March 31, 2018 and 2017 is as follows:

Petroleum Segment Operating Data

	Three Months Ended March 31,	
	2018	2017
	(in millions)	
Net sales	\$ 1,458.2	\$ 1,423.5
Operating costs and expenses:		
Cost of materials and other	1,217.7	1,201.3
Direct operating expenses (exclusive of depreciation and amortization and major scheduled turnaround expenses as reflected below)	93.0	89.2
Major scheduled turnaround expenses	—	12.9
Depreciation and amortization	32.7	33.3
Gross profit	114.8	86.8
Add:		
Direct operating expenses (exclusive of depreciation and amortization and major scheduled turnaround expenses as reflected below)	93.0	89.2
Major scheduled turnaround expenses	—	12.9
Depreciation and amortization	32.7	33.3
Refining margin	240.5	222.2
FIFO impact, (favorable) unfavorable	(20.4)	0.3
Refining margin adjusted for FIFO impact	\$ 220.1	\$ 222.5

	Three Months Ended March 31,	
	2018	2017
Total crude oil throughput barrels per day	177,699	214,369
Days in the period	90	90
Total crude oil throughput barrels	15,992,910	19,293,210

	Three Months Ended March 31,	
	2018	2017
	(in millions, except for \$ per barrel data)	
Refining margin	\$ 240.5	\$ 222.2
Divided by: crude oil throughput barrels	16.0	19.3
Refining margin per crude oil throughput barrel	<u>\$ 15.04</u>	<u>\$ 11.52</u>

	Three Months Ended March 31,	
	2018	2017
	(in millions, except for \$ per barrel data)	
Refining margin adjusted for FIFO impact	\$ 220.1	\$ 222.5
Divided by: crude oil throughput barrels	16.0	19.3
Refining margin adjusted for FIFO impact per crude oil throughput barrel	<u>\$ 13.77</u>	<u>\$ 11.54</u>

EBITDA and Adjusted EBITDA. EBITDA represents net income attributable to CVR Energy stockholders before consolidated (i) interest expense and other financing costs, net of interest income, (ii) income tax expense (benefit), and (iii) depreciation and amortization, less the portion of these adjustments attributable to non-controlling interest. Adjusted EBITDA represents EBITDA adjusted for, as applicable, consolidated (i) FIFO impact (favorable) unfavorable; (ii) major scheduled turnaround expenses (that many of our competitors capitalize and thereby exclude from their measures of EBITDA and adjusted EBITDA); (iii) (gain) loss on derivatives, net and (iv) current period settlements on derivative contracts, less the portion of these adjustments attributable to non-controlling interest. EBITDA and Adjusted EBITDA are not recognized terms under GAAP and should not be substituted for net income (loss) or cash flow from operations. We believe that EBITDA and Adjusted EBITDA enable investors to better understand and evaluate our ongoing operating results and allow for greater transparency in reviewing our overall financial, operational and economic performance. EBITDA and Adjusted EBITDA presented by other companies may not be comparable to our presentation, since each company may define these terms differently. EBITDA and Adjusted EBITDA represent EBITDA and Adjusted EBITDA that is attributable to CVR Energy stockholders.

A reconciliation of net income attributable to CVR Energy stockholders to EBITDA and EBITDA to Adjusted EBITDA for the three months ended March 31, 2018 and 2017 is as follows:

	Three Months Ended March 31,	
	2018	2017
	(in millions)	
Net income attributable to CVR Energy stockholders	\$ 66.2	\$ 22.2
Add:		
Interest expense and other financing costs, net of interest income	26.9	26.8
Income tax expense	20.8	14.8
Depreciation and amortization	51.9	51.1
Adjustments attributable to noncontrolling interest	(36.4)	(35.9)
EBITDA	<u>129.4</u>	<u>79.0</u>
Add:		
FIFO impact, (favorable) unfavorable	(20.4)	0.3
Major scheduled turnaround expenses	—	12.9
Gain on derivatives, net	(59.3)	(12.2)
Current period settlement on derivative contracts (1)	13.7	1.2
Adjustments attributable to noncontrolling interest	22.5	(0.8)
Adjusted EBITDA	<u>\$ 85.9</u>	<u>\$ 80.4</u>

Petroleum and Nitrogen Fertilizer EBITDA and Adjusted EBITDA. EBITDA by operating segment represents net income (loss) before (i) interest expense and other financing costs, net of interest income, (ii) income tax expense and (iii) depreciation and amortization. Adjusted EBITDA by operating segment represents EBITDA by operating segment adjusted for, as applicable (i) FIFO impact (favorable) unfavorable; (ii) major scheduled turnaround expenses (that many of our competitors capitalize and thereby exclude from their measures of EBITDA and adjusted EBITDA); (iii) (gain) loss on derivatives, net; and (iv) current period settlements on derivative contracts.

We present Adjusted EBITDA by operating segment because it is the starting point for CVR Refining's and CVR Partners' determination of available cash for distribution. EBITDA and Adjusted EBITDA by operating segment are not recognized terms under GAAP and should not be substituted for net income (loss) as a measure of performance. We believe that EBITDA and Adjusted EBITDA by operating segment enable investors to better understand CVR Refining's and CVR Partners' ability to make distributions to their common unitholders, help investors evaluate our ongoing operating results and allow for greater transparency in reviewing our overall financial, operational and economic performance. EBITDA and Adjusted EBITDA presented by other companies may not be comparable to our presentation, since each company may define these terms differently.

A reconciliation of net income (loss) to EBITDA and EBITDA to Adjusted EBITDA for the Petroleum and Nitrogen Fertilizer segments for the three months ended March 31, 2018 and 2017 is as follows:

	Three Months Ended March 31,	
	2018	2017
	(in millions)	
Petroleum:		
Petroleum net income	\$ 146.7	\$ 67.0
Add:		
Interest expense and other financing costs, net of interest income	11.3	11.2
Income tax expense	—	—
Depreciation and amortization	33.7	34.1
Petroleum EBITDA	191.7	112.3
Add:		
FIFO impact, (favorable) unfavorable	(20.4)	0.3
Major scheduled turnaround expenses	—	12.9
Gain on derivatives, net	(59.3)	(12.2)
Current period settlements on derivative contracts (1)	13.7	1.2
Adjusted Petroleum EBITDA	\$ 125.7	\$ 114.5

	Three Months Ended March 31,	
	2018	2017
	(in millions)	
Nitrogen Fertilizer:		
Nitrogen fertilizer net loss	\$ (19.1)	\$ (10.3)
Add:		
Interest expense and other financing costs, net	15.7	15.7
Income tax expense	—	—
Depreciation and amortization	16.4	15.4
Nitrogen Fertilizer EBITDA and Adjusted EBITDA	\$ 13.0	\$ 20.8

- (1) Represents the portion of gain (loss) on derivatives, net related to contracts that matured during the respective periods and settled with counterparties. There are no premiums paid or received at inception of the derivative contracts and upon settlement, there is no cost recovery associated with these contracts.