UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2020

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number: 001-33492

CVR Energy, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**61-1512186**
(State or Other Jurisdiction of Incorporation or Organization)	*(I.R.S. Employer Identification No.)*

2277 Plaza Drive, Suite 500, Sugar Land, Texas 77479
(Address of principal executive offices) (Zip Code)
281-207-3200
(Registrant's Telephone Number, including Area Code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Ticker Symbol(s)	Name of Each Exchange on Which Registered
Common Stock, $0.01 par value per share	CVI	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☑

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☑	Accelerated filer	☐	Non-accelerated filer	☐
Smaller reporting company	☐	Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm prepared or issued its audit report. ☑

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☑

At June 30, 2020, the aggregate market value of the voting common stock held by non-affiliates of the registrant was approximately $590 million based upon the closing price of its common stock on the New York Stock Exchange Composite tape. As of February 19, 2021, there were 100,530,599 shares of the registrant's common stock outstanding.

Documents Incorporated By Reference

Portions of the registrant's Proxy Statement to be filed pursuant to Regulation 14A pertaining to the 2021 Annual Meeting of Stockholders are incorporated by reference into Part III hereof. The Company intends to file such Proxy Statement no later than 120 days after the end of the fiscal year covered by this Form 10-K.

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GLOSSARY OF SELECTED TERMS

The following are definitions of certain terms used in this Annual Report on Form 10-K for the year ended December 31, 2020 (this "Report").

2-1-1 crack spread — The approximate gross margin resulting from processing two barrels of crude oil to produce one barrel of gasoline and one barrel of distillate. The 2-1-1 crack spread is expressed in dollars per barrel and is a proxy for the per barrel margin that a sweet crude oil refinery would earn assuming it produced and sold the benchmark production of gasoline and distillate.

Ammonia — Ammonia is a direct application fertilizer and is primarily used as a building block for other nitrogen products for industrial applications and finished fertilizer products.

Blendstocks — Various compounds that are combined with gasoline or diesel from the crude oil refining process to make finished gasoline and diesel fuel; these may include natural gas liquids, ethanol, or reformate, among others.

Bpd — Abbreviation for barrels per day.

Bulk sales — Volume sales through third-party pipelines, in contrast to tanker truck quantity rack sales.

Capacity — Capacity is defined as the throughput a process unit is capable of sustaining, either on a calendar or stream day basis. The throughput may be expressed in terms of maximum sustainable, nameplate or economic capacity. The maximum sustainable or nameplate capacities may not be the most economical. The economic capacity is the throughput that generally provides the greatest economic benefit based on considerations such as crude oil and other feedstock costs, product values, regulatory compliance costs and downstream unit constraints.

Catalyst — A substance that alters, accelerates, or instigates chemical changes, but is neither produced, consumed nor altered in the process.

Corn belt —The primary corn producing region of the United States, which includes Illinois, Indiana, Iowa, Minnesota, Missouri, Nebraska, Ohio and Wisconsin.

Crack spread — A simplified calculation that measures the difference between the price for light products and crude oil.

Distillates — Primarily diesel fuel, kerosene and jet fuel.

Ethanol — A clear, colorless, flammable oxygenated hydrocarbon. Ethanol is typically produced chemically from ethylene, or biologically from fermentation of various sugars from carbohydrates found in agricultural crops and cellulosic residues from crops or wood. It is used in the United States as a gasoline octane enhancer and oxygenate.

FCCU — Refers to the fluid catalytic cracking unit.

Feedstocks — Petroleum products, such as crude oil or FCCU gasoline, that are processed and blended into refined products, such as gasoline, diesel fuel, and jet fuel during the refining process.

Group 3 — A geographic subset of the PADD II region comprising refineries in the midcontinent portion of the United States, specifically Oklahoma, Kansas, Missouri, Nebraska, Iowa, Minnesota, North Dakota, and South Dakota.

Heavy crude oil — A relatively inexpensive crude oil characterized by high relative density and viscosity. Heavy crude oils require greater levels of processing to produce high value products such as gasoline and diesel fuel.

Light crude oil — A relatively expensive crude oil characterized by low relative density and viscosity. Light crude oils require lower levels of processing to produce high value products such as gasoline and diesel fuel.

Liquid volume yield — A calculation of the total liquid volumes produced divided by total throughput.

MMBtu — One million British thermal units, or Btu: a measure of energy. One Btu of heat is required to raise the temperature of one pound of water one degree Fahrenheit.

Petroleum coke (pet coke) — A coal-like substance that is produced during the refining process.

Product pricing at gate — Product pricing at gate represents net sales less freight revenue divided by product sales volume in tons. Product pricing at gate is also referred to as netback.

Rack sales — Sales which are made at terminals into third-party tanker trucks or railcars.

RBOB — Reformulated blendstocks for oxygenate blending.

Refined products — Petroleum products, such as gasoline, diesel fuel, and jet fuel, that are produced by a refinery.

Sour crude oil — A crude oil that is relatively high in sulfur content, requiring additional processing to remove the sulfur. Sour crude oil is typically less expensive than sweet crude oil.

Spot market — A market in which commodities are bought and sold for cash and delivered immediately.

Sweet crude oil — A crude oil that is relatively low in sulfur content, requiring less processing to remove the sulfur. Sweet crude oil is typically more expensive than sour crude oil.

Throughput — The quantity of crude oil and other feedstocks processed at a refinery measured in barrels per day.

Turnaround — A periodically performed standard procedure to inspect, refurbish, repair, and maintain the refinery or nitrogen fertilizer plant assets. This process involves the shutdown and inspection of major processing units and occurs every four to five years for the refineries and every two to three years for the nitrogen fertilizer facilities. A turnaround will typically extend the operating life of a facility and return performance to desired operating levels.

UAN — An aqueous solution of urea and ammonium nitrate used as a fertilizer.

ULSD — Ultra low sulfur diesel.

Utilization — Measurement of the annual production of UAN and Ammonia expressed as a percentage of each facilities nameplate production capacity.

WCS —Western Canadian Select crude oil, a medium to heavy, sour crude oil, characterized by an American Petroleum Institute gravity ("API gravity") of between 20 and 22 degrees and a sulfur content of approximately 3.3 weight percent.

WTI — West Texas Intermediate crude oil, a light, sweet crude oil, characterized by an API gravity between 39 and 41 degrees and a sulfur content of approximately 0.4 weight percent that is used as a benchmark for other crude oils.

WTL — West Texas Light crude oil, a light, sweet crude oil, characterized by an API gravity between 44 and 50 degrees and a sulfur content of approximately 0.4 weight percent that is used as a benchmark for other crude oils with a slightly heavier grade than WTI.

Yield — The percentage of refined products that is produced from crude oil and other feedstocks.

Important Information Regarding Forward Looking Statements

This Annual Report on Form 10-K contains forward looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), including, but not limited to, those under Item 1. Business, Item 1A. Risk Factors, and Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations. These forward looking statements are subject to a number of risks and uncertainties, many of which are beyond our control. All statements other than statements of historical fact, including without limitation, statements regarding future operations, financial position, estimated revenues and losses, growth, capital projects, stock or unit repurchases, impacts of legal proceedings, projected costs, prospects, plans, and objectives of management are forward looking statements. The words “could,” “believe,” “anticipate,” “intend,” “estimate,” “expect,” “may,” “continue,” “predict,” “potential,” “project,” and similar terms and phrases are intended to identify forward looking statements.

Although we believe our assumptions concerning future events are reasonable, a number of risks, uncertainties, and other factors could cause actual results and trends to differ materially from those projected or forward looking. Forward looking statements, as well as certain risks, contingencies or uncertainties that may impact our forward looking statements, include but are not limited to the following:

- volatile margins in the refining industry and exposure to the risks associated with volatile crude oil, refined product and feedstock prices;
- the availability of adequate cash and other sources of liquidity for the capital needs of our businesses;
- the severity, magnitude, duration, and impact of the novel coronavirus 2019 (“COVID-19”) pandemic and of businesses’ and governments’ responses to such pandemic on our operations, personnel, commercial activity, and supply and demand across our and our customers’ and suppliers’ business;
- changes in market conditions and market volatility arising from the COVID-19 pandemic, including crude oil and other commodity prices, demand for those commodities, storage and transportation capacities, and the impact of such changes on our operating results and financial position;
- the ability to forecast our future financial condition, results of operations, revenues and expenses;
- the effects of transactions involving forward and derivative instruments;
- changes in laws, regulations and policies with respect to the export of crude oil, refined products or other hydrocarbons including, without limitation, the actions of the Biden Administration that impact oil and gas operations in the U.S.;
- interruption in pipelines supplying feedstocks or distributing the petroleum business’ products;
- competition in the petroleum and nitrogen fertilizer businesses including potential impacts of domestic and global supply and demand and/or domestic or international duties, tariffs, or similar costs;
- capital expenditures;
- changes in our or our segments’ credit profiles;
- the cyclical and seasonal nature of the petroleum and nitrogen fertilizer businesses;
- the supply, availability and price levels of essential raw materials and feedstocks;
- our production levels, including the risk of a material decline in those levels;
- accidents or other unscheduled shutdowns or interruptions affecting our facilities, machinery, or equipment, or those of our suppliers or customers;
- existing and future laws, regulations or rulings, including but not limited to those relating to the environment, climate change, safety, security and/or the transportation of production of hazardous chemicals like ammonia, including potential liabilities or capital requirements arising from such laws, regulations or rulings;
- potential operating hazards from accidents, fire, severe weather, tornadoes, floods, or other natural disasters;
- the impact of weather on the nitrogen fertilizer business including our ability to produce, market or sell fertilizer products profitability or at all;
- rulings, judgements or settlements in litigation, tax or other legal or regulatory matters;
- the dependence of the nitrogen fertilizer business on customers and distributors including to transport goods and equipment;
- the reliance on, or the ability to procure economically or at all, pet coke our nitrogen fertilizer business purchases from CVR Refining and third-party suppliers or the natural gas, electricity, oxygen, nitrogen, sulfur processing and compressed dry air and other products purchased from third parties by the nitrogen fertilizer and petroleum businesses;
- risks associated with third party operation of or control over important facilities necessary for operation of our refineries and nitrogen fertilizer facilities;
- risks of terrorism, cybersecurity attacks, and the security of chemical manufacturing facilities and other matters beyond our control;

- our lack of diversification of assets or operating and supply areas;
- the petroleum business' and the nitrogen fertilizer business' dependence on significant customers and the creditworthiness and performance by counterparties;
- the potential loss of the nitrogen fertilizer business' transportation cost advantage over its competitors;
- the potential inability to successfully implement our business strategies, including the completion of significant capital programs or projects, including but not limited to the renewable diesel project at our Wynnewood Refinery;
- our ability to continue to license the technology used for our operations;
- our petroleum business' ability to purchase renewable identification numbers ("RINs") on a timely and cost effective basis;
- our businesses' ability to obtain, retain or renew environmental and other governmental permits, licenses or authorizations necessary for the operation of its business;
- existing and proposed laws, regulations or rulings, including but not limited to those relating to climate change, alternative energy or fuel sources, and existing and future regulations related to the end-use of our products or the application of fertilizers;
- refinery and nitrogen fertilizer facilities' operating hazards and interruptions, including unscheduled maintenance or downtime and the availability of adequate insurance coverage;
- risks related to services provided by or competition among our subsidiaries, including conflicts of interests and control of CVR Partners' general partner;
- instability and volatility in the capital and credit markets;
- restrictions in our debt agreements;
- asset impairments and impacts thereof;
- the variable nature of CVR Partners' distributions, including the ability of its general partner to modify or revoke its distribution policy, or to cease making cash distributions on its common units;
- the possibility of changes in tax and other laws, regulations and policies, including, without limitation, actions of the Biden Administration that impact conventional fuel operations or favor renewable energy projects in the U.S.;
- changes in CVR Partners' treatment as a partnership for U.S. federal income or state tax purposes; and
- our ability to recover under our insurance policies for damages or losses in full or at all.

All forward looking statements contained in this Report only speak as of the date of this Report. We undertake no obligation to publicly update or revise any forward looking statements to reflect events or circumstances that occur after the date of this Report, or to reflect the occurrence of unanticipated events, except to the extent required by law.

PART I

Part I should be read in conjunction with Management's Discussion and Analysis in Item 7 and our consolidated financial statements and related notes thereto in Item 8.

Item 1. *Business*

Overview

CVR Energy, Inc. is a diversified holding company formed in September 2006 which is primarily engaged in the petroleum refining and nitrogen fertilizer manufacturing industries through its holdings in CVR Refining, LP which was a publicly traded limited partnership prior to January 29, 2019, (the "Petroleum Segment" or "CVR Refining") and CVR Partners, LP a publicly traded limited partnership, (the "Nitrogen Fertilizer Segment" or "CVR Partners"). CVR Refining is an independent petroleum refiner and marketer of high value transportation fuels. CVR Partners produces and markets nitrogen fertilizers in the form of UAN and ammonia. As used in this Annual Report on Form 10-K, the terms "CVR Energy", the "Company", "we", "us", or "our" generally include CVR Refining, CVR Partners, and their respective subsidiaries, as consolidated subsidiaries of the Company with certain exceptions where there are transactions or obligations between and among CVR Refining, CVR Partners, and CVR Energy, including their subsidiaries. Refer to "Petroleum" and "Nitrogen Fertilizer" below for further details on our two business segments.

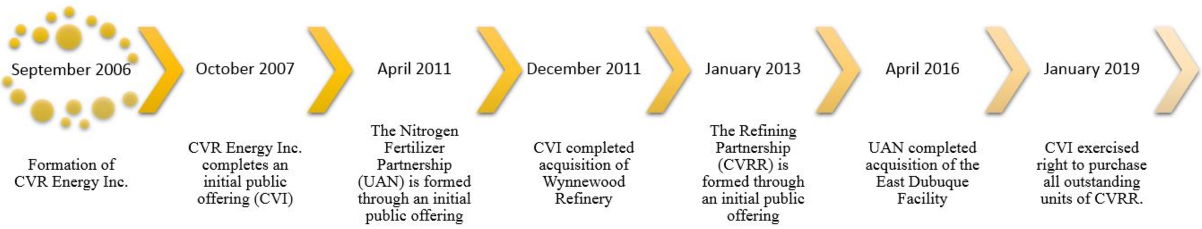
Our common stock is listed on the New York Stock Exchange ("NYSE") under the symbol "CVI," and CVR Partners' common units are listed on the NYSE under the symbol "UAN." As of December 31, 2020, Icahn Enterprises L.P. and its affiliates ("IEP") owned approximately 71% of our outstanding common stock.

As of December 31, 2020, we owned the general partner and approximately 36% of the outstanding common units representing limited partner interests in CVR Partners, with the public owning the remaining outstanding common units of CVR Partners.

As of December 31, 2020, we owned the general partner and all outstanding common units of CVR Refining, which common units of CVR Refining not then owned by the Company or its subsidiaries were purchased on January 29, 2019 from unaffiliated common unitholders following assignment by CVR Refining's general partner to the Company of its right to purchase all such common units (the "Public Unit Purchase") and from IEP pursuant to an agreement containing substantially similar terms as the Public Unit Purchase (the "Affiliate Unit Purchase" and together with the Public Unit Purchase, the "CVRR Unit Purchase"). As a result of the CVRR Unit Purchase, CVR Refining's common units were delisted effective January 29, 2019, and its reporting obligations under Sections 13(a) and 15(d) of the Exchange Act were suspended as of February 8, 2019. Refer to Item 8, Note 1 ("Organization and Nature of Business") for further discussion of the CVRR Unit Purchase.

Our History

The following graphic depicts the Company's history and key events that have occurred since the Company's formation.



Petroleum

Our Petroleum Segment is comprised of the assets and operations of CVR Refining, including two refineries located in Coffeyville, Kansas and Wynnewood, Oklahoma and supporting logistics assets in the region.

Facilities

Coffeyville Refinery - We own a complex full coking medium-sour crude oil refinery in southeast Kansas, approximately 100 miles from Cushing, Oklahoma ("Cushing") with a name plate crude oil capacity of 132,000 bpd (the "Coffeyville Refinery"). The major operations of the Coffeyville Refinery include fractionation, catalytic cracking, hydrotreating, reforming, coking, isomerization, alkylation, sulfur recovery, and propane and butane recovery operating units. The Coffeyville Refinery benefits from significant refining unit redundancies, which include two crude oil distillation and vacuum towers, three sulfur recovery units, and five hydrotreating units. These redundancies allow the Coffeyville Refinery to continue to receive and process crude oil even if one tower requires maintenance without having to shut down the entire refinery. In addition, the Coffeyville Refinery has a hydrogen sale agreement with a subsidiary of CVR Partners where a fixed monthly volume of hydrogen is sold to a CVR Partners' subsidiary.

Wynnewood Refinery - We own a complex crude oil refinery in Wynnewood, Oklahoma approximately 65 miles south of Oklahoma City, Oklahoma and approximately 130 miles from Cushing with a name plate crude oil capacity of 74,500 bpd capable of processing 20,000 bpd of light sour crude oil (the "Wynnewood Refinery" and together with the Coffeyville Refinery, the "Refineries"). The major operations of the Wynnewood Refinery include fractionation, hydrotreating, hydrocracking, reforming, solvent deasphalting, alkylation, sulfur recovery, and propane and butane recovery operating units. Similar to the Coffeyville Refinery, the Wynnewood Refinery benefits from unit redundancies, including two crude oil distillation and vacuum towers and four hydrotreating units.

In December 2020, our Board of Directors approved the renewable diesel project at our Wynnewood Refinery, which would convert the Wynnewood Refinery's hydrocracker to a renewable diesel unit capable of producing 100 million gallons of renewable diesel per year (the "RDU"). Total estimated costs for the project are currently $110 million and completion of the RDU is expected in June 2021. As a result of the conversion of the hydrocracker to RDU service, the crude oil capacity of the Wynnewood Refinery will be reduced by approximately 17,000 bpd to 57,500 bpd.

Throughput by Refinery

	Year Ended December 31, 2020		
(in bpd)	Coffeyville	Wynnewood	Total
Total crude throughput	**100,722**	**70,636**	**171,358**
All other feedstock and blendstock	**8,321**	**3,616**	**11,937**
Total throughput	**109,043**	**74,252**	**183,295**

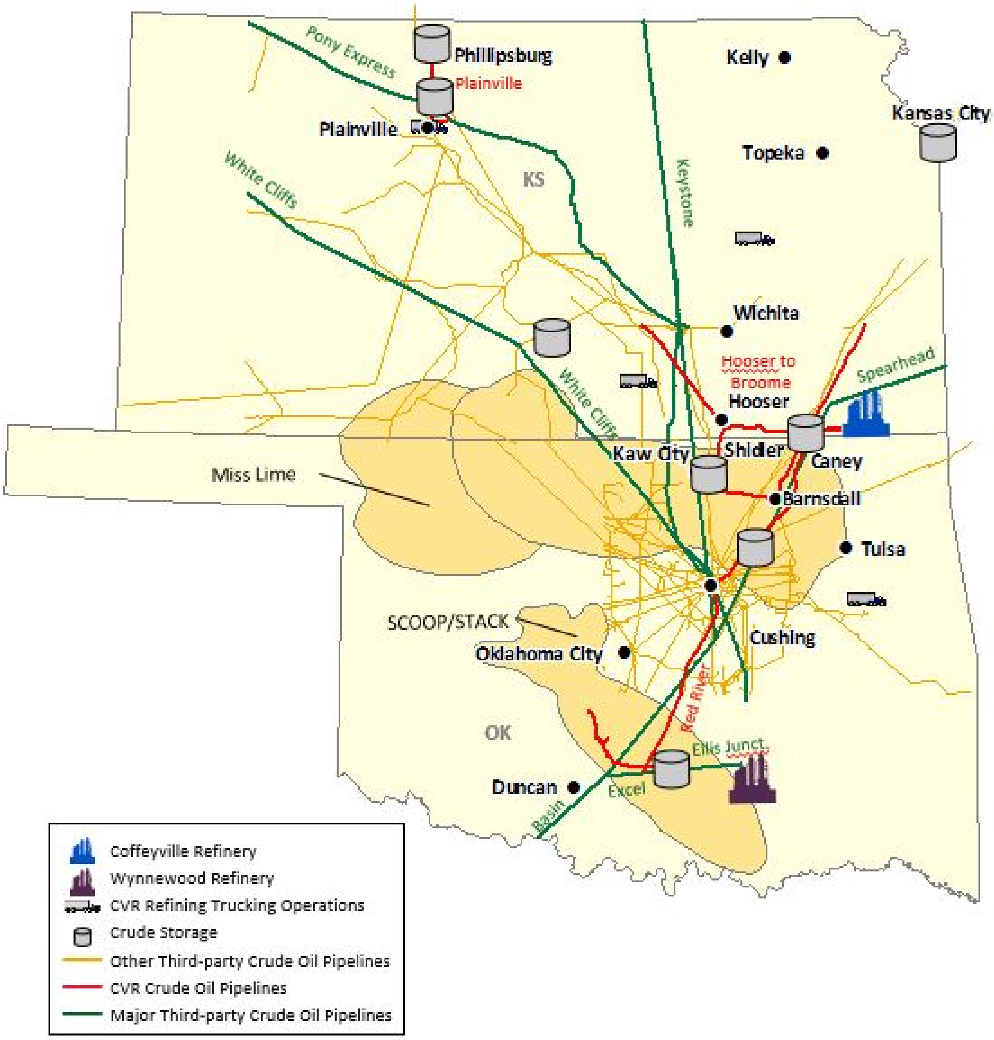
	Year Ended December 31, 2019		
(in bpd)	Coffeyville	Wynnewood	Total
Total crude throughput	129,878	73,180	203,058
All other feedstock and blendstock	9,160	3,753	12,913
Total throughput	139,038	76,933	215,971

Production by Refinery

	Year Ended December 31, 2020		
(in bpd)	Coffeyville	Wynnewood	Total
Gasoline	**59,419**	**38,640**	**98,059**
Diesel fuels	**43,209**	**30,638**	**73,847**
Other refined products	**7,072**	**2,654**	**9,726**
Total production	**109,700**	**71,932**	**181,632**

(in bpd)	Year Ended December 31, 2019		
	Coffeyville	Wynnewood	Total
Gasoline	71,817	38,864	110,681
Diesel fuels	57,549	32,380	89,929
Other refined products	10,383	3,253	13,636
Total production	139,749	74,497	214,246

Supply



The Coffeyville Refinery has the capability to process a variety of crude oil ranging from heavy sour to light sweet crude oil. Currently, the Coffeyville Refinery crude oil slate consists of a blend of mid-continent domestic grades and various Canadian medium and heavy sours and other similarly sourced crudes. Other blendstocks include normal butane, natural gasoline, alkylation feeds, naphtha, gas oil, and vacuum tower bottoms. The Wynnewood Refinery has the capability to process blends of a variety of crude oil ranging from medium sour to light sweet crude oil. Isobutane, gasoline components, and normal butane blendstocks are also typically used.

In addition to the use of third-party pipelines, we have an extensive gathering system consisting of logistics assets that are owned, leased, or part of a joint venture operation. These assets include the following:

	As of December 31, 2020	
Pipeline Segment	**Length (miles)**	**Capacity (bpd)**
Joint Ventures:		
Midway Pipeline LLC ("Midway JV") (1)	100	150,000
Enable South Central Pipeline ("Enable JV") (1)	26	115,000
Owned Pipelines: (2)		
Valley to Hooser 8"	20	9,600
Hooser to Broome 8"	43	22,800
Broome to East Tank Farm 12" (3)	19	52,000
Broome to East Tank Farm 16" (3)	18	120,000
East Tank Farm to Refinery 16" (3)	2	160,000
Shidler to Hooser 4"	23	6,500
Plainville to Phillipsburg 6"	36	6,000
Plainville to Natoma 6"	10	6,500
Cushing to Payson 10" (Red River)	30	40,000
Payson to Enable tie 8" (Red River)	73	40,000
Leased Pipelines:		
Humboldt to Broome 8"	62	7,000
Kelley to Barnsdall 8"	31	3,600
Barnsdall to Caney 8"	36	3,600

(1) CVR Refining owns a 50% interest in the Midway JV and a 40% interest in the Enable JV. CVR Refining has the ability to exercise influence through its participation on the board of directors of each of the Midway JV and the Enable JV and does not serve as the day-to-day operator. We have determined that these entities should not be consolidated and apply the equity method of accounting. Refer to Item 8, Note 3 ("Equity Method Investments") for further discussion of these investments.

(2) On February 1, 2021, we acquired approximately 600 miles of crude oil pipeline and related crude oil storage capacity on the pipelines located primarily in Oklahoma with a capacity of 40,000 bpd. The table below does not reflect this pipeline.

(3) In support of our Coffeyville Refinery, we own and operate a tank storage facility in close proximity to the Coffeyville Refinery (the "East Tank Farm").

For the acquisition of crude oil within close proximity of the Refineries, we operate a fleet of approximately 115 trucks and have contracts with third-party trucking fleets to acquire and deliver crude oil to our pipeline system or directly to the Refineries for consumption or resale. For the year ended December 31, 2020, the gathering system, which includes the pipelines outlined above and our trucking operations, supplied approximately 53% and 88% of the Coffeyville and Wynnewood Refineries' crude oil demand, respectively. Regionally-sourced crude oils delivered to the Refineries usually have a transportation cost advantage compared to other domestic or international crudes given the Refineries' proximity to the producing areas. However, sometimes slightly heavier and more sour crudes may offer good economics to the Refineries, notwithstanding the higher transportation costs. The regionally-sourced crude oils we purchase are light and sweet enough to allow the Refineries to blend higher percentages of lower cost crude oils, such as heavy Canadian sour, to optimize economics within operational constraints.

Crude oils sourced outside of our gathering system are delivered to Cushing by various third-party pipelines, including the Keystone and Spearhead pipelines on which we can be subject to proration, and subsequently to the Broome Station facility via the Midway JV pipeline. From the Broome Station facility, crude oil is delivered to the Coffeyville Refinery via the Petroleum Segment's 170,000 bpd proprietary pipeline system. Crude oils are delivered to the Wynnewood Refinery through third-party and joint venture pipelines and received into storage tanks at terminals located on or near the refinery. We also lease tank storage totaling 2.1 million barrels, including 1.9 million barrels at Cushing.

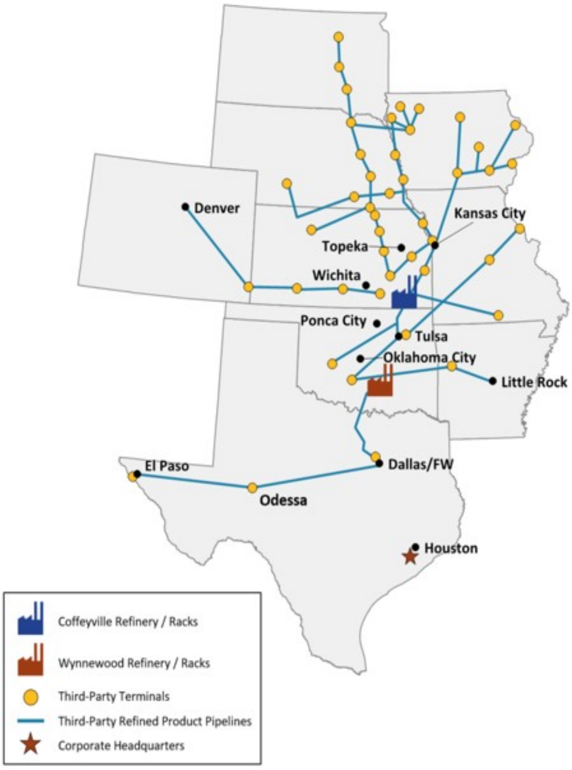
The Coffeyville Refinery is connected to the mid-continent natural gas liquid commercial hub at Conway, Kansas by the inbound Enterprise Pipeline Blue Line. Natural gas liquid blendstocks, such as butanes and natural gasoline, are sourced and delivered directly into the refinery. In addition, Coffeyville Refinery's proximity to Conway provides access to the natural gas liquid and liquid petroleum gas fractionation and storage capabilities.

Through the crude oil and other feedstock supply operations outlined above, and the associated markets available to us, we are able to source and refine crude oils from different locations and of different compositions when it is economically advantageous to do so. The tables below present the total crude throughput by refinery for the years ended December 31, 2020 and 2019:

	Year Ended December 31, 2020					
(in bpd)	**Coffeyville**		**Wynnewood**		**Total**	
Regional Crude	**34,652**	**34 %**	**56,932**	**81 %**	**91,584**	**53 %**
WTI	**51,656**	**51 %**	**—**	**— %**	**51,656**	**30 %**
WTL	**—**	**— %**	**6,235**	**8 %**	**6,235**	**4 %**
Midland WTI	**—**	**— %**	**1,262**	**2 %**	**1,262**	**1 %**
Condensate	**8,243**	**8 %**	**6,207**	**9 %**	**14,450**	**8 %**
Heavy Canadian	**1,020**	**1 %**	**—**	**— %**	**1,020**	**1 %**
Other Crude Oil	**5,151**	**6 %**	**—**	**— %**	**5,151**	**3 %**
Total crude throughput	**100,722**	**100 %**	**70,636**	**100 %**	**171,358**	**100 %**

	Year Ended December 31, 2019					
(in bpd)	**Coffeyville**		**Wynnewood**		**Total**	
Regional Crude	49,093	38 %	53,848	74 %	102,941	51 %
WTI	67,382	52 %	3	— %	67,385	33 %
WTL	473	— %	668	1 %	1,141	1 %
Midland WTI	3,888	3 %	10,995	15 %	14,883	7 %
Condensate	4,331	3 %	7,666	10 %	11,997	6 %
Heavy Canadian	4,711	4 %	—	— %	4,711	2 %
Total crude throughput	129,878	100 %	73,180	100 %	203,058	100 %

Marketing and Distribution



Our Coffeyville product marketing efforts are focused in the central mid-continent area through rack marketing, which is the supply of product through tanker trucks and railcars directly to customers located in close geographic proximity to the refinery and to customers at terminals on third-party refined products distribution systems; and bulk sales into the mid-continent markets and other destinations utilizing third-party product pipeline networks.

The Wynnewood Refinery ships its finished product via pipeline, railcar, and truck, focusing its efforts in Oklahoma and parts of Arkansas, as well as eastern Missouri. The pipeline system is capable of multi-directional flow, providing access to Texas markets as well as adjoining states with pipeline connections. The Wynnewood Refinery also sells jet fuel to the U.S. Department of Defense via its segregated truck rack.

Customers

Customers for the Refineries' petroleum products primarily include retailers, railroads, and farm cooperatives and other refiners/marketers in Group 3 of the PADD II region because of their relative proximity to the Refineries and pipeline access. We typically sell bulk products to long-standing customers at spot market prices based on a Group 3 basis differential to prices quoted on the New York Mercantile Exchange ("NYMEX"), which are reported by industry market-related indices such as Platts and Oil Price Information Service ("OPIS").

Rack sales are at posted prices that are influenced by the competitive forces in Group 3 of the PADD II region. In addition, the Coffeyville Refinery sells hydrogen and by-products of its refining operations, such as pet coke, to an affiliate, CVR Partners, pursuant to multi-year agreements. For the year ended December 31, 2020, the top two customers accounted for 26% of the Petroleum Segment's net sales.

Competition

Our Petroleum Segment competes primarily on the basis of price, reliability of supply, availability of multiple grades of products, and location. The principal competitive factors affecting its refining operations are cost of crude oil and other feedstocks, refinery complexity, refinery efficiency, refinery product mix, product distribution and transportation costs, and costs of compliance with government regulations, including the Renewable Fuel Standards (“RFS”). The locations of the Refineries provides us with a reliable supply of crude oil and a transportation cost advantage over our competitors. We primarily compete against CHS Inc.’s McPherson Refinery, Holly Frontier Corporation’s El Dorado Refinery, Tulsa East and West Refineries, Phillips 66 Company’s Ponca Refinery and Valero Energy Corporation’s Ardmore Refinery in the mid-continent region. In addition to these refineries, we compete against trading companies, as well as other refineries located outside the region that are linked to the mid-continent market through product pipeline systems. These competitors include refineries located near the Gulf Coast, the Great Lakes, and the Texas panhandle region.

Seasonality

Our Petroleum Segment operations experience seasonal fluctuations as demand for gasoline products is generally higher during the summer months than during the winter months due to seasonal increases in highway traffic and road construction work. Demand for diesel fuel is higher during the planting and harvesting seasons. As a result, our results of operations for the first and fourth calendar quarters are generally lower compared to its results for the second and third calendar quarters. In addition, unseasonably cool weather in the summer months and/or unseasonably warm weather in the winter months in the markets in which we sell petroleum products can impact the demand for gasoline and diesel fuel.

Nitrogen Fertilizer

Our Nitrogen Fertilizer Segment is comprised of the assets and operations of CVR Partners, including two nitrogen fertilizer manufacturing facilities located in Coffeyville, Kansas and East Dubuque, Illinois.

Facilities

Coffeyville Fertilizer Facility - We own and operate a nitrogen fertilizer production facility in Coffeyville, Kansas that includes a gasifier complex having a capacity of 89 million standard cubic feet per day of hydrogen, a 1,300 ton per day capacity ammonia unit, and a 3,000 ton per day capacity UAN unit (the “Coffeyville Fertilizer Facility”). The Coffeyville Fertilizer Facility is the only nitrogen fertilizer plant in North America that utilizes a pet coke gasification process to produce nitrogen fertilizer. The Coffeyville Fertilizer Facility’s largest raw material expense used in the production of ammonia is pet coke, which it purchases from our Coffeyville Refinery and third parties. For the years ended December 31, 2020, 2019, and 2018, the Coffeyville Fertilizer Facility purchased approximately $18 million, $20 million, and $13 million, respectively, of pet coke, which equaled an average cost per ton of $35.25, $37.47, and $28.41, respectively. For the years ended December 31, 2020, 2019, and 2018, we upgraded approximately 87%, 90%, and 93%, respectively, of our ammonia production into UAN, a product that generally generates greater profit than ammonia but, not true for 2020. We upgrade substantially all of our ammonia production at the Coffeyville Fertilizer Facility into UAN and expect to continue to do so when the economics are favorable.

East Dubuque Fertilizer Facility - We own and operate a nitrogen fertilizer production facility in East Dubuque, Illinois that includes a 1,075 ton per day capacity ammonia unit and a 1,100 ton per day capacity UAN unit (the “East Dubuque Fertilizer Facility”). The East Dubuque Fertilizer Facility has the flexibility to vary CVR Partners’ product mix enabling it to upgrade a portion of ammonia production into varying amounts of UAN, nitric acid, and liquid and granulated urea, depending on market demand, pricing, and storage availability. The East Dubuque Fertilizer Facility’s largest raw material expense used in the production of ammonia is natural gas, which it purchases from third parties. For the years ended December 31, 2020, 2019, and 2018, the East Dubuque Fertilizer Facility incurred approximately $22 million, $21 million, and $23 million for feedstock natural gas, respectively, which equaled an average cost of $2.35, $3.08, and $3.15 per MMBtu, respectively.

Commodities

The nitrogen products we produce are globally traded commodities and are subject to price competition. The customers for CVR Partners’ products make their purchasing decisions principally on the basis of delivered price and, to a lesser extent, on customer service and product quality. The selling prices of its products fluctuate in response to global market conditions and changes in supply and demand.

Agriculture

The three primary forms of nitrogen fertilizer used in the United States of America are ammonia, urea, and UAN. Unlike ammonia and urea, UAN can be applied throughout the growing season and can be applied in tandem with pesticides and herbicides, providing farmers with flexibility and cost savings. As a result of these factors, UAN typically commands a premium price to urea and ammonia, on a nitrogen equivalent basis. However, during 2020, UAN commanded a discount price to urea and premium to ammonia, on a nitrogen equivalent basis.

Nutrients are depleted in soil over time and, therefore, must be replenished through fertilizer use. Nitrogen is the most quickly depleted nutrient and must be replenished every year, whereas phosphate and potassium can be retained in soil for up to three years. Plants require nitrogen in the largest amounts and it accounts for approximately 59% of primary fertilizer consumption on a nutrient ton basis, per the International Fertilizer Industry Association ("IFIA").

Demand

Global demand for fertilizers is driven primarily by grain demand and prices, which, in turn, are driven by population growth, farmland per capita, dietary changes in the developing world and increased consumption of bio-fuels. According to the IFIA, from 1976 to 2018, global fertilizer demand grew 2% annually. Global fertilizer use, consisting of nitrogen, phosphate and potassium, is projected to increase by 1% through 2023 to meet global food demand according to a study funded by the Food and Agricultural Organization of the United Nations. Currently, the developed world uses fertilizer more intensively than the developing world, but sustained economic growth in emerging markets is increasing food demand and fertilizer use. In addition, populations in developing countries are shifting to more protein-rich diets as their incomes increase, with such consumption requiring more grain for animal feed. As an example, China's wheat and coarse grains production is estimated to have increased 35% between 2011 and 2021, but still failed to keep pace with increases in demand, prompting China to grow its wheat and coarse grain imports by more than 1,038% over the same period, according to the United States Department of Agriculture ("USDA").

The United States is the world's largest exporter of coarse grains, accounting for 32% of world exports and 26% of world production for the fiscal year ended September 30, 2020, according to the USDA. A substantial amount of nitrogen is consumed in production of these crops to increase yield. Based on Fertecon Limited's ("Fertecon") 2020 estimates, the United States is the world's third largest consumer of nitrogen fertilizer and the world's largest importer of nitrogen fertilizer. Fertecon is a reputable agency which provides market information and analysis on fertilizers and fertilizer raw materials for fertilizer and related industries, as well as international agencies. Fertecon estimates indicate that the United States represented 11% of total global nitrogen fertilizer consumption for 2020, with China and India as the top consumers representing 22% and 17% of total global nitrogen fertilizer consumption, respectively.

North American nitrogen fertilizer producers predominantly use natural gas as their primary feedstock. Over the last five years, U.S. oil and natural gas reserves have increased significantly due to, among other factors, advances in extracting shale oil and gas, as well as relatively high oil and gas prices. More recently, global demand has slowed with production staying steady even as oil and gas prices have declined substantially over the past two years. This has led to significantly reduced natural gas and oil prices as compared to historical prices. As a result, North America has become a low-cost region for nitrogen fertilizer production.

Raw Material Supply

Coffeyville Fertilizer Facility - During the past five years, just under 60% of the Coffeyville Fertilizer Facility's pet coke requirements on average were supplied by our adjacent Coffeyville Refinery pursuant to a multi-year agreement. Historically, the Coffeyville Fertilizer Facility has obtained the remainder of its pet coke requirements through third-party contracts typically priced at a discount to the spot market. In 2020, our supply of pet coke from the Coffeyville Refinery declined to approximately 33%, generally attributable to increased processing of shale crude oil, which reduced the amount of pet coke produced by the refinery and increased the amount of third-party purchases made at spot prices. With increased reliance on third-party pet coke, we have contracts with four vendors, which could be delivered primarily by truck, railcar or barge.

Additionally, our Coffeyville Fertilizer Facility relies on a third-party air separation plant at its location that provides contract volumes of oxygen, nitrogen, and compressed dry air to the Coffeyville Fertilizer Facility gasifiers. The reliability of the air separation plant can have a significant impact on our Coffeyville Fertilizer Facility operations. In 2020, to mitigate future impacts, we executed a new product supply agreement that provides for a consistent volume of oxygen that will be maintained within tanks provided by the on-site vendor. Should the oxygen volume fall below a specified level, the on-site vendor will provide excess oxygen through its own mechanism or through third party purchases.

East Dubuque Fertilizer Facility - The East Dubuque Fertilizer Facility uses natural gas to produce nitrogen fertilizer. We are generally able to purchase natural gas at competitive prices due to the facilities' connection to the Northern Natural Gas interstate pipeline system, which is within one mile of the facility, and a third-party owned and operated pipeline. The pipelines are connected to a third-party distribution system at the Chicago Citygate receipt point and at the Hampshire interconnect from which natural gas is transported to the East Dubuque Fertilizer Facility. As of December 31, 2020, we had commitments to purchase approximately 1 million MMBtus of natural gas supply for planned use in our East Dubuque Fertilizer Facility in both January and February of 2021 at a weighted average rate per MMBtu of approximately $2.60 and $2.52, respectively, exclusive of transportation cost.

Marketing and Distribution

Our Nitrogen Fertilizer Segment primarily markets UAN products to agricultural customers and ammonia products to agricultural and industrial customers. UAN and ammonia, including freight, accounted for approximately 65% and 28%, respectively, of our Nitrogen Fertilizer Segment's net sales for the year ended December 31, 2020.

UAN and ammonia are primarily distributed by truck or railcar. If delivered by truck, products are most commonly sold on a free-on-board ("FOB") shipping point basis, and freight is normally arranged by the customer. We operate a fleet of railcars for use in product delivery. If delivered by railcar, products are most commonly sold on a FOB destination point basis, and we typically arrange the freight.

The nitrogen fertilizer products leave the Coffeyville Fertilizer Facility either in railcars for destinations located principally on the Union Pacific or Burlington Northern Santa Fe railroads or in trucks for direct shipment to customers. The East Dubuque Fertilizer Facility primarily sells product to customers located within 200 miles of the facility. In most instances, customers take delivery of nitrogen products at the East Dubuque Fertilizer Facility and arrange to transport them to their final destinations by truck. Additionally, the East Dubuque Fertilizer Facility has direct access to a barge dock on the Mississippi River, as well as a nearby rail spur serviced by the Canadian National Railway Company.

Customers

Retailers and distributors are the main customers for UAN and, more broadly, the industrial and agricultural sectors are the primary recipients of our ammonia products. Given the nature of our nitrogen fertilizer business, and consistent with industry practice, we sell our products on a wholesale basis under a contract or by purchase order. Contracts with customers generally contain fixed pricing and most have terms of less than one year. Some of our industrial sales include long-term purchase contracts. For the year ended December 31, 2020, the top two customers in the aggregate represented 26% of the Nitrogen Fertilizer Segment's net sales.

Competition

Our Nitrogen fertilizer production is a global market with competitors in every region of the world. The industry is dominated by price considerations which are driven by raw material and transportation costs, currency fluctuations and trade barriers. Our Nitrogen Fertilizer Segment has experienced and expects to continue to experience significant levels of competition from domestic and foreign nitrogen fertilizer producers, many of whom have significantly greater financial and other resources. In the United States during the spring and fall fertilizer application periods, farming activities intensify and geographic proximity to these activities is also a significant competitive advantage for domestic producers. We manage our manufacturing and distribution operations to best serve our customers during these critical periods.

Subject to location and other considerations, our major competitors in the nitrogen fertilizer business include CF Industries Holdings, Inc., including its majority owned subsidiary Terra Nitrogen Company, L.P.; LSB Industries, Inc.; Koch Fertilizer Company, LLC; and Nutrien Ltd. (formerly known as Agrium, Inc. and Potash Corporation of Saskatchewan, Inc.). Domestic competition is intense due to customers' sophisticated buying tendencies and competitor strategies that focus on cost and service. We also encounter competition from producers of fertilizer products manufactured in foreign countries, including the threat of increased production capacity. In certain cases, foreign producers of fertilizer who export to the United States may be subsidized by their respective governments.

Seasonality

Because the Nitrogen Fertilizer Segment primarily sells agricultural commodity products, its business is exposed to seasonal fluctuations in demand for nitrogen fertilizer products in the agricultural industry. In addition, the demand for fertilizers is affected by the aggregate crop planting decisions and fertilizer application rate decisions of individual farmers who make planting decisions based largely on the prospective profitability of a harvest. The specific varieties and amounts of fertilizer they apply depend on factors like crop prices, farmers' current liquidity, soil conditions, weather patterns, and the types of crops planted. The Nitrogen Fertilizer Segment typically experiences higher net sales in the first half of the calendar year, which is referred to as the planting season, and its net sales tend to be lower during the second half of each calendar year, which is referred to as the fill season.

Environmental Matters

Our petroleum and nitrogen fertilizer businesses are subject to extensive and frequently changing federal, state, and local, environmental, health and safety laws and regulations governing the emission and release of hazardous substances into the environment, the transportation, storage, and disposal of waste, the treatment and discharge of wastewater and stormwater, the storage, handling, use and transportation of petroleum and nitrogen products, and the characteristics and composition of gasoline, diesel fuels, UAN, and ammonia. These laws and regulations and the enforcement thereof impact our segments and their operations by imposing:

- restrictions on operations or the need to install enhanced or additional controls;
- liability for the investigation and remediation of contaminated soil and groundwater at current and former facilities (if any) and for off-site waste disposal locations; and
- specifications for the products marketed by the Petroleum and Nitrogen Fertilizer Segments, primarily gasoline, diesel fuel, UAN, and ammonia.

Our operations require numerous permits, licenses, and authorizations. Failure to comply with these permits or environmental laws and regulations could result in fines, penalties, or other sanctions or a revocation of our permits. In addition, the laws and regulations to which we are subject are often evolving and many of them have or could become more stringent or have or could become subject to more stringent interpretation or enforcement by federal or state agencies. These laws and regulations could result in increased capital, operating, and compliance costs.

The Federal Clean Air Act ("CAA")

The CAA and its implementing regulations, as well as corresponding state laws and regulations governing air emissions, affect the Petroleum and Nitrogen Fertilizer Segments both directly and indirectly. Direct impacts may occur through the CAA's permitting requirements and/or emission control requirements relating to specific air pollutants, as well as the requirement to maintain a risk management program to help prevent accidental releases of certain regulated substances. The CAA affects the Petroleum and Nitrogen Fertilizer Segments by extensively regulating the air emissions of sulfur dioxide ("SO_2"), volatile organic compounds, nitrogen oxides, and other substances, including those emitted by mobile sources, which are direct or indirect users of our products. Some or all of the regulations promulgated pursuant to the CAA, or any future promulgations of regulations, may require the installation of controls or changes to the petroleum facilities and/or the nitrogen fertilizer facilities (collectively referred to as the "Facilities") to maintain compliance. If new controls or changes to operations are needed, the costs could be material.

The regulation of air emissions under the CAA requires that we obtain various construction and operating permits and incur capital expenditures for the installation of certain air pollution control devices at our operations. Various standards and programs specific to our operations have been implemented, such as the National Emission Standard for Hazardous Air Pollutants, the New Source Performance Standards, and the New Source Review.

The EPA regulates GHG emissions under the Clean Air Act. In October 2009, the EPA finalized a rule requiring certain large emitters of GHGs to inventory and report their GHG emissions to the EPA. In accordance with the rule, our Facilities monitor and report our GHG emissions to the EPA. In May 2010, the EPA finalized the "Greenhouse Gas Tailoring Rule," which established GHG emissions thresholds that determine when stationary sources, such as the Refineries and the nitrogen fertilizer facilities, must obtain permits under Prevention of Significant Deterioration (“PSD”) and Title V programs of the CAA. Under the rule, facilities already subject to the PSD and Title V programs that increase their emissions of GHGs by a significant amount are required to undergo PSD review and to evaluate and implement air pollution control technology, known as “best available control technology,” to reduce GHG emissions.

The Biden Administration has signaled that it will take steps to address climate change. On January 27, 2021, the White House issued its Executive Order on Tackling the Climate Crisis at Home and Abroad, as well as a formal notification re-accepting entry of the United States into the Paris Agreement.

The EPA’s approach to regulating GHG emissions may change again under future administrations. Therefore, the impact on our Facilities due to future GHG regulation is unknown.

Recent Greenhouse Gas Footprint Reduction Efforts

In October 2020, the Nitrogen Fertilizer Segment announced that it generated its first carbon offset credits from voluntary nitrous oxide abatement at its Coffeyville Fertilizer Facility. The Nitrogen Fertilizer Segment has similar nitrous oxide abatement efforts at its East Dubuque Fertilizer Facility. According to the EPA, nitrous oxide represents approximately 7% of carbon dioxide-equivalent (“CO_2e”) emissions in the United States.

The Nitrogen Fertilizer Segment previously entered into a Joint Development Agreement with ClimeCo, a pioneer in the development of emission-reduction projects for nitric acid plants, to jointly design, install and operate a tertiary abatement system at one of its nitric acid plants in Coffeyville. The system was designed to abate 94% of all N_2O in the unit while preventing the release of approximately 450,000 metric tons of carbon dioxide equivalent on an annualized basis. The N_2O abatement systems at the East Dubuque Fertilizer Facility’s two nitric acid plants have abated, on average, the annual release of approximately 233,000 metric tons of CO_2e during the past five years.

CVR Partners’ N_2O abatement projects are registered with the Climate Action Reserve (the “Reserve”), a carbon offset registry for the North American market. The Reserve employs high-quality standards and an independent third-party verification process to issue its carbon credits, known as Climate Reserve Tonnes.

The Nitrogen Fertilizer Segment also sequesters carbon dioxide that is not utilized for urea production at its Coffeyville Fertilizer Facility by capturing and purifying the CO_2 as part of its manufacturing process and then transferred to its partner, Perdure Petroleum LLC, that compresses and ships the CO_2 for sequestration through Enhanced Oil Recovery (“EOR”). In January 2021, the Internal Revenue Service published final regulations under Section 45Q which provides tax credits to encourage CO_2 sequestration. We believe that our process for CO_2 sequestration would qualify for tax credits under Section 45Q and intend to pursue a claim of those credits starting in 2021.

Combining our nitrous oxide abatement and CO_2 sequestration activities reduces our CO_2e footprint by over 1 million metric tons per year. In addition, our Coffeyville Fertilizer Facility is uniquely qualified to produce hydrogen and ammonia that could be certified ‘blue’ to a market that is increasingly demanding reduced carbon footprints. These greenhouse gas footprint reduction efforts support our core Values of Environment and Continuous Improvement, and our goal of continuing to produce nitrogen fertilizers that feed the world’s growing population in the most environmentally responsible way possible.

Renewable Fuel Standards

Pursuant to the Energy Policy Act of 2005 and Energy Independence and Security Act of 2007 (“EISA”), the EPA has promulgated the RFS, which requires refiners to either blend “renewable fuels,” such as ethanol and biofuels, into their transportation fuels or purchase renewable fuel credits, known as RINs, in lieu of blending. Under the RFS, the volume of renewable fuels that refineries like Coffeyville and Wynnewood are obligated to blend into their finished transportation fuel is adjusted annually by the EPA based on fuel supply and other conditions to meet the statutory mandates that increase annually, but which may be waived by the EPA under certain conditions. The volume of renewable fuels required by EISA increased from 9 billion gallons in 2008 to 30 billion gallons in 2020. The EPA has statutory authority to determine RFS volumes after 2022. In addition to the total renewable fuel volume mandate, there are sub-mandates for advanced biofuels, cellulosic biofuel, and biomass-based diesel. Under the cellulosic waiver authority provided to the EPA by the CAA, if the EPA’s projected volume of cellulosic biofuel for a calendar year is less than its statutory mandate, the EPA must reduce the required volume of cellulosic biofuel accordingly and provide obligated parties the opportunity to purchase cellulosic waiver credits. The EPA also has the discretion to reduce the total renewable fuel and advanced biofuel requirements by the same amount as it reduced the cellulosic biofuel volume. The Petroleum Segment (like many refiners) is not able to meet its annual renewable volume obligation ("RVO") through blending, so it has had to purchase RINs on the open market as well as obtain cellulosic waiver credits from the EPA, in order to comply with the RFS. The cost of purchasing RINs and cellulosic waiver credits fluctuates and can be significant. The price of RINs was extremely volatile when the EPA's proposed renewable fuel volume mandates approached and exceeded the "blend wall." The blend wall refers to the point at which the amount of ethanol blended into the transportation fuel supply exceeds the demand for transportation fuel containing such levels of ethanol. The blend wall is generally considered to be reached when more than 10 percent ethanol by volume ("E10") is blended into transportation fuel. RIN prices also increased significantly in volatility in response to a number of uncertainties regarding the implementation of the RFS program in 2020 and continuing into 2021.

In May 2019, the EPA finalized regulatory changes to allow gasoline blended with up to 15 percent ethanol ("E15") to take advantage of a waiver during the summer months that previously only applied to E10. Because E15 can now be sold year-round rather than just eight months of the year, a higher percentage of transportation fuels can be blended with renewable fuels. The E15 rule, however, is under review in the District of Columbia Circuit ("D.C. Circuit"), which could lead to the rule being overturned. The EPA did not meet its November 30, 2020 statutory deadline to set the 2021 renewable volume obligations and, to date, has not issued a proposed rule for the 2021 obligations. While there are statutory targets still in place, the ultimate renewable volume obligations that will apply for 2021 remain uncertain. Also under review in the D.C. Circuit is EPA's final renewable fuel volumes for 2020, and the biomass-based diesel volume for 2021 (the "2020 RFS Final Rule"). As in past years, the volumes increased from the previous year, but with the exception of the volume for biomass-based diesel, were lower than the CAA statutory volume targets. The EPA set a lower volume for cellulosic biofuel based on the projected volume available for 2020 and used its cellulosic waiver authority under the CAA to set volumes below the statutory targets for advanced biofuel and total renewable fuel. In the rule, the EPA also finalized changes to the percentage standard calculations to account for volumes of gasoline and diesel that the EPA projects will be exempted from the renewable volume obligations moving forward.

Additional RFS-related rulemakings may occur in 2021. A number of rulemakings, if finalized in 2021, would impact Coffeyville's and Wynnewood's obligations under the RFS. First, the EPA is required to promulgate a rule setting the renewable fuel volumes for 2021, and the biomass-based diesel volume for 2022. Under the CAA, the EPA must announce each year's renewable fuel volumes by November 30 of the previous year. Although EPA did not meet that deadline for the 2021 renewable fuel volumes, it is possible that EPA will propose and even finalize a rule this year. The final 2021 renewable fuel volumes will determine the volume of renewable fuel that Coffeyville and Wynnewood will be obligated to blend into their finished transportation fuel for the 2021 compliance year.

The EPA also may promulgate a rule to reissue the 2016 renewable fuel volumes in response to a July 2017 D.C. Circuit decision (1) vacating the EPA's decision to reduce the 2016 volumes under its "inadequate domestic supply" waiver authority and (2) remanding to the EPA for reissuance of the 2016 renewable fuels volumes. Although the EPA has yet to reissue the renewable fuels volumes, on January 27, 2020, the D.C. Circuit ordered EPA to begin submitting status reports every 60 days on its progress in complying with the 2017 remand. If the EPA re-proposes the 2016 renewable volume obligations, there could be an increase in the volume mandates for 2016 and, as a result, Coffeyville and Wynnewood could be required to purchase more RINs for 2016 compliance.

Finally, a rulemaking involving the CAA "reset" provision was previously withdrawn but the EPA could issue a new proposal. Under the reset provision, if the EPA waives the statutory volumes for any of the four fuel categories by at least 20% for two consecutive years or by at least 50% for a single year, then the EPA must modify the statutory volumes for all subsequent years for that fuel category. The reset has been triggered in previous years for both advanced biofuel and cellulosic biofuel. After sending a draft proposal to reset the volumes for the 2020-2022 compliance years to the Office of Management and Budget ("OMB"), EPA then withdrew its draft proposal in December 2019. The EPA has not indicated how it will address the reset requirement moving forward, but if the EPA does pursue a reset rulemaking, it may modify the volumes, impacting the Coffeyville Refinery's and the Wynnewood Refinery's renewable volume obligations.

The Federal Clean Water Act ("CWA")

The CWA and its implementing regulations, as well as the corresponding state laws and regulations that govern the discharge of pollutants into the water, affect the Petroleum and Nitrogen Fertilizer Segments. The CWA's permitting requirements establish discharge limitations that may be based on technology standards, water quality standards, and restrictions on the total maximum daily load of pollutants allowed to enter a particular water body based on its use. In January 2021, the U.S. Environmental Protection Agency (the "EPA") announced that it is undertaking a plan to review, and update effluent standards for many industries. EPA is prioritizing those sectors that are ranked high in point source categories for total nitrogen discharges, including fertilizer manufacturers. The EPA's review eventually could result in different regulations governing the Nitrogen Fertilizer Segment. In addition, water resources are becoming and in the future may become more scarce, and many refiners, including us, are subject to use restrictions in the event of low availability conditions. Our Refineries and the Coffeyville Fertilizer Facility have contracts in place to receive water during certain water shortage conditions, but these conditions could change over time depending on the scarcity of water.

Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") and the Emergency Planning and Community Right-to-Know Act ("EPCRA")

The release of hazardous substances or extremely hazardous substances into the environment is subject to release reporting requirements under federal and state environmental laws. Our Facilities also periodically experience releases of hazardous and extremely hazardous substances from their equipment and periodically have excess emission events. From time to time, the EPA has conducted inspections and issued information requests to us with respect to our compliance with reporting requirements under the CERCLA and the EPCRA. If we fail to timely or properly report a release, or if a release violates the law or our permits, we could become the subject of a governmental enforcement action or third-party claims. Government enforcement or third-party claims relating to releases of hazardous or extremely hazardous substances could result in significant expenditures and liability.

Resource Conservation and Recovery Act ("RCRA")

Our Facilities are subject to the RCRA requirements for the generation, transportation, treatment, storage, and disposal of solid and hazardous wastes. When feasible, RCRA-regulated materials are recycled instead of being disposed of on-site or off-site. RCRA establishes standards for the management of solid and hazardous wastes. Besides governing current waste disposal practices, RCRA also addresses the environmental effects of certain past waste disposal practices, the recycling of wastes, and the regulation of underground storage tanks containing regulated substances.

Impacts of Past Manufacturing - In March 2004, two of our subsidiaries entered into a Consent Decree ("2004 Consent Decree") with the EPA and the Kansas Department of Health and Environment (the "KDHE") which required us to assume two RCRA corrective action orders issued to Farmland, the prior owner of the Coffeyville Refinery. Until January 21, 2021, we were subject to a 1994 EPA administrative order related to investigation of possible past releases of hazardous materials to the environment at the Coffeyville Refinery. In accordance with the order, we have conducted the required investigation and interim remediation projects and documented existing soil and groundwater conditions. In June 2017, the Coffeyville Refinery submitted an amended RCRA post-closure permit application to the KDHE to complete closure of former hazardous waste management units at the Coffeyville Refinery and to perform corrective action at the site. The KDHE approved the permit application report in July 2019, and the RCRA permit was issued in December 16, 2020. The EPA terminated the 1994 administrative order on January 21, 2021. The now-closed Phillipsburg terminal is subject to a 1996 EPA administrative order related to investigation of releases of hazardous materials to the environment at the Phillipsburg terminal, which operated as a refinery until 1991. The Phillipsburg terminal investigation is complete and corrective measures are in place implementing the EPA's Statement of Basis and Final Remedy Decision issued in July 2018. The Wynnewood Refinery operates under a RCRA permit. A RCRA facility investigation has been completed in accordance with the terms of the permit. Based on the facility investigation and other available information, Wynnewood Refining Company, LLC ("WRC") entered into a consent order with the Oklahoma Department of Environmental Quality ("ODEQ") requiring further investigations of groundwater conditions and enhancements of existing remediation systems. We have completed the groundwater investigation at the Wynnewood Refinery and the ODEQ has approved our ongoing corrective actions. The consent order was terminated by the ODEQ in July 2019.

Financial Assurance - We are required, under the 2004 Consent Decree, to establish financial assurance to secure the current projected clean-up costs of $6 million for the Coffeyville Refinery and $5 million for the now-closed Phillipsburg terminal in the event we fail to fulfill our clean-up obligations. In accordance with the 2004 Consent Decree, as modified by a 2010 agreement between Coffeyville Resources Refining and Marketing, LLC ("CRRM"), Coffeyville Resources Terminal, LLC ("CRT"), the EPA, and the KDHE, this financial assurance is currently provided by a bond in the amount of $2 million for clean-up obligations at the Phillipsburg terminal. Additional self-funded financial assurance of approximately $6 million and $3 million is required to meet our RCRA financial assistance obligations for the Coffeyville Refinery and Phillipsburg terminal, respectively. The $2 million bond amount is reduced each year based on actual expenditures for corrective actions and the letter of credit and the self-funded mechanisms are re-evaluated and adjusted on an annual basis. Current RCRA financial assurance requirements for the Wynnewood Refinery total $0.3 million for hazardous waste storage tank closure and post-closure monitoring of a closed storm water retention pond.

Waste Management - There are fourteen closed hazardous waste units at the Coffeyville Refinery. There is one closed hazardous waste unit and one active hazardous waste storage tank at the Wynnewood Refinery. In addition, one closed, interim status, hazardous waste landfarm located at the now-closed Phillipsburg terminal is under long-term post-closure care.

Environmental Remediation

As is the case with all companies engaged in similar industries, we face potential exposure from future claims and lawsuits involving environmental matters, including soil and water contamination and personal injury or property damage allegedly caused by crude oil or hazardous substances that we processed, handled, used, stored, transported, spilled, disposed of, or released. There is no assurance that we will not become involved in future proceedings related to the release of hazardous or extremely hazardous substances or crude oil for which we have potential liability or that, if we were held responsible for damages in any existing or future proceedings, such costs would be covered by insurance or would not be material.

Environmental Insurance

We are covered by a site pollution legal liability insurance policy. The policy includes business interruption coverage. The policy insures any location owned, leased, rented, or operated by the Company, including the Refineries and the nitrogen fertilizer facilities. The policy insures certain pollution conditions at or migrating from a covered location, certain waste transportation and disposal activities, and business interruption.

In addition to the site pollution legal liability insurance policy, we maintain umbrella and excess casualty insurance policies which include sudden and accidental pollution coverage. This insurance provides coverage due to named perils for claims involving pollutants where the discharge is sudden and accidental and first commences at a specific day and time during the policy period.

The site pollution legal liability policy and the pollution coverage provided in the casualty insurance policies are subject to retentions and deductibles and contain discovery requirements, reporting requirements, exclusions, definitions, conditions, and limitations that could apply to a particular pollution claim, and there can be no assurance such claim will be adequately insured for all potential damages.

Health, Safety and Security Matters

We are subject to a number of federal and state laws and regulations related to safety, including the Occupational Safety and Health Act (“OSHA”) and comparable state statutes, the purposes of which are to protect the health and safety of workers. We also are subject to OSHA Process Safety Management regulations, which are designed to prevent or minimize the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals.

Our Facilities are subject to the Chemical Facility Anti-terrorism Standards (“CFATS”), a regulatory program designed to ensure facilities have security measures in place to reduce the risk that certain hazardous chemicals are weaponized by terrorists. In addition, the East Dubuque Fertilizer Facility is regulated under the Maritime Transportation Security Act.

We operate a comprehensive safety, health, and security program, with participation by employees, consultants, and advisors at all levels of the organization. We have developed comprehensive safety programs aimed at preventing OSHA recordable incidents. Despite our efforts to achieve excellence in our safety and health performance, there can be no assurances that there will not be accidents resulting in injuries or even fatalities. We routinely audit our programs and seek to continually improve our management systems.

Refer to Part II, Item 8, Note 11 (“Commitments and Contingencies”), “Wynnewood Refinery Incident” of this Report for further discussion of OSHA.

Human Capital

As of December 31, 2020, CVR Energy had 1,423 employees, all of which are located in the U.S. Of these employees, 411 employees are covered by collective bargaining agreements with various labor unions. We may also leverage independent contractors, to provide flexibility for our business and operating needs. We believe that our future success largely depends upon our continued ability to attract and retain highly skilled employees. We are committed to wages and benefits that are competitive in the aggregate with a market-based, pay for performance compensation philosophy.

Our core Values define the way we do business every day. We put safety first, care for our environment, require high business ethics and integrity consistent with our Code of Ethics and Business Conduct, and are proud members of and good neighbors to the communities where we operate. We believe in continuous improvement for individuals to achieve their maximum potential through teamwork, diversity and personal development. Our employees provide the energy behind our core Values to achieve excellence for all our key stakeholders – employees, communities and stockholders. See “Management’s Discussion and Analysis” in Part II, Item 7 for further discussion on our core Values.

We are an equal opportunity employer and are committed to maintaining a diverse and inclusive work environment free from harassment and discrimination regardless of race, religion, color, age, gender, disability, minority, sexual orientation or any other protected class. Our commitment to diversity and inclusion helps us attract and retain the best talent, enables employees to realize their full potential, and drives high performance through innovation and collaboration.

We have an unwavering commitment to providing as safe and healthy workplace as possible for all employees. We accomplish this through strict compliance with applicable laws and regulations regarding workplace safety, and maintaining robust training and emergency and disaster recovery plans.

Available Information

Our website address is www.CVREnergy.com. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports, filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge through our website under “Investor Relations,” as soon as reasonably practicable after the electronic filing or furnishing of these reports is made with the Securities and Exchange Commission (the “SEC”) at www.sec.gov. In addition, our Corporate Governance Guidelines, Codes of Ethics and Business Conduct, and charters of the Audit Committee, the Nominating and Corporate Governance Committee, the Compensation Committee, and the Environmental, Health and Safety Committee of the Board of Directors are available on our website. These guidelines, policies, and charters are also available in print without charge to any stockholder requesting them. We do not intend for information contained in our website to be part of this Report.

Item 1A. *Risk Factors*

Risk Factors

The following risks should be considered together with the other information contained in this Report and all of the information set forth in our filings with the SEC. If any of the following risks or uncertainties develops into actual events, our petroleum and/or nitrogen fertilizer businesses, financial conditions, or results of operations could be materially adversely affected. References to CVR Energy, the Company, "we", "us", and "our" may refer to consolidated subsidiaries of CVR Energy, including CVR Refining or CVR Partners, as the context may require.

Risks Related to Our Entire Business

The COVID-19 pandemic, and actions taken in response thereto, as well as certain developments in the global oil markets have had, and may continue to have, material adverse impacts on the operations, business, financial condition, liquidity, and results of operations of the Company or its customers, suppliers, and other counterparties.

The COVID-19 pandemic and actions of governments and others in response thereto has resulted in significant business and operational disruptions, including business closures, supply chain disruptions, travel restrictions, stay-at-home orders, and limitations on the availability and effectiveness of the workforce. These impacts have negatively impacted and may continue to negatively impact worldwide economic and commercial activity, financial markets, and demand for and prices of crude oil and other petroleum products. These impacts may also potentially precipitate a prolonged economic slowdown and recession. These declines have been further exacerbated by the production dispute between members of OPEC and Russia and the subsequent actions taken by such countries and other countries and crude oil producers as a result thereof.

Declines in the market prices of crude oil and certain other petroleum products below the carrying cost of such commodities in the Company's inventory have required, and may continue to require, the Company to adjust the value of, and record a loss on, certain inventories, which has had, and may continue to have a negative impact on our operating income; adversely impact our ability to profitably operate our facilities, and our results of operations, such as revenues and cost of sales; could result in significant financial constraints on certain producers from which we acquire our crude oil; and could result in an increased risk that customers, lenders, and other counterparties may be unable to fulfill their obligations in a timely manner, or at all. Further, if general economic conditions continue to remain uncertain for an extended period of time, our liquidity and ability to repay our outstanding debt may be harmed and the trading price of our common stock, which has seen recent volatility, may decline.

Our petroleum and nitrogen fertilizer businesses are, and commodity prices are, cyclical and highly volatile, which could have a material adverse effect on our results of operations, financial condition and cash flows.

Our Petroleum Segment's financial results are primarily affected by margin between refined product prices and prices for crude oil and other feedstocks. Historically, refining margins have been volatile and vary by region, and we believe they will continue to be volatile in the future. Our cost to acquire feedstocks and the price at which we can ultimately sell refined products depend upon several factors beyond our control, including regional and global supply of and demand for crude oil, gasoline, diesel, and other feedstocks and refined products. These in turn depend on, among other things, the availability and quantity of imports, the production levels of U.S. and international suppliers, levels of refined petroleum product inventories, productivity and growth (or the lack thereof) of U.S. and global economies, U.S. relationships with foreign governments, political affairs, and the extent of governmental regulation.

We do not produce crude oil and must purchase all of the crude oil we refine long before we refine it and sell the refined products. Price level changes during the period between purchasing feedstocks and selling the refined petroleum products from these feedstocks could have a significant effect on our financial results. A decline in market prices may negatively impact the carrying value of our inventories. Price level changes during the period between purchasing feedstocks and selling the refined petroleum products from these feedstocks could have a significant effect on our financial results. A decline in market prices may negatively impact the carrying value of our inventories. Our Petroleum Segment profitability is also impacted by the ability to purchase crude oil at a discount to benchmark crude oils, such as WTI. Crude oil differentials can fluctuate significantly based upon overall economic and crude oil market conditions. Adverse changes in crude oil differentials can adversely impact refining margins, earnings and cash flows. In addition, the Petroleum Segment's purchases of crude oil, although based on WTI prices, have historically been at a discount to WTI because of the proximity of the Refineries to the sources, existing logistics infrastructure, and quality differences. Any changes to these factors could result in a reduction of the discount to WTI and may result in a reduction of the Petroleum Segment's cost advantage.

Our Nitrogen Fertilizer Segment is exposed to fluctuations in nitrogen fertilizer demand in the agricultural industry. These fluctuations historically have had and could in the future have significant effects on prices across all nitrogen fertilizer products and, in turn, our results of operations, financial condition and cash flows. Nitrogen fertilizer products are commodities, the price of which can be highly volatile. The prices of nitrogen fertilizer products depend on a number of factors, including general economic conditions, cyclical trends in end-user markets, supply and demand imbalances, governmental policies, and weather conditions, which have a greater relevance because of the seasonal nature of fertilizer application. If seasonal demand exceeds the projections on which we base our production levels, customers may acquire nitrogen fertilizer products from competitors, and our profitability may be negatively impacted. If seasonal demand is less than expected, we may be left with excess inventory that will have to be stored or liquidated.

The international market for nitrogen fertilizers is influenced by such factors as the relative value of the U.S. dollar and its impact upon the cost of importing nitrogen fertilizers, foreign agricultural policies, the existence of, or changes in, import or foreign currency exchange barriers in certain foreign markets, changes in the hard currency demands of certain countries, and other regulatory policies of foreign governments, as well as the laws and policies of the U.S. affecting foreign trade and investment. Supply is affected by available capacity and operating rates, raw material costs, government policies, and global trade. A decrease in nitrogen fertilizer prices would have a material adverse effect on our nitrogen fertilizer business and cash flow, including CVR Partners' ability to make distributions.

Petroleum and nitrogen fertilizer businesses face intense competition.

The refining industry is highly competitive with respect to both crude oil and other feedstock supply and refined petroleum product markets. We compete with many companies for available supplies of crude oil and other feedstocks and for sites for our refined petroleum products. Our Petroleum Segment may be unable to compete effectively with competitors within and outside of the industry, which could result in reduced profitability. In contrast to many of our competitors, we do not have a retail business and therefore are dependent upon others for outlets for our refined products, and we do not have arrangements exceeding a twelve-month period for much of our petroleum output and thus cannot offset losses from refining operations with profits from retail operations and may be less able to withstand periods of depressed refining margins or feedstock shortages. Some of our competitors also have materially greater financial and other resources than us and a greater ability to bear the economic risks inherent in our industry. In addition, our Petroleum Segment competes with other industries that provide alternative means to satisfy the energy and fuel requirements of its industrial, commercial, and individual customers. There are presently significant governmental incentives and consumer pressures to increase the use of alternative fuels in the U.S. The more successful these alternatives become as a result of governmental incentives or regulations, technological advances, consumer demand, improved pricing, or otherwise, the greater the negative impact on pricing and demand for our products and profitability.

Our Nitrogen Fertilizer Segment is subject to intense price competition from both U.S. and foreign sources. With little or no product differentiation, customers make their purchasing decisions principally on the basis of delivered price and availability of the product. Increased global supply or decreases in transportation costs for foreign sources of fertilizer may put downward pressure on fertilizer prices. We compete with a number of U.S. producers and producers in other countries, including state-owned and government-subsidized entities that have greater total resources and are less dependent on earnings from fertilizer sales, which make them less vulnerable to industry downturns and better positioned to pursue new expansion and development opportunities. An inability to compete successfully could result in a loss of customers, which could adversely affect our sales, profitability, and cash flows, and therefore, have a material adverse effect on our results of operations, financial condition.

Our businesses are geographically concentrated, creating exposure to regional economic downturns and seasonal variations, which may affect our production levels, transportation costs, and inventory and working capital levels.

Our Refineries are both located in the southern portion of Group 3 of the PADD II region, and we primarily market refined products in a relatively limited geographic area. As a result, our Petroleum Segment is more susceptible to regional economic conditions than the operations of more geographically diversified competitors, and any unforeseen circumstances that affect our operating area could also materially adversely affect our revenues and cash flows. These factors include, among other things, changes in the economy, weather conditions, demographics and population, increased supply of refined products from competitors, and reductions in the supply of crude oil. In addition, if we deliver refined products to customers outside of the region, we may incur considerably higher transportation costs, resulting in lower refining margins, if any.

Our Nitrogen Fertilizer Segment's sales to agricultural customers are concentrated in the Great Plains and Midwest states, and nitrogen fertilizer demand is seasonal. Our quarterly results may vary significantly from one year to the next due to weather-related shifts in planting schedules and purchase patterns. Because we build inventory during low demand periods, the accumulation of inventory to be available for seasonal sales creates significant seasonal working capital and storage capacity requirements. The degree of seasonality can change significantly from year-to-year due to conditions in the agricultural industry and other factors. As a consequence of this seasonality, distributions by our Nitrogen Fertilizer Segment of available cash, if any, may be volatile and may vary quarterly and annually.

Both the Petroleum and Nitrogen Fertilizer Segments depend on significant customers, the loss of which may have a material adverse impact on our results of operations, financial condition and cash flows.

The Petroleum and Nitrogen Fertilizer Segments both have a significant concentration of customers. The two largest customers of our Petroleum Segment represented 26% of its net sales for the year ended December 31, 2020. The two largest customers of the Nitrogen Fertilizer Segment represented approximately 26% of its net sales for the same period. Given the nature of our businesses, and consistent with industry practice, we do not have long-term minimum purchase contracts with our customers. The loss of several of these significant customers, or a significant reduction in purchase volume by several of them, could have a material adverse effect on our results of operations, financial condition and cash flows.

Compliance with and changes in environmental laws and regulations, including those related to climate change, could require us to make substantial capital expenditures and adversely affect our performance.

Our operations are subject to extensive federal, state, and local environmental laws and regulations relating to the protection of the environment, including those governing the emission or discharge of pollutants into the environment, product use and specifications, and the generation, treatment, storage, transportation, disposal, and remediation of solid and hazardous wastes. Violations of applicable environmental laws and regulations or of the conditions of permits issued thereunder can result in substantial penalties, injunctive orders compelling installation of additional controls or other injunctive relief, civil and criminal sanctions, operating restrictions, permit revocations, and/or facility shutdowns, which may have a material adverse effect on our ability to operate our facilities and accordingly our financial performance.

In addition, new environmental laws and regulations, new interpretations of existing laws and regulations, or increased governmental enforcement of laws and regulations, could require us to make additional unforeseen expenditures. It is unclear the impact of the new federal administration will have on the laws and regulations applicable to us, however, measures to address climate change and reduce GHG emissions (including carbon dioxide, methane, and nitrous oxides) are in various phases of discussion or implementation and could affect our operations by requiring increased operating and capital costs and/or increasing taxes on GHG emissions. There is also increased agency interest in polyfluoroalkyl substances or PFAS, which could lead to increased monitoring obligations and potential liability related thereto. If we are unable to maintain sales of our products at a price that reflects such increased costs, or could result in reduced demand for our fertilizer and hydrocarbon products, there could be a material adverse effect on our business, financial condition and results of operations.

Our facilities face significant risks due to physical damage hazards, environmental liability risk exposure, and unplanned or emergency partial or total plant shutdowns which could cause property damage and a material decline in production which are not fully insured.

If any of our facilities, logistics assets, or key suppliers sustain a catastrophic loss and operations are shutdown or significantly impaired, it would have a material adverse impact on our operations, financial condition and cash flows. Examples of unforeseen events and circumstances, which may not be within our control, include: (i) major unplanned maintenance requirements; (ii) catastrophic events caused by mechanical breakdown, electrical injury, pressure vessel rupture, explosion, contamination, fire, or natural disasters, including floods, windstorms, and other similar events; (iii) labor supply shortages or labor difficulties that result in a work stoppage or slowdown; (iv) cessation or suspension of a plant or specific operations dictated by environmental authorities; (v) acts of terrorism or other deliberate malicious acts; and (vi) an event or incident involving a large clean-up, decontamination, or the imposition of laws and ordinances regulating the cost and schedule of demolition or reconstruction, which can cause significant delays in restoring property to its pre-loss condition.

We are insured under casualty, environmental, property, and business interruption insurance policies. The property and business interruption policies insure our real and personal property. These policies are subject to limits, sub-limits, retention (financial and time-based), and deductibles. The application of these and other policy conditions could materially impact insurance recoveries and potentially cause us to assume losses which could impair earnings.There is potential for a common occurrence to impact both our Coffeyville Refinery and Coffeyville Fertilizer Facility, in which case the insurance limits and applicable sub-limits would apply to all damages combined.

There is finite capacity in the commercial insurance industry engaged in underwriting energy industry risk, and factors impacting cost and availability include,: (i) losses in our industries, (ii) natural disasters, (iii) specific losses incurred by us, and (iv) inadequate investment returns earned by the insurance industry. If the supply of commercial insurance is curtailed, we may not be able to continue our present limits of insurance coverage or obtain sufficient insurance capacity to adequately insure our risks.

We could incur significant costs in cleaning up contamination at our facilities.

Our businesses handle petroleum and hazardous substances, and as a result, spills, discharges, or other releases of petroleum or hazardous substances into the environment may occur. Past or future spills related to any of our current or former operations and solid or hazardous waste disposal, may give rise to liability (including for personal injury and property damage, penalties, strict liability and potential cleanup responsibility) to governmental entities or private parties under federal, state, or local environmental laws, as well as under common law. For example, we could be held strictly liable under CERCLA and similar state statutes for past or future spills without regard to fault or whether our actions were in compliance with the law at the time of the spills, including in connection with contamination associated with our current and former facilities, and facilities to which we transported or arranged for the transportation of wastes or byproducts containing hazardous substances for treatment, storage, or disposal. Such liability could have a material adverse effect on our results of operations, financial condition and cash flows and may not be covered by insurance.

Remedial activities to address known environmental contamination are underway at three of our facilities, including the Coffeyville Refinery, the now-closed Phillipsburg terminal (which operated as a refinery until 1991), and the Wynnewood Refinery. We also have assumed the previous owner’s responsibilities under certain administrative orders under RCRA related to contamination at or that originated from the Coffeyville Refinery and the Phillipsburg terminal. We continue to work with the applicable governmental authorities to implement remediation of these three sites on a timely basis. As of December 31, 2020, we have establish an accrual of approximately $6 million for probable and reasonably estimable obligations associated with these sites.

New regulations concerning the transportation, storage, and handling of hazardous chemicals and materials, risks of terrorism, and the security of refineries and chemical manufacturing facilities could result in higher operating costs.

Targets such as refining and chemical manufacturing facilities may be at greater risk of future terrorist attacks than other targets in the U.S. As a result, the petroleum and chemical industries are subject to regulatory initiatives relating to the security of petroleum and chemical industry facilities and the transportation of hazardous chemicals in the U.S., and the costs of compliance therewith may have a material adverse effect on our results of operations, financial condition and cash flows.

Our crude oil gathering division that operates as a motor carrier is subject to regulation by federal and various state agencies and possible regulatory and legislative changes that may affect the economics of the industry. Some of these possible changes include increasingly stringent fuel-economy environmental regulations, changes in the hours of service regulations that govern the amount of time a driver may drive in any specific period, onboard black box recorder or electronic logging devices, limits on vehicle weight and size, and increases to federal, state or local taxes, including taxes on motor fuels, which may increase our costs or adversely impact the recruitment of drivers.

We may be unable to obtain or renew permits or approvals necessary for our operations, which could inhibit our ability to do business.

Our businesses hold numerous environmental and other governmental permits and approvals authorizing operations at our facilities and future expansion of our operations is predicated upon the ability to secure approvals therefore. A decision by a government agency to deny or delay issuing a new or renewed material permit or approval, or to revoke or substantially modify an existing permit or approval, could have a material adverse effect on our ability to continue operations and on our financial condition, results of operations and cash flows.

We are subject to strict laws and regulations regarding employee and process safety, and failure to comply with these laws and regulations could have a material adverse effect on our results of operations, financial condition and profitability.

We are subject to the requirements of OSHA and comparable state statutes that regulate the protection of the health and safety of workers, the proper design, operation, and maintenance of our equipment, and require us to provide information about hazardous materials used in our operations. Failure to comply with these requirements may result in significant fines or compliance costs, which could have a material adverse effect on our results of operations, financial condition and cash flows.

A significant portion of our workforce is unionized, and we are subject to the risk of labor disputes, which may disrupt our business and increase our costs.

As of December 31, 2020, approximately 34% and 33% of our petroleum and nitrogen fertilizer employees, respectively, were represented by labor unions under collective bargaining agreements. We may not be able to renegotiate our collective bargaining agreements when they expire on satisfactory terms or at all. A failure to do so may increase our costs. In addition, our existing labor agreements may not prevent a strike or work stoppage at any of our facilities in the future, and any work stoppage could negatively affect our results of operations, financial condition and cash flows.

We are subject to cybersecurity risks and other cyber incidents resulting in disruption.

We depend on internal and third-party information technology systems to manage and support our operations, and we collect, process, and retain sensitive and confidential customer information in the normal course of business. Despite the security measures we have in place and any additional measures we may implement in the future, our facilities and these systems could be vulnerable to security breaches, computer viruses, lost or misplaced data, programming errors, human errors, acts of vandalism, or other events. Any disruption of these systems or security breach or event resulting in the misappropriation, loss, or other unauthorized disclosure of confidential information, whether by us directly or our third-party service providers, could damage our reputation, expose us to the risks of litigation and liability, disrupt our business, or otherwise affect our results of operations.

Risks Related to the Petroleum Segment

If our Petroleum Segment is required to obtain its crude oil supply without the benefit of a crude oil supply agreement and significant crude oil gathering in the regions in which we operate, our exposure to the risks associated with volatile crude oil prices may increase, crude oil transportation costs could increase and our liquidity may be reduced.

Our Petroleum Segment obtains substantially of its crude oil supply through crude oil gathering operations in Kansas and Oklahoma or through the crude oil intermediation agreement with Vitol Inc. The agreement, which currently extends through December 31, 2021, minimizes the amount of in-transit inventory and mitigates crude oil pricing risk by ensuring pricing takes place close to the time the crude oil is refined and the yielded products are sold. If we were required to obtain our crude oil supply without the benefit of crude oil located near the Refineries or through a supply intermediation agreement, our Petroleum Segment’s exposure to crude oil pricing risk may increase, despite any hedging activity in which it may engage, crude oil transportation costs could increase and our liquidity could be negatively impacted due to increased inventory, potential need to post letters of credit, and negative impacts of market volatility. There is no assurance that our crude oil gathering operations will remain at current levels or we will be able to renew or extend the Vitol agreement beyond December 31, 2021. Crude oil production disruptions could have a material impact on the Petroleum Segment because in such an event, we may be unable to obtain an adequate supply of crude oil, or we may only be able to obtain crude oil at unfavorable prices and we may experience a reduction in liquidity and our results of operations could be materially adversely affected.

If our access to transportation on which we rely for the supply of our feedstocks and the distribution of our products is interrupted, our inventory and costs may increase and we may be unable to efficiently distribute our products.

If one of the pipelines on which either of the Refineries relies for supply of crude oil or for distribution of fuel becomes inoperative, the Petroleum Segment would be required to use alternative pipelines or tanker trucks or increase inventory, which could increase its costs and result in lower production levels and profitability. Our Nitrogen Fertilizer business relies on railroad, trucking and barge companies to ship finished products to customers. Factors that could negatively impact transportation availability and have a material adverse effect on our results of operations, financial condition and ability to make cash distributions include extreme weather conditions, work stoppages, delays, spills, and derailments, new regulations restricting movements or increasing costs. The limited number of companies available for ammonia transport may also impact the availability of transportation for our Nitrogen Fertilizer Segment's products.

Compliance with the U.S. Environmental Protection Agency Renewable Fuel Standard could adversely affect our performance.

The U.S. Environmental Protection Agency ("EPA") has promulgated and implemented a RFS pursuant to the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007. Under the RFS program, a RIN is assigned to each gallon of renewable fuel produced in or imported into the U.S. The RFS program sets annual mandates for the volume of renewable fuels (such as ethanol and biodiesel) that must be blended into a refiner's transportation fuels. If a refiner of petroleum-based transportation fuels is unable to meet its renewable fuel mandate though blending, it must purchase RINs in the open market to meet its obligations under the RFS program.

Our Petroleum Segment is exposed to the volatility in the market price of RINs, which can be extreme. We cannot predict the future prices of RINs. RIN prices are dependent upon a variety of factors, including EPA regulations, the availability of RINs for purchase, levels of transportation fuels produced, the mix of the petroleum business' petroleum products, as well as the fuel blending performed at the Refineries and downstream terminals, all of which can vary significantly from period to period. If sufficient RINs are unavailable for purchase, if the Petroleum Segment has to pay a significantly higher price for RINs, or if the Petroleum Segment is otherwise unable to meet the EPA's RFS mandates or is unable to participate in programs relieving compliance with RFS obligations, our business, financial condition and results of operations could be materially adversely affected.

Changes in our credit profile may affect its relationship with our suppliers, which could have a material adverse effect on our liquidity and ability to operate the Refineries at full capacity.

Changes in our credit profile may affect the way crude oil suppliers view our ability to make payments and may induce them to shorten the payment terms for purchases or require us to post security. Given the large dollar amounts and volume of our crude oil and other feedstock purchases, a burdensome change in payment terms may have a material adverse effect on liquidity and our ability to make payments to suppliers. This, in turn, could cause us to be unable to operate the Refineries at full capacity. A failure to operate at full capacity could adversely affect our profitability and cash flows.

The Petroleum Segment's commodity derivative contracts may limit potential gains, exacerbate potential losses, and involve other risks.

We may enter into commodity derivatives contracts to mitigate crack spread risk with respect to a portion of expected refined products production. However, hedging arrangements, if we are able to procure them, may fail to fully achieve this objective for a variety of reasons, including its failure to have adequate hedging contracts, if any, in effect at any particular time and the failure of hedging arrangements to produce the anticipated results. Moreover, such transactions may limit our ability to benefit from favorable changes in margins. In addition, our hedging activities may expose us to the risk of financial loss in certain circumstances, including instances in which the volumes of our actual use of crude oil or production of the applicable refined products is less than the volumes subject to the hedging arrangement; accidents, interruptions in transportation, inclement weather, or other events cause unscheduled shutdowns or otherwise adversely affect a refinery, suppliers, or customers; the counterparties to our futures contracts fail to perform under the contracts; or a sudden, unexpected event materially impacts the commodity or crack spread subject to the hedging arrangement. As a result, the effectiveness of our risk mitigation strategy could have a material adverse impact on our financial results and cash flows.

If we are unable to complete capital projects at their expected costs and/or in a timely manner, or if the market conditions assumed in project economics deteriorate, our financial condition, results of operations or cash flows could be adversely affected.

Equipment, even when properly maintained, may require significant capital expenditures and expenses to keep operating at optimum efficiency. Delays or cost increases beyond our control related to the engineering and construction of new facilities or improvements and repairs to existing facilities and equipment caused by delays in or denials of permits, disruptions to transportation, labor disagreements resulting in work stoppage, non-performance of vendors, or increases in financing costs, could have a significant impact on our petroleum business. If we are unable to make up for the delays or to recover the related costs, or if market conditions change, we could materially and adversely affect our financial condition, results of operations or cash flows.

Any one or more of these occurrences noted above could have a significant impact on our petroleum business. If we are unable to make up for the delays or to recover the related costs, or if market conditions change, we could materially and adversely affect our financial position, results of operations or cash flows.

Risks Related to the Nitrogen Fertilizer Segment

Any decline in U.S. agricultural production or limitations on the use of nitrogen fertilizer for agricultural purposes could have a material adverse effect on the sales, and on our results of operations, financial condition and cash flows.

Conditions in the U.S. agricultural industry significantly impact our operating results. The U.S. agricultural industry can be affected by a number of factors, including weather patterns and field conditions, current and projected grain inventories and prices, domestic and international population changes, demand for U.S. agricultural products, U.S., state and foreign policies regarding trade in agricultural products, and changes in governmental regulations and incentives for ethanol production that could affect future corn-based ethanol demand and production, including the RFS program. Developments in crop technology could also reduce the use of chemical fertilizers and adversely affect the demand for nitrogen fertilizer. All of the foregoing could have a material adverse effect on our results of operations, financial condition and cash flows.

Failure by CVR Energy's Coffeyville Refinery to continue to supply us with pet coke could negatively impact our results of operations.

Unlike our competitors, whose primary costs are related to the purchase of natural gas and whose costs are therefore largely variable, our Coffeyville Fertilizer Facility uses a pet coke gasification process to produce nitrogen fertilizer. Our profitability is directly affected by the price and availability of pet coke obtained from our Coffeyville Refinery pursuant to a long-term agreement. Our Coffeyville Fertilizer Facility has obtained the majority of its pet coke from our Coffeyville Refinery over the past five years, although has decreased to 33% in 2020. Should our Coffeyville Refinery fail to perform in accordance with the existing agreement or to the extent pet coke from the Coffeyville Refinery is insufficient, we would need to purchase pet coke from third parties on the open market, which could negatively impact our results of operations to the extent third-party pet coke is unavailable or available only at higher prices. Currently, we purchase 100% of the pet coke our Coffeyville Refinery produces. However, we are still required to procure additional pet coke at fixed prices from third parties to maintain our production rates. Our contracts for 275,000 tons of third-party supply of pet coke, currently end in December 2021.

The market for natural gas has been volatile, and fluctuations in natural gas prices could affect our competitive position.

Low natural gas prices benefit our competitors that rely on natural gas as their primary feedstock and disproportionately impact our operations at our Coffeyville Fertilizer Facility by making us less competitive with natural gas-based nitrogen fertilizer manufacturers. Continued low natural gas prices could result in nitrogen fertilizer pricing drops and impair the ability of the Coffeyville Fertilizer Facility to compete with other nitrogen fertilizer producers who use natural gas as their primary feedstock, which, therefore, would have a material adverse impact on the Nitrogen Fertilizer Segment's results of operations, financial condition and ability to make cash distributions.

The East Dubuque Fertilizer Facility uses natural gas as its primary feedstock, and as such, the profitability of operating the East Dubuque Fertilizer Facility is significantly dependent on the cost of natural gas. An increase in natural gas prices could make it less competitive with producers who do not use natural gas as their primary feedstock. In addition, an increase in natural gas prices in the U.S. relative to prices of natural gas paid by foreign nitrogen fertilizer producers may negatively affect our competitive position in the corn belt, and such changes could have a material adverse effect on our results of operations, financial condition, and cash flows.

Any interruption in the supply of natural gas to our East Dubuque Fertilizer Facility could have a material adverse effect on our results of operations and financial condition.

Our East Dubuque Fertilizer Facility depends on the availability of natural gas. We have two agreements for pipeline transportation of natural gas with expiration dates in 2021 and 2022. We typically purchase natural gas from third parties on a spot basis and, from time to time, may enter into fixed-price forward purchase contracts. Upon expiration of the agreements, we may be unable to extend the service under the terms of the existing agreements or renew the agreements on satisfactory terms, or at all, necessitating construction of a new connection that could be costly and disruptive. Any disruption in the supply of natural gas to our East Dubuque Facility could restrict our ability to continue to make products at the facility and have a material adverse effect on our results of operations and financial condition.

If licensed technology were no longer available, our business may be adversely affected.

We have licensed, and may in the future license, a combination of patent, trade secret, and other intellectual property rights of third parties for use in our plant operations. If our use of technology on which our operations rely were to be terminated or face infringement claims, licenses to alternative technology may not be available, may only be available on terms that are not commercially reasonable or acceptable, or in the case of infringement may result in substantial costs, all of which could have a material adverse effect on our results of operations, financial condition and cash flows.

Our operations are dependent on third-party suppliers, which could have a material adverse effect on our results of operations, financial condition and cash flows.

Operations of our Coffeyville Fertilizer Facility depend in large part on the performance of third-party suppliers, including the third-party air separation plant located adjacent to it and third-party electricity suppliers. Our East Dubuque Fertilizer Facility operations also depend in large part on the performance of third-party suppliers, including for the purchase of electricity. Should these, or any of our other third-party suppliers fail to perform in accordance with existing contractual arrangements, or should we otherwise lose the service of any third-party suppliers, our operations (or a portion thereof) could be forced to halt. Alternative sources of supply could be difficult to obtain. Any shutdown of our operations (or a portion thereof), even for a limited period, could have a material adverse effect on our results of operations, financial condition and ability to make cash distributions.

Any liability for accidents involving ammonia or other products we produce or transport that cause severe damage to property or injury to the environment and human health could have a material adverse effect on our results of operations, financial condition and ability to make cash distributions.

Our business manufactures, processes, stores, handles, distributes and transports ammonia, which can be very volatile and extremely hazardous. Major accidents or releases involving ammonia could cause severe damage or injury to property, the environment, and human health, as well as a possible disruption of supplies and markets. Such an event could result in civil lawsuits, fines, penalties and regulatory enforcement proceedings, all of which could lead to significant liabilities. Any damage or injury to persons, equipment or property or other disruption of our ability to produce or distribute products could result in a significant decrease in operating revenues and significant additional costs to replace or repair and insure our assets, which could have a material adverse effect on our results of operations, financial condition and ability to make cash distributions.

In addition, we may incur significant losses or increased costs relating to the operation of railcars used for the purpose of carrying various products, including ammonia. Due to the dangerous and potentially hazardous nature of the cargo we carry, in particular ammonia, a railcar accident may result in fires, explosions, and releases of material which could lead to sudden, severe damage or injury to property, the environment, and human health. In the event of contamination, under environmental law, we may be held responsible even if we are not at fault, and we complied with the laws and regulations in effect at the time of the accident. Litigation arising from accidents involving ammonia and other products we produce or transport may result in us being named as a defendant in lawsuits asserting claims for substantial damages, which could have a material adverse effect on our results of operations, financial condition and ability to make cash distributions.

Risks Related to Our Capital Structure

Instability and volatility in the capital, credit, and commodity markets in the global economy could negatively impact our business, financial condition, results of operations and cash flows.

Our business, financial condition and results of operations could be negatively impacted by difficult conditions and volatility in the capital, credit, and commodities markets and in the global economy. For example, there can be no assurance that funds under our credit facilities will be available or sufficient, and in such a case, we may not be able to successfully obtain additional financing on favorable terms, or at all; market volatility could exert downward pressure on the price of CVR Partners' common units, which may make it more difficult for us to raise additional capital and thereby limit its ability to grow, which could in turn cause CVR Energy's stock and/or CVR Partners' unit price to drop; or customers experiencing financial difficulties may fail to meet their financial obligations when due because of bankruptcy, lack of liquidity, operational failure, or other reasons could result in decreased sales and earnings for us.

Our indebtedness may increase and affect our ability to operate our businesses, and have a material adverse effect on our financial flexibility, financial condition and results of operations.

Although existing credit facilities contain restrictions on the occurrence of additional indebtedness, these restrictions are subject to a number of qualifications and exceptions and, under certain circumstances, additional indebtedness incurred in compliance with these restrictions could be substantial and secured. The level of indebtedness could have important consequences, including the following: (i) limiting our ability to obtain additional financing to fund working capital needs, capital expenditures, debt service requirements, acquisitions, general corporate, or other purposes; (ii) requiring us to utilize a significant portion of cash flows to service indebtedness, thereby reducing our funds available for operations, future business opportunities, and distributions to us and public common unitholders of CVR Partners; (iii) limiting our ability to use operating cash flow in other areas of our business because we must dedicate a substantial portion of these funds to service debt; (iv) limiting our ability to compete with other companies who are not as highly leveraged, as we may be less capable of responding to adverse economic and industry conditions; (v) limiting our ability to make certain payments on debt that is subordinated or secured on a junior basis; (vi) restricting the way in which we conduct business because of financial and operating covenants, including regarding borrowing additional funds, disposing of assets, and in the case of certain indebtedness of subsidiaries, restricting the ability of subsidiaries to pay dividends or make distributions; (vii) limiting our ability to enter into certain transactions with our affiliates; (viii) limiting our ability to designate our subsidiaries as unrestricted subsidiaries; (ix) exposing us to potential events of default (if not cured or waived) under financial and operating covenants contained in their or their respective subsidiaries' debt instruments; (x) increasing our vulnerability to general adverse economic and industry conditions or adverse pricing of products; (xi) increasing the likelihood for a reduction in the borrowing base under CVR Refining's Amended and Restated ABL Credit Facility following a periodic redetermination could require us to repay a portion of our then-outstanding bank borrowings; and (xii) limiting our ability to react to changing market conditions in our industries and in respective customers' industries.

Covenants in our debt agreements could limit our ability to incur additional indebtedness and engage in certain transactions, as well as limit operational flexibility, which could adversely affect our liquidity and ability to pursue our business strategies.

Our debt facilities and instruments contain, and any instruments governing future indebtedness would likely contain, a number of covenants that impose significant operating and financial restrictions on us and our subsidiaries and may limit our ability to engage in acts that may be in our long-term best interest, including restrictions on the ability, among other things, to: incur, assume, or guarantee additional indebtedness or issue redeemable or preferred stock; pay dividends or distributions in respect of equity securities or make other restricted payments; prepay, redeem, or repurchase certain debt; enter into agreements that restrict distributions from restricted subsidiaries; make certain payments on debt that is subordinated or secured on a junior basis; make certain investments; sell or otherwise dispose of assets, including capital stock of subsidiaries; create liens on certain assets; consolidate, merge, sell, or otherwise dispose of all or substantially all assets; enter into certain transactions with affiliates; and designate subsidiaries as unrestricted subsidiaries.

Any of these restrictions could limit our ability to plan for or react to market conditions and could otherwise restrict operating activities. Any failure to comply with these covenants could result in a default under existing debt facilities and instruments. Upon a default, unless waived, the lenders under such debt facilities and instruments would have all remedies available to a secured lender and could elect to terminate their commitments, cease making further loans, institute foreclosure proceedings against assets, and force bankruptcy or liquidation, subject to any applicable intercreditor agreements. In addition, a default under existing debt facilities and instruments would trigger a cross default under other agreements and could trigger a cross default under the agreements governing future indebtedness. Our operating segments' results may not be sufficient to service existing indebtedness or to fund other expenditures, and we may not be able to obtain financing to meet these requirements.

We may not be able to generate sufficient cash to service existing indebtedness and may be forced to take other actions to satisfy debt obligations that may not be successful.

Our ability to satisfy existing debt obligations will depend upon, among other things: future financial and operating performance, which will be affected by prevailing economic conditions and financial, business, regulatory, and other factors, many of which are beyond our control; future ability to borrow under CVR Refining's Amended and Restated ABL Credit Facility and CVR Partners' AB Credit Facility, the availability of which depends on, among other things, complying with the covenants in the applicable facility; and future ability to obtain other financing.

We cannot offer any assurance that our businesses will generate sufficient cash flow from operations, or that we will be able to draw under our credit facilities or from other sources of financing, in an amount sufficient to fund respective liquidity needs. In addition, our board of directors may in the future elect to pursue other strategic options including acquisitions of other businesses or asset purchases, which would reduce cash available to service our debt obligations.

If cash flows and capital resources are insufficient to service existing indebtedness, we may be forced to reduce or delay capital expenditures, sell assets, seek additional capital, restructure or refinance existing indebtedness, or seek bankruptcy protection. These alternative measures may not be successful and may not permit the meeting of scheduled debt service and other obligations. Our ability to restructure or refinance debt will depend on the condition of the capital markets and our financial condition, including that of our operating segments, at such time. Any refinancing of existing debt could be at higher interest rates and may require compliance with more onerous covenants, which could further restrict business operations.

The borrowings under our credit facilities bear interest at variable rates and other debt we or they incur could likewise be variable-rate debt. If market interest rates increase, variable-rate debt will create higher debt service requirements, which could adversely affect our cash flow and/or distributions to us. Although we may enter into agreements limiting exposure to higher interest rates, any such agreements may not offer complete protection from this risk.

We are authorized to issue up to a total of 350 million shares of our common stock and 50 million shares of preferred stock, potentially diluting equity ownership of current holders and the share price of our common stock.

Our board of directors may authorize us to issue the available authorized shares of common stock or preferred stock without notice to, or further action by, our stockholders, unless stockholder approval is required by law or the rules of the NYSE. The issuance of additional shares of common stock or preferred stock may significantly dilute the equity ownership of the current holders of our common stock.

Risks Related to Our Corporate Structure

We are a holding company and depend upon our subsidiaries for our cash flow.

We are a holding company, and our subsidiaries conduct substantially all of our operations and own substantially all of our assets. Consequently, our cash flow and our ability to meet our obligations or to pay dividends or make other distributions in the future will depend upon the cash flow of our subsidiaries and the payment of funds by our subsidiaries to us in the form of distributions.

Mr. Carl C. Icahn exerts significant influence over the Company, and his interests may conflict with the interests of the Company's other stockholders.

Mr. Carl C. Icahn indirectly controls approximately 71% of the voting power of our common stock and, by virtue of such stock ownership, is able to control or exert substantial influence over the Company, including the election and appointment of directors; business strategy and policies; mergers or other business combinations; acquisition or disposition of assets; future issuances of common stock, common units, or other securities; occurrence of debt or obtaining other sources of financing; and the payment of dividends on the Company's common stock and distributions on the common units of CVR Partners. The existence of a controlling stockholder may have the effect of making it difficult for, or may discourage or delay, a third-party from seeking to acquire a majority of the Company's outstanding common stock, which may adversely affect the market price of the Company's common stock.

Mr. Icahn's interests may not always be consistent with the Company's interests or with the interests of the Company's other stockholders. Mr. Icahn and entities controlled by him may also pursue acquisitions or business opportunities in industries in which we compete, and there is no requirement that any additional business opportunities be presented to us. We also have and may in the future enter into transactions to purchase goods or services with affiliates of Mr. Icahn. To the extent that conflicts of interest may arise between the Company and Mr. Icahn and his affiliates, those conflicts may be resolved in a manner adverse to the Company or its other stockholders.

In addition, if Mr. Icahn were to sell, or otherwise transfer, some or all of his interests in us to an unrelated party or group, a change of control could be deemed to have occurred under the terms of the indenture governing CVR Energy's 5.250% and 5.750% Senior Notes, which would require it to offer to repurchase all outstanding notes at 101% of their principal amount plus accrued interest to the date of repurchase, and an event of default could be deemed to have occurred under CVR Refining's Amended and Restated ABL Credit Facility, which would allow lenders to accelerate indebtedness owed to them. However, it is possible that we will not have sufficient funds at the time of the change of control to make the required repurchase of notes or repay amounts outstanding under CVR Refining's Amended and Restated ABL Credit Facility, if any.

Our stock price may decline due to sales of shares by Mr. Carl C. Icahn.

Sales of substantial amounts of the Company's common stock, or the perception that these sales may occur, may adversely affect the price of the Company's common stock and impede its ability to raise capital through the issuance of equity securities in the future. Mr. Icahn could elect in the future to request that the Company file a registration statement to sell shares of the Company's common stock. If Mr. Icahn were to sell a large number of shares into the public markets, Mr. Icahn could cause the price of the Company's common stock to decline.

We are a "controlled company" within the meaning of the NYSE rules and, as a result, qualify for, and are relying on, exemptions from certain corporate governance requirements.

A company of which more than 50% of the voting power is held by an individual, a group, or another company is a "controlled company" within the meaning of the NYSE rules and may elect not to comply with certain corporate governance requirements of the NYSE, including the requirements that a majority of our board of directors consist of independent directors; we have a nominating/corporate governance committee that is composed entirely of independent directors; and we have a compensation committee that is composed entirely of independent directors. We are relying on all of these exemptions as a controlled company. Accordingly, our stockholders may not have the same protections afforded to stockholders of companies that are subject to all of the corporate governance requirements of the NYSE. In addition, CVR Partners is relying on exemptions from the same NYSE corporate governance requirements described above.

We have various mechanisms in place to discourage takeover attempts, which may reduce or eliminate our stockholders' ability to sell their shares for a premium in a change of control transaction.

Various provisions of our amended certificate of incorporation and second amended and restated bylaws and of Delaware corporate law may discourage, delay, or prevent a change in control or takeover attempt of our Company by a third-party. Public stockholders who might desire to participate in such a transaction may not have the opportunity to do so. These anti-takeover provisions could substantially impede the ability of public stockholders to benefit from a change of control or change in our management and board of directors. These provisions include preferred stock that could be issued by our board of directors to make it more difficult for a third-party to acquire, or to discourage a third-party from acquiring, a majority of our outstanding voting stock; limitations on the ability of stockholders to call special meetings of stockholders; limitations on the ability of stockholders to act by written consent in lieu of a stockholders' meeting; and advance notice requirements for nominations of candidates for election to our board of directors or for proposing matters that can be acted upon by our stockholders at stockholder meetings.

Compliance with and changes in the tax laws could adversely affect our performance.

We are subject to extensive tax liabilities, including U.S. and state income taxes and transactional taxes such as excise, sales/use, payroll, franchise, and withholding taxes. New tax laws and regulations are continuously being enacted or proposed that could result in increased expenditures for tax liabilities in the future.

Risks Related to Our Ownership in CVR Partners

If CVR Partners were to be treated as a corporation for U.S. federal income tax purposes or if it becomes subject to entity-level taxation for state tax purposes, its cash available for distribution to its common unitholders, including to us, would be substantially reduced, likely causing a substantial reduction in the value of its common units, including the common units held by us.

The anticipated after-tax economic benefit of an investment in common units of CVR Partners depends largely on it being treated as a partnership for U.S. federal income tax purposes. Despite the fact that CVR Partners is organized as a limited partnership under Delaware law, it would be treated as a corporation for U.S. federal income tax purposes unless it satisfies a “qualifying income” requirement. CVR Partners may not find it possible to meet this qualifying income requirement, may inadvertently fail to meet this qualifying income requirement, or a change in current law could cause CVR Partners to be treated as a corporation for U.S. federal income tax purposes or otherwise subject CVR Partners to entity-level taxation. If CVR Partners were to be treated as a corporation for U.S. federal income tax purposes, it would pay U.S. federal income tax on all of its taxable income at the corporate tax rate. Distributions to its common unitholders (including us) would generally be taxed again as corporate distributions, and no income, gains, losses, or deductions would flow through to such common unitholders. Because a tax would be imposed upon CVR Partners as a corporation, its cash available for distribution to its common unitholders would be substantially reduced. Therefore, treatment of CVR Partners as a corporation would result in a material reduction in the anticipated cash flow and after-tax return to its common unitholders (including us), likely causing a substantial reduction in the value of such common units.

We may have liability to repay distributions that are wrongfully distributed to us.

Under certain circumstances, we may, as a holder of common units in CVR Partners, have to repay amounts wrongfully returned or distributed to us. Under the Delaware Revised Uniform Limited Partnership Act, a partnership may not make distributions to its unitholders if the distribution would cause its liabilities to exceed the fair value of its assets. Delaware law provides that for a period of three years from the date of an impermissible distribution, limited partners who received the distribution and who knew at the time of the distribution that it violated Delaware law will be liable to the company for the distribution amount.

Public investors own approximately 64% of the Nitrogen Fertilizer Segment through CVR Partners. Although we own the general partner of CVR Partners, the general partner owes a duty of good faith to public unitholders, which could cause them to manage their respective businesses differently than if there were no public unitholders.

Public investors own approximately 64% of CVR Partners’ common units. We are not entitled to receive all of the cash generated by CVR Partners or freely transfer money to finance operations at the Petroleum Segment. Furthermore, although we own the general partner of CVR Partners, the general partner is subject to certain fiduciary duties, which may require the general partner to manage its business in a way that may differ from our best interests.

CVR Partners is managed by the executive officers of its general partner, who are employed by and also serve as part of the senior management team of the Company. Conflicts of interest could arise as a result of this arrangement.

CVR Partners is managed by the executive officers of its general partner, who are employed by and also serve as part of the senior management team of the Company. Furthermore, although CVR Partners has entered into a service agreement with the Company under which it compensates the Company for the services of its management, our management is not required to devote any specific amount of time to the Nitrogen Fertilizer Segment and may devote a substantial majority of their time to other business of the Company. Moreover, the Company may terminate the services agreement with CVR Partners at any time, subject to a 90-day notice period. In addition, key executive officers of the Company, including its president and chief executive officer, chief financial officer, and general counsel, will face conflicts of interest if decisions arise in which CVR Partners and the Company have conflicting points of view or interests.

General Risks Related to CVR Energy

The acquisition, expansion and investment strategy of our businesses involves significant risks.

From time to time, we may consider pursuing acquisitions and expansion projects to continue to grow and increase profitability. We also may make investments in other entities, such aas our current investment in Delek US Holdings, Inc. ("Delek"). There can be no assurance that we will be able to consummate any acquisitions or expansions, successfully integrate acquired businesses or entities, or generate positive cash flow at any acquired company or expansion project. Challenges that may lead to failed consummation of an expansion/acquisition include intense competition for suitable acquisition targets, the potential unavailability of financial resources necessary, difficulties in securing sufficiently favorable terms, and the failure to obtain requisite regulatory or other governmental approvals. In addition, any future acquisitions, expansions or investments may entail significant transaction costs and risks associated with entry into new markets and lines of business, including but not limited to new regulatory obligations and risks, and integration challenges such as disruption of operations; failure to achieve financial or operating objectives contributing to the accretive nature of an acquisition; strain on controls, procedures and management; the need to modify systems or to add management resources; customer and personnel retention; assumption of unknown material liabilities or regulatory non-compliance issues; amortization of acquired assets, which would reduce future reported earnings; and possible adverse short-term effects on our cash flows or operating results. Also, our investments may not be successful for many reasons, including, but not limited to, lack of control; worsening of general economic and market conditions; or adverse legal and regulatory developments that may affect particular businesses. Failure to manage these acquisition, expansion and investment risks could have a material adverse effect on our results of operations, financial condition and cash flows. Our joint ventures involve similar risks.

We are subject to the risk of becoming an investment company.

From time to time, we may own less than a 50% interest in other public companies, such as our current interest in Delek, which exposes us to the risk of inadvertently becoming an investment company required to register under the Investment Company Act ("ICA"). Events beyond our control, including significant appreciation or depreciation in the market value of certain of our publicly traded holdings or adverse developments, could result in our inadvertently becoming an investment company required to register under the ICA and subject to extensive, restrictive and potentially adverse regulations relating to, among other things, operating methods, management, capital structure, dividends and transactions with affiliates, and could also be subject to monetary penalties or injunctive relief for failure to register as such.

Internally generated cash flows and other sources of liquidity may not be adequate for the capital needs of our businesses.

Our businesses are capital intensive, and working capital needs may vary significantly over relatively short periods of time. For instance, crude oil price volatility can significantly impact working capital on a week-to-week and month-to-month basis. If we cannot generate adequate cash flow or otherwise secure sufficient liquidity to meet our working capital needs or support our short-term and long-term capital requirements, we may be unable to meet our debt obligations, pursue our business strategies, or comply with certain environmental standards, which would have a material adverse effect on our business and results of operations.

Our ability to pay dividends on our common stock is subject to market conditions and numerous other factors.

Dividends are subject to change at the discretion of the board of directors and may change from quarter to quarter and may not be paid at historical rates or at all. Our ability to continue paying dividends is subject to our ability to continue to generate sufficient cash flow from our operating segments, and the amount of dividends we are able to pay each year may vary, possibly substantially, based on market conditions, crack spreads, our capital expenditure and other business needs, covenants contained in any debt agreements we may enter into in the future, covenants contained in existing debt agreements, and the amount of distributions we receive from CVR Partners. If the amount of our dividends decreases, the trading price of our common stock could be materially adversely affected as a result.

Item 1B. *Unresolved Staff Comments*

None.

Item 2. *Properties*

Refer to Item 1, "Petroleum" and "Nitrogen Fertilizer" for more information on our core business properties. We also lease property for our executive and marketing offices in Sugar Land, Texas and Kansas City, Kansas, respectively.

Item 3. *Legal Proceedings*

In the ordinary course of business, we may become party to lawsuits, administrative proceedings, and governmental investigations, including environmental, regulatory, and other matters. Large, and sometimes unspecified, damages or penalties may be sought from us in some matters and certain matters may require years to resolve. Although we cannot provide assurance, we believe that an adverse resolution of the matters described below would not have a material impact on our liquidity, consolidated financial position, or consolidated results of operations.

Unresolved Matters

The U.S. Attorney's office for the Southern District of New York contacted CVR Energy in September 2017 seeking production of information pertaining to CVR Refining's, CVR Energy's and Mr. Carl C. Icahn's activities relating to the RFS and Mr. Icahn's former role as an advisor to former President Trump. CVR Energy cooperated with the request and provided information in response to the subpoena. The U.S. Attorney's office has not made any claims or allegations against CVR Energy or Mr. Icahn. CVR Energy believes it maintains a strong compliance program and, while no assurances can be made, CVR Energy does not believe this inquiry will have a material impact on its business, financial condition, results of operations or cash flows.

On August 21, 2018, CRRM received a letter from the United States Department of Justice ("DOJ") on behalf of the EPA and KDHE alleging violations of the CAA and a 2012 Consent Decree (the "CD") between Coffeyville Resources Refining & Marketing, LLC ("CRRM"), the United States (on behalf of the EPA) and the Kansas Department of Health and Environment ("KDHE") at CRRM's Coffeyville refinery. In June 2020, a tolling agreement between the parties relating to such allegations expired, and the United States and KDHE sent demand letters relating to the allegations (the "Stipulated Claims") and seeking stipulated penalties. In February 2021, the DOJ and KDHE sent CRRM a statement of position under the CD regarding its demand for Stipulated Claims. As CRRM disputes most claims asserted by the government, in accordance with the CD, CRRM deposited funds into a commercial escrow account pending resolution of disputed claims. The escrowed funds are legally restricted for use and are included within Prepaid expenses and other current assets on the consolidated balance sheets. In December 2020, the DOJ and KDHE filed a supplement complaint in the United States District Court for the District of Kansas ("D. Kan") asserting nine counts for alleged violations of the Clean Air Act, the Kansas State Implementation Plan and Kansas law ("the Statutory Claims") and seeking civil penalties, injunctive and related relief. Negotiations relating to the Stipulated Claims and the Statutory Claims are ongoing and the Company cannot determine at this time the outcome of these matters, including whether such outcome, or any subsequent enforcement or litigation relating thereto would have a material impact on the Company's financial position, results of operations, or cash flows.

In 2019, the Company, CVR Refining and its general partner, CVR Refining Holdings, IEP, and certain directors and affiliates were named in at least one of nine lawsuits filed in the Delaware Court of Chancery by purported former unitholders of CVR Refining, on behalf of themselves and an alleged class of similarly situated unitholders relating to the Company's exercise of the call option ("Call Option") under the CVR Refining Amended and Restated Agreement of Limited Partnership assigned to it by CVR Refining's general partner (the "Delaware Lawsuits"). The Delaware Lawsuits primarily allege breach of contract, tortious interference and breach of the implied covenant of good faith and fair dealing and seek monetary damages and attorneys' fees, among other remedies. In January 2020, the court dismissed CVR Holdings and certain former directors of CVR Refining's general partner from the Delaware Lawsuits, though permitted some or all of the claims to proceed against each remaining defendant. On April 6, 2020, a lawsuit was filed in the United States District Court for the Southern District of New York against the Company, CVR Refining and its general partner, CVR Refining Holdings, IEP, and the Company's Chief Executive Officer by purported former unitholders of CVR Refining on behalf of themselves and an alleged class of similarly situated unitholders (the "New York Lawsuit" and together with the Delaware Lawsuits, the "Call Option Lawsuits") primarily alleging violations of Sections 10(b) and 20(a) of the Exchange Act and Rule 10b-5 thereunder and seeking monetary damages and attorney's fees, among other remedies. The Company believes the Call Option Lawsuits are without merit and intends to vigorously defend against them. Discovery is currently on-going. Accordingly, the Company cannot determine at this time the outcome of the Call Option Lawsuits, including whether the outcome of this matter would have a material impact on the Company's financial position, results of operations, or cash flows.

On January 27, 2021, a lawsuit was filed against the defendants in the Call Option Lawsuits in the 434th Judicial District Court of Fort Bend County, Texas by their primary and excess insurers (the "Insurers") seeking declaratory judgements determining that they owe no indemnity coverage and, for certain defendants, no defense obligations relating to the Call Option Lawsuits (the "Call Option Insurer Case"). The defendants believe the Call Option Insurer Case is without merit, intends to vigorously defend the claims against them, and filed a related lawsuit in the Delaware Court of Chancery. These lawsuits are in the early stages of litigation. Accordingly, the Company cannot determine at this time their outcome, including whether such outcome would have a material impact on the Company's financial position, results of operations, or cash flows.

During 2019, WRC intervened in a lawsuit filed by four ethanol and biofuels trade associations against the EPA, claiming the EPA exceeded its authority in granting WRC's Wynnewood Refinery 2017 small refinery exemption ("SRE") under the RFS program under the CAA, as well as the SREs of two other unrelated refineries. In January 2020, the U.S. Court of Appeals for the 10th Circuit (the "10th Circuit") vacated the three SREs and remanded the matter to the EPA for further proceedings, holding, in part, that the "extension" language in the CAA requires a small refinery to have received an SRE continuously in every year since inception of the program to be eligible. After the 10th Circuit refused to rehear the case, WRC and others filed a writ of certiorari with the Supreme Court of the United States (the "Supreme Court") on September 4, 2020, which was granted by the Supreme Court on January 8, 2021. The case is currently expected be argued in April 2021. As it is not yet clear how the Supreme Court will rule, or what steps the EPA will take with respect to SREs, we cannot currently estimate the outcome, impact, or timing of resolution of this matter.

Resolved Matters

No new matters to report.

Item 4. *Mine Safety Disclosures*

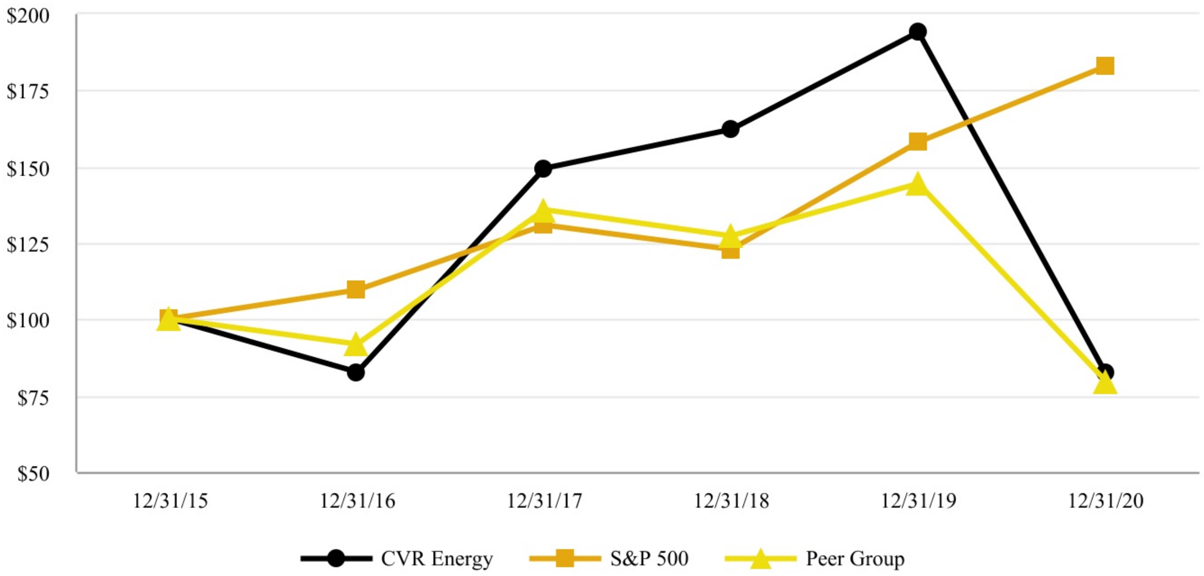
Not applicable.

PART II

Item 5. *Market For Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*

Performance Graph

The performance graph below compares the cumulative total return of our common stock to (a) the cumulative total return of the S&P 500 Composite Index and (b) a composite peer group ("Peer Group") consisting of Delek US Holdings, Inc., HollyFrontier Corporation, Marathon Petroleum Corp., Par Pacific Holdings, Inc, PBF Energy Inc. and Valero Energy Corporation. The graph assumes that the value of the investment in common stock and each index was $100 on December 31, 2015 and that all dividends were reinvested. Investment is weighted on the basis of market capitalization.



The share price performance shown on the graph is not necessarily indicative of future price performance. Information used in the graph was obtained from Yahoo! Finance (finance.yahoo.com). The performance graph above is furnished and not filed for purposes of the Securities Act and the Exchange Act. The performance graph is not soliciting material subject to Regulation 14A.

Market Information

Our common stock is listed under the symbol "CVI" on the New York Stock Exchange ("NYSE"). The Company has 117 holders of record of the outstanding shares as of December 31, 2020.

Purchases of Equity Securities by the Issuer

On October 23, 2019, the Board of Directors of the Company authorized a stock repurchase program (the "Stock Repurchase Program"). The Stock Repurchase Program would enable the Company to repurchase up to $300 million of the Company's common stock. Repurchases under the Stock Repurchase Program may be made from time-to-time through open market transactions, block trades, privately negotiated transactions or otherwise in accordance with applicable securities laws. The timing, price and amount of repurchases (if any) will be made at the discretion of management and are subject to market conditions as well as corporate, regulatory and other considerations. While the Stock Repurchase Program currently has a duration of four years, it does not obligate the Company to acquire any stock and may be terminated by the Company's Board of Directors at any time.

We did not repurchase any of our common stock during the years ended December 31, 2020 and 2019.

Item 6. *Selected Financial Data*

Not applicable.

Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations*

The following discussion and analysis of our financial condition, results of operations and cash flow should be read in conjunction with our consolidated financial statements and related notes and with the statistical information and financial data included elsewhere in this Report. References to CVR Energy, the Company, "we," "us," and "our" may refer to consolidated subsidiaries of CVR Energy, including CVR Refining or CVR Partners, as the context may require.

This discussion and analysis covers the years ended December 31, 2020 and 2019 and discusses year-to-year comparisons between such periods. The discussions of the year ended December 31, 2018 and year-to-year comparisons between the years ended December 31, 2019 and 2018 that are not included in this Annual Report on Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2019 filed on February 20, 2020, and such discussions are incorporated by reference into this Report.

Reflected in this discussion and analysis is how management views the Company's current financial condition and results of operations along with key external variables and management's actions that may impact the Company. Understanding significant external variables, such as market conditions, weather, and seasonal trends, among others, and management actions taken to manage the Company, address external variables, among others, which will increase users' understanding of the Company, its financial condition and results of operations. This discussion may contain forward looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in the forward looking statements. Factors that could cause or contribute to such differences include, but are not limited to those discussed below and elsewhere in this Report.

Strategy and Goals

Mission and Core Values

Our Mission is to be a top tier North American petroleum refining and nitrogen-based fertilizer company as measured by safe and reliable operations, superior performance and profitable growth. The foundation of how we operate is built on five core Values:

- *Safety* - We always put safety first. The protection of our employees, contractors and communities is paramount. We have an unwavering commitment to safety above all else. If it's not safe, then we don't do it.
- *Environment* - We care for our environment. Complying with all regulations and minimizing any environmental impact from our operations is essential. We understand our obligation to the environment and that it's our duty to protect it.
- *Integrity* - We require high business ethics. We comply with the law and practice sound corporate governance. We only conduct business one way —the right way with integrity.
- *Corporate Citizenship* - We are proud members of the communities where we operate. We are good neighbors and know that it's a privilege we can't take for granted. We seek to make a positive economic and social impact through our financial donations and the contributions of time, knowledge and talent of our employees to the places where we live and work.
- *Continuous Improvement* - We believe in both individual and team success. We foster accountability under a performance-driven culture that supports creative thinking, teamwork, diversity and personal development so that employees can realize their maximum potential. We use defined work practices for consistency, efficiency and to create value across the organization.

Our core values are driven by our people, inform the way we do business each and every day and enhance our ability to accomplish our mission and related strategic objectives.

Strategic Objectives

We have outlined the following strategic objectives to drive the accomplishment of our mission:

Safety - We aim to achieve continuous improvement in all environmental, health and safety areas through ensuring our people's commitment to environmental, health and safety comes first, the refinement of existing policies, continuous training, and enhanced monitoring procedures.

Reliability - Our goal is to achieve industry-leading utilization rates at our Facilities through safe and reliable operations. We are focusing on improvements in day-to-day plant operations, identifying alternative sources for plant inputs to reduce lost time due to third-party operational constraints, and optimizing our commercial and marketing functions to maintain plant operations at their highest level.

Market Capture - We continuously evaluate opportunities to improve the facilities' realized pricing at the gate and reduce variable costs incurred in production to maximize our capture of market opportunities.

Financial Discipline - We strive to be as efficient as possible by maintaining low operating costs and disciplined deployment of capital.

Achievements

We successfully executed a number of achievements in support of our strategic objectives shown below through the date of this filing despite the challenges experienced by the industry during 2020 as a result of the COVID-19 pandemic:

	Safety	Reliability	Market Capture	Financial Discipline
Corporate:				
Increased liquidity and extended debt maturity with the January issuance of $1.0 billion of Senior Unsecured Notes due in 2025 and 2028, and the redemption of $0.5 billion CVR Refining Senior Notes due in 2022.				ü
Operated our Petroleum Segment and Nitrogen Fertilizer Segment facilities safely and reliably and maintained financial discipline amid COVID-19 pandemic.	ü	ü		ü
Reduced consolidated operating and SG&A expenses by over 12% compared to 2019.				ü
Reduced lost profit opportunities by $46 million compared to 2019.		ü	ü	ü
Achieved over 19% reduction in environmental events compared to 2019.	ü			
Reduced capital spending by over $21 million compared to initial spending plans.				ü
Petroleum Segment:				
Safely completed the planned turnaround of the Coffeyville Refinery in April 2020, limiting exposure to the volatile margin environment.	ü	ü	ü	ü
Received Board approval to proceed with construction of the Renewable Diesel Unit ("RDU") project at the Wynnewood Refinery.			ü	ü
Announced agreement to acquire Oklahoma crude oil pipeline business from Blueknight Energy.			ü	ü
Reduced operating and SG&A expenses by 13% compared to 2019.				ü
Reduced lost profit opportunities by $32 million compared to 2019.		ü	ü	ü

	Safety	Reliability	Market Capture	Financial Discipline
Reduced capital spending by $20 million compared to initial spending plans.				ü
Achieved over 40% reduction in environmental events compared to 2019.	ü			
Nitrogen Fertilizer:				
Maintained high asset reliability and a combined utilization rate of 98% at both facilities through the fourth quarter of 2020.	ü	ü	ü	
Achieved record shipments of ammonia from the East Dubuque Fertilizer Facility during April 2020.		ü	ü	
Reduced lost profit opportunities by $14 million compared to 2019.		ü	ü	ü
Generated Coffeyville Fertilizer Facility's first carbon offset credits related to N_2O abatement and continued sequestration of CO_2 for enhanced crude oil recovery.	ü			ü
Reduced operating and SG&A expenses by over 12% in 2020 as compared to 2019.				ü
Reduced capital spending by $9 million compared to initial spending plans.				ü
Amended and extended the Nitrogen Fertilizer ABL during the third quarter of 2020.				ü
Completed Messer contract renewal with favorable conditions including new O_2 tank.				ü
Repurchased $7 million of CVR Partners common units during 2020.				ü

Industry Factors and Market Conditions

General Business Environment

In March 2020, the World Health Organization categorized COVID-19 as a pandemic, and the President of the United States declared the COVID-19 outbreak a national emergency. The COVID-19 pandemic and actions taken by governments and others in response thereto has negatively impacted the worldwide economy, financial markets, and the energy and fertilizer industries. The COVID-19 pandemic has also resulted in significant business and operational disruptions, including business closures, liquidity strains, destruction of non-essential demand, as well as supply chain challenges, travel restrictions, stay-at-home orders, and limitations on the availability of the workforce. Actions taken by the U.S. government to provide stimulus to individuals and businesses have helped mitigate the short-term impacts of the downturn caused by COVID-19. Vaccination efforts underway domestically and internationally also provide promise for near-term economic recovery. However, it is too early to determine the extent or timing by which the stimulus and vaccinations along with other government actions will benefit the overall business environment in the long-term.

Petroleum Segment

The earnings and cash flows of the Petroleum Segment are primarily affected by the relationship between refined product prices and the prices for crude oil and other feedstocks that are processed and blended into refined products. The cost to acquire crude oil and other feedstocks and the price for which refined products are ultimately sold depend on factors beyond the Petroleum Segment's control, including the supply of and demand for crude oil, as well as gasoline and other refined products which, in turn, depend on, among other factors, changes in domestic and foreign economies, driving habits, weather conditions, domestic and foreign political affairs, production levels, the availability of imports, the marketing of competitive fuels and the extent of government regulation. Because the Petroleum Segment applies first-in first-out accounting to value its inventory, crude oil price movements may impact net income in the short term because of changes in the value of its unhedged inventory. The effect of changes in crude oil prices on the Petroleum Segment results of operations is partially influenced by the rate at which the process of refined products adjust to reflect these changes.

The prices of crude oil and other feedstocks and refined products are also affected by other factors, such as product pipeline capacity, system inventory, local market conditions, and the operating levels of other refineries. Crude oil costs and the prices of refined products have historically been subject to wide fluctuations. Widespread expansion or upgrades of competitors' facilities, price volatility, international political and economic developments, and other factors are likely to continue to play an important role in refining industry economics. These factors can impact, among other things, the level of inventories in the market, resulting in price volatility and a reduction in product margins. Moreover, the refining industry typically experiences seasonal fluctuations in demand for refined products, such as increases in the demand for gasoline during the summer driving season and for volatile seasonal exports of diesel from the United States Gulf Coast markets.

As a result of the government actions taken to curb the spread of COVID-19 and significant business interruptions observed, the demand for gasoline and diesel in the regions in which our Petroleum segment operates declined 10% for the year ending December 31, 2020 versus the same period in 2019. Significant demand destruction was observed into the late summer, however, as government restrictions have been eased, demand has improved modestly in the second half of 2020. Throughout 2020, fundamental changes have occurred across the U.S. market as gasoline demand remains approximately 1 million barrels per day lower than 2019 due to a decrease in vehicle miles driven, jet fuel demand has declined significantly due to reductions in air travel for both business and leisure, which in turn, has resulted in reduced diesel crack spreads, and crude oil and refined product inventories remain in focus given current demand indicators. As a result of these market changes, a number of refinery closures totaling approximately 5 million barrels per day globally (approximately 1 million barrels per day in the U.S.) have been announced. Potential exists for further capacity rationalization as demand remains at or below current levels, and given the lower crack spread environment, refineries are competing primarily on operating costs per barrel.

In addition to current market conditions discussed above, we have experienced significant volatility during 2020 and expect continued volatility in 2021 due to compliance requirements under the RFS, proposed climate change laws and regulations, and increased mileage standards for vehicles. The petroleum business is subject to the RFS, which, each year, requires blending "renewable fuels" with transportation fuels or purchasing renewable identification numbers ("RINs"), in lieu of blending, or otherwise be subject to penalties. Our cost to comply with the RFS is dependent upon a variety of factors, which include the availability of ethanol for blending at our refineries and downstream terminals or RINs for purchase, the price at which RINs can be purchased, transportation fuel production levels, and the mix of our products, all of which can vary significantly from period to period. Additionally, our costs to comply with the RFS depend on the consistent and timely application of the program by the EPA, such as timely establishment of annual renewable volume obligation ("RVO"). Due to recent uncertainty resulting from the ruling of the U.S. Court of Appeals for the 10th Circuit, (the "10th Circuit") in January 2020 relating to small refinery exemptions under the RFS, recent broad rejections of waiver requests by the EPA, delays in establishing the 2021 RVO, and the recent change in administration, we have experienced significant volatility in the price of RINs and as a result, our costs to comply with RFS have increased significantly compared to 2019. The U.S. Supreme Court is currently slated to review the 10th Circuit's decision in April 2021, which could materially impact the price of RINs and existing waiver applications we have submitted for 2019 and 2020 related to our Wynnewood Refinery.

In December 2020, our Board of Directors approved the renewable diesel project at our Wynnewood Refinery, which would convert the Wynnewood Refinery's hydrocracker to a renewable diesel unit capable of producing 100 million gallons of renewable diesel per year (the "RDU") and approximately 170 to 180 million RINs annually. Total estimated costs for the project are currently $110 million and completion of the RDU is expected in June 2021. As a result of conversion of the hydrocracker to RDU service, the crude oil capacity of the Wynnewood Refinery would be reduced by approximately 17,000 bpd to 57,500 bpd. The production of renewable diesel and reduction to our crude oil throughput is expected to significantly reduce our net exposure to the RFS. Further, the RDU enables us to capture additional benefits associated with the existing blenders' tax credit currently set to expire at the end of 2022 and low carbon fuel standard programs in states such as California. We have additional plans to add pretreating capabilities for the RDU at Wynnewood and construction of a similar facility at our Coffeyville Refinery subject to Board and other approvals. These collective renewable diesel efforts could effectively mitigate our RFS exposure. However, actions taken by the Supreme Court, resulting administration efforts under the RFS, such as denial of existing or previous waiver applications, and market conditions could significantly impact the amount by which our renewable diesel business mitigates our costs to comply with the RFS.

As of December 31, 2020, with the unknown resolution of items discussed above, we have an open obligation under the RFS for 2020 of approximately 240 million RINs, which was subsequently reduced to 221 million RINs as of January 2021. Under accounting rules, the open RFS obligation is marked-to-market each period and thus can result in significant volatility in our RFS expense from period to period. We recognized an expense of approximately $190 million, $43 million, and $60 million for the years ended December 31, 2020, 2019, and 2018, respectively, for the Petroleum Segment's compliance with the RFS. The increase in 2020 was driven primarily by the significant increases in RINs pricing, especially during the fourth quarter of 2020, and our open position with respect to the 2020 obligation. Based upon recent market prices of RINs, current estimates related to other variable factors, including our anticipated blending and purchasing activities, and the impact of the open 2020 obligation and resolution thereof, our estimated cost to comply with the RFS is $260 to $280 million for 2021, net of the estimated RINs credit generation from renewable diesel operations of $95 to $105 million.

Market Indicators

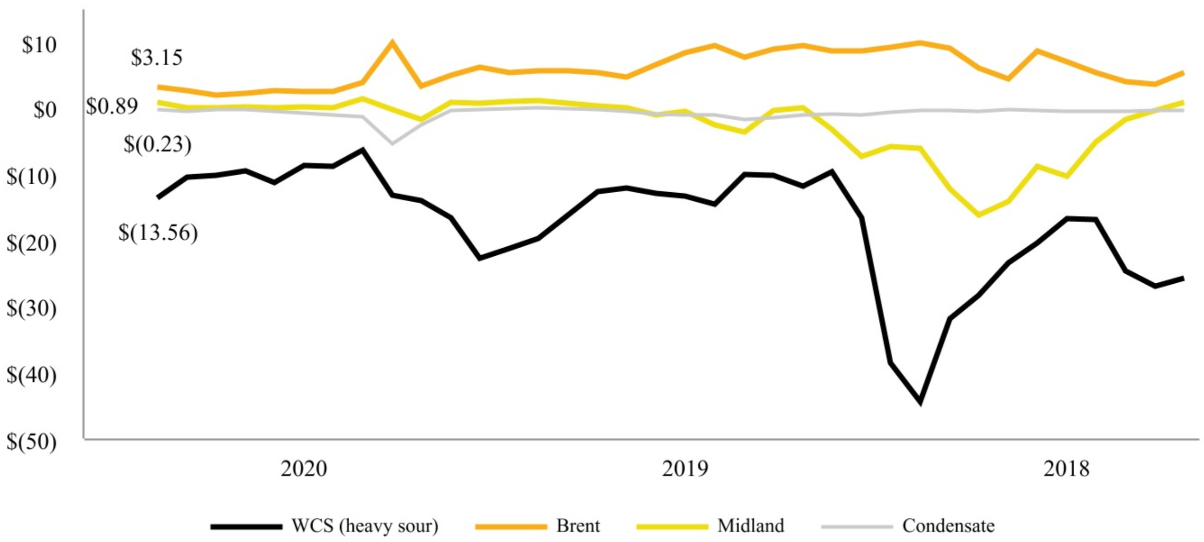
NYMEX WTI crude oil is an industry wide benchmark that is utilized in the market pricing of a barrel of crude oil. The pricing differences between other crudes and WTI, known as differentials, show how the market for other crude oils such as WCS, White Cliffs ("Condensate"), Brent Crude ("Brent"), and Midland WTI ("Midland") are trending. Due to the COVID-19 pandemic, actions taken by governments and others in response thereto, refined product prices have experienced extreme volatility. As a result of the current environment, refining margins have been and could continue to be significantly reduced.

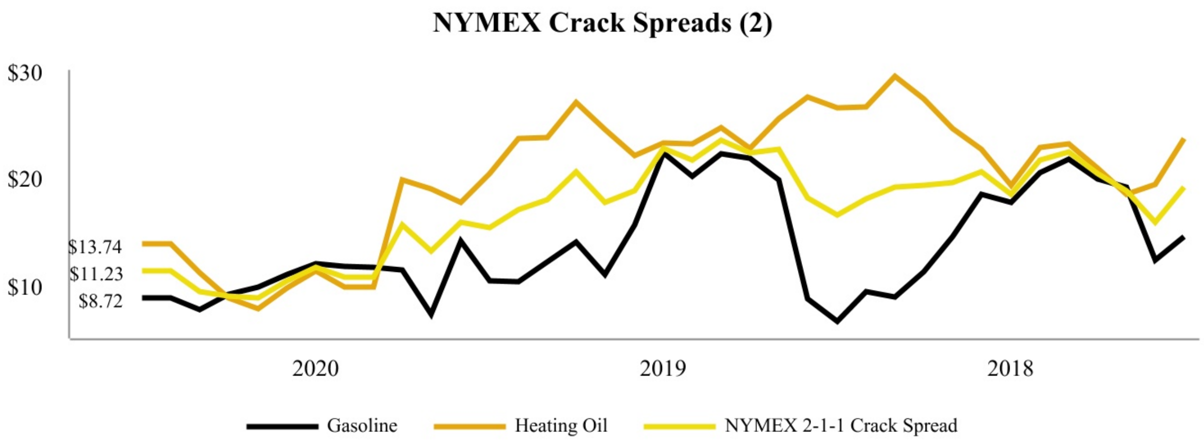
As a performance benchmark and a comparison with other industry participants, we utilize NYMEX and Group 3 crack spreads. These crack spreads are a measure of the difference between market prices for crude oil and refined products and are a commonly used proxy within the industry to estimate or identify trends in refining margins. Crack spreads can fluctuate significantly over time as a result of market conditions and supply and demand balances. The NYMEX 2-1-1 crack spread is calculated using two barrels of WTI producing one barrel of NYMEX RBOB Gasoline ("RBOB") and one barrel of NYMEX NY Harbor ULSD ("HO"). The Group 3 2-1-1 crack spread is calculated using two barrels of WTI crude oil producing one barrel of Group 3 sub-octane gasoline and one barrel of Group 3 ultra-low sulfur diesel.

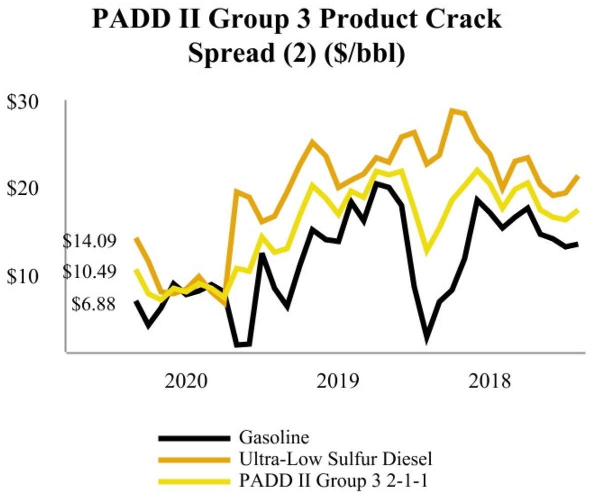
Both NYMEX 2-1-1 and Group 3 2-1-1 crack spreads decreased during 2020 compared to 2019. The NYMEX 2-1-1 crack spread averaged $11.73 per barrel in 2020 compared to $19.93 per barrel in 2019. The Group 3 2-1-1 crack spread averaged $9.41 per barrel in 2020 compared to $18.22 per barrel in 2019.

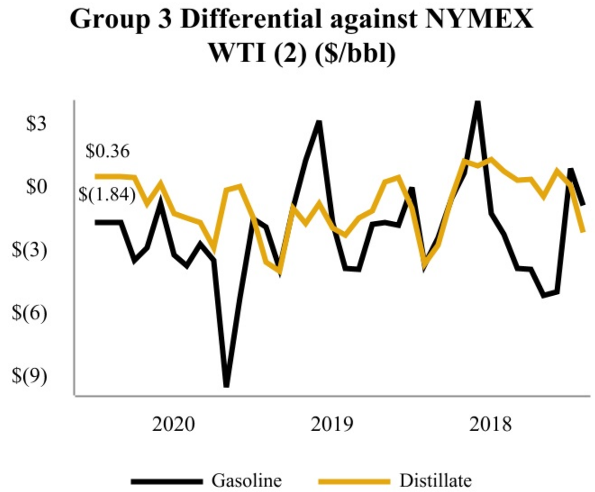
The tables below are presented, on a per barrel basis, by month through December 31, 2020:

Crude Oil Differentials against WTI (1) (2)









(1) The change over time in NYMEX - WTI, as reflected in the charts above, is illustrated below.

(in $/bbl)	Average 2018	Average December 2018	Average 2019	Average December 2019	Average 2020	Average December 2020
WTI	$ 64.77	$ 48.98	$ 57.03	$ 61.06	$ 39.34	$ 47.07

(2) Information used within these charts was obtained from MarketView.

Nitrogen Fertilizer Segment

Within the Nitrogen Fertilizer Segment, earnings and cash flows from operations are primarily affected by the relationship between nitrogen fertilizer product prices, utilization, and operating costs and expenses, including pet coke and natural gas feedstock costs.

The price at which nitrogen fertilizer products are ultimately sold depends on numerous factors, including the global supply and demand for nitrogen fertilizer products which, in turn, depends on, among other factors, world grain demand and production levels, changes in world population, the cost and availability of fertilizer transportation infrastructure, weather conditions, the availability of imports, and the extent of government intervention in agriculture markets.

Nitrogen fertilizer prices are also affected by local factors, including local market conditions and the operating levels of competing facilities. An expansion or upgrade of competitors' facilities, new facility development, political and economic developments, and other factors are likely to continue to play an important role in nitrogen fertilizer industry economics. These factors can impact, among other things, the level of inventories in the market, resulting in price volatility and a reduction in product margins. Moreover, the industry typically experiences seasonal fluctuations in demand for nitrogen fertilizer products.

As a result of the overall decline in global demand for liquid transportation fuels driven by the broader impacts of the COVID-19 pandemic and actions taken by the government to mitigate its spread, ethanol production, which is a significant driver of demand for fertilizer has declined, causing many plants to reduce production or idle, evidenced by a decline in the fourth quarter 2020 average ethanol production of 10% compared to the fourth quarter of 2019. Additionally, due to the shift by refineries to processing more light sweet crude oil, the Coffeyville Fertilizer Facility has become more reliant on third-party pet coke as compared to pet coke produced at our Coffeyville Refinery.

Goodwill and Long-Lived Assets

As of December 31, 2019, the Nitrogen Fertilizer Segment's Coffeyville Fertilizer Facility reporting unit had a goodwill balance of $41 million for which the estimated fair value had been in excess of carrying value based on our 2018 and 2019 assessments. As a result of lower expectations for market conditions in the fertilizer industry, the market performance of CVR Partners' common units, a qualitative analysis, and additional risks associated with the business, the Company concluded a triggering event had occurred that required an interim quantitative impairment assessment of goodwill for this reporting unit during the second quarter of 2020. The results of the impairment test indicated that the carrying amount of the Coffeyville Fertilizer Facility reporting unit exceeded the estimated fair value of the reporting unit, and a full impairment of the asset was required. Significant assumptions inherent in the valuation methodologies for goodwill include, but are not limited to, prospective financial information, growth rates, discount rates, inflationary factors, and cost of capital. To evaluate the sensitivity of the fair value calculations for the reporting unit, the Company applied a hypothetical 1% favorable change in the weighted average cost of capital, and separately, increased the revenue projections by 10%, holding gross margins steady. The results of these sensitivity analyses confirmed the need to record a non-cash impairment charge of $41 million during 2020. There is no goodwill remaining as of December 31, 2020.

With the adverse economic impacts discussed above and the uncertainty surrounding the COVID-19 pandemic, there is a heightened risk that amounts recognized, including other long-lived assets, may not be recoverable. While our assessment in 2020 did not identify the existence of an impairment indicator for the Nitrogen Fertilizer Segment's long-lived asset groups, we continue to monitor the current environment, including the duration and breadth of the impacts that the pandemic will have on demand for our fertilizer products, to assess whether qualitative factors indicate a quantitative assessment is required. If a quantitative test is performed, the extent to which the recoverability of our long-lived assets could be impaired is unknown. Such impairment could have a significant adverse impact on our results of operations; however, an impairment would have no impact on our financial condition or liquidity.

Market Indicators

While there is risk of shorter-term volatility given the inherent nature of the commodity cycle and the impacts of the global COVID-19 pandemic, the Company believes the long-term fundamentals for the U.S. nitrogen fertilizer industry remain intact. The Nitrogen Fertilizer Segment views the anticipated combination of (i) increasing global population, (ii) decreasing arable land per capita, (iii) continued evolution to more protein-based diets in developing countries, (iv) sustained use of corn as feedstock for the domestic production of ethanol, and (v) positioning at the lower end of the global cost curve should provide a solid foundation for nitrogen fertilizer producers in the U.S. over the longer term.

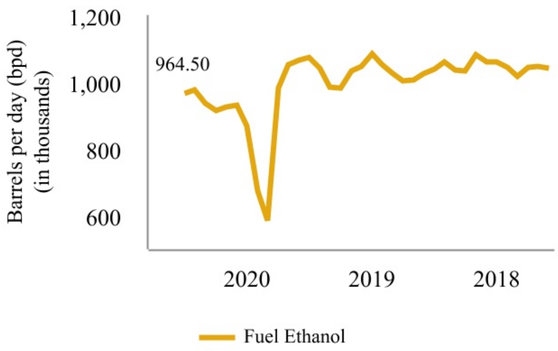
While weather conditions in 2020 exhibited normal patterns, weather significantly impacted the timing of the planting season for corn and soybeans in 2019. Due to excessive wet conditions, crops were planted later than normal in the spring which led to a late harvest of these crops in the fall of 2019. As a result, the ammonia application season in the fall of 2019 was shortened. This created a surplus of ammonia inventory in the market during the winter of 2019 leading into 2020. UAN continues to be impacted by the imposition of import duties on UAN product by the European Union (the "EU").This has resulted in shifts in UAN trade flows for product that had previously been shipped to the EU. In 2020, natural gas prices across the world declined significantly as compared to 2019; however, since the summer of 2020, forward market prices indicate significantly higher prices for 2021 versus historically low prices in 2020. Natural gas is the primary feedstock for production of nitrogen fertilizers. As a result of these factors, in the fourth quarter of 2020, the Nitrogen Fertilizer Segment has started to see an uptrend in pricing related to these products, with the expectation that product prices will continue to see an uptrend into the first quarter of 2021.

Corn and soybean are two major crops planted by farmers in North America. Corn crops result in the depletion of the amount of nitrogen and ammonia within the soil in which it is grown, which in turn, results in the need for these nutrients to be replenished after each growing cycle. Unlike corn, soybeans are able to obtain their own nitrogen through a process known as "N fixation." As such, upon harvesting of soybeans, the soil retains a certain amount of nitrogen which results in lower demand for nitrogen fertilizer for the following corn planting cycle. Due to these factors, nitrogen fertilizer consumers generally operate a balanced corn-soybean rotational planting cycle as evident through the chart presented below for 2020, 2019, and 2018.

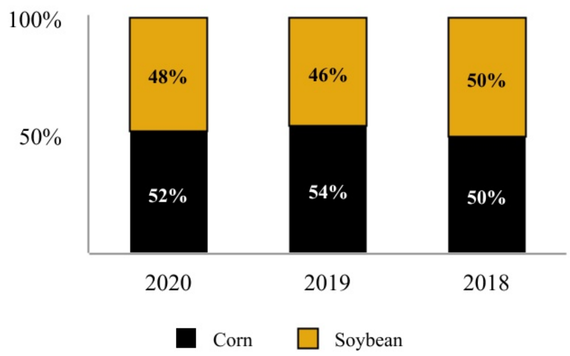
The relationship between the total acres planted for both corn and soybean has a direct impact on the overall demand for nitrogen products. As the number of corn acres increases, the market and demand for nitrogen also increases. Correspondingly, as the number of soybean acres increases, the market and demand for nitrogen decreases. Additionally, an estimated 8 billion pounds of soybean oil is expected to go towards producing cleaner biodiesel in 2020 and 2021. Multiple refiners have announced biodiesel expansion projects for 2021 and beyond, which will only increase the demand and capacity for soybeans. Due to the uncertainty of how these factors will truly affect the soybean market, it is not yet known how the nitrogen business will be impacted.

Ethanol is blended with gasoline to meet renewable fuel standard requirements and for its octane value. Ethanol production has historically consumed approximately 35% of the U.S. corn crop, so demand for corn generally rises and falls with ethanol demand. There has been a decline in ethanol demand in 2020 due to decreased demand for transportation fuels as a result of the COVID-19 pandemic. However, the lower ethanol demand did not alter the spring 2020 planting decisions by farmers as evidenced in the charts below.

U.S. Plant Production of Fuel Ethanol (1)



Corn and Soybean Grown Acres (2)



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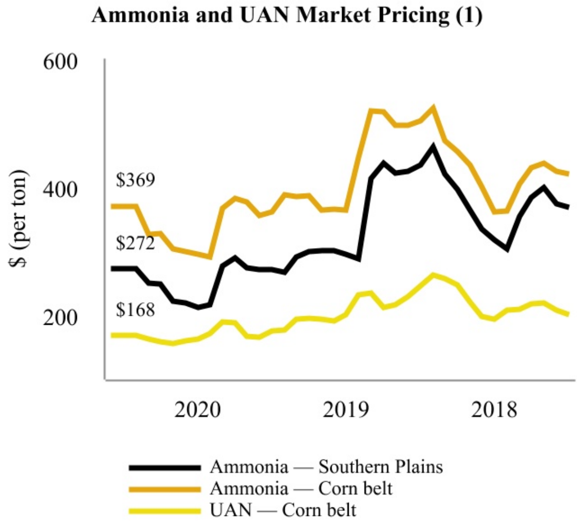
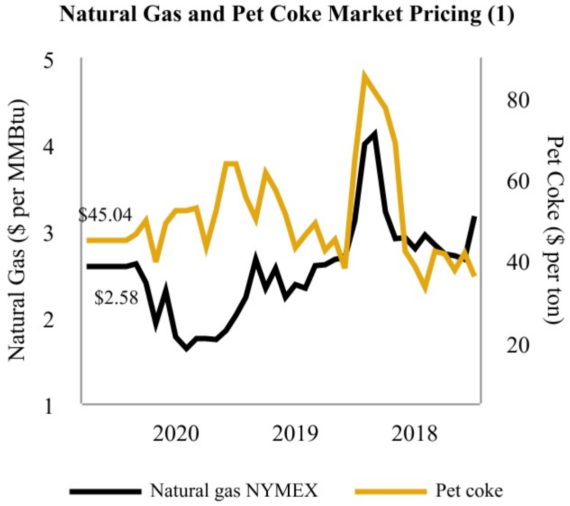
(1) Information used within this chart was obtained from the U.S. Energy Information Administration ("EIA").
(2) Information used within this chart was obtained from the United States Department of Agriculture ("USDA"), National Agricultural Statistics Services.

The 2020 USDA reports on corn and soybean acres planted indicated farmers planted approximately 91.0 million acres of corn, representing an increase of 1.4% in corn acres planted as compared to 89.7 million corn acres in 2019. Planted soybean acres are estimated to be 83.1 million acres, representing a 9.2% increase in soybean acres planted as compared to 76.1 million soybean acres in 2019. Since the summer of 2020, adverse weather conditions in parts of the Midwest caused the USDA to lower estimated crop yields, particularly for corn. Further, higher demand for soybeans and corn and lower grain inventories have led to a rally in crop prices for 2020 and 2021 and significantly improved farmer economics. As a result, we experienced strong demand for ammonia for fall application and fertilizer crop inputs for the spring of 2021. Prices for natural gas, the primary input for nitrogen fertilizer production, rose in the fourth quarter of 2020 in the U.S. and rose even more significantly in international markets. The increase in natural gas prices in the U.S. has been more than offset by higher product pricing, and the competitiveness of U.S. nitrogen producers has improved considerably.

The table below show relevant market indicators for the Nitrogen Fertilizer Segment by month through December 31, 2020:





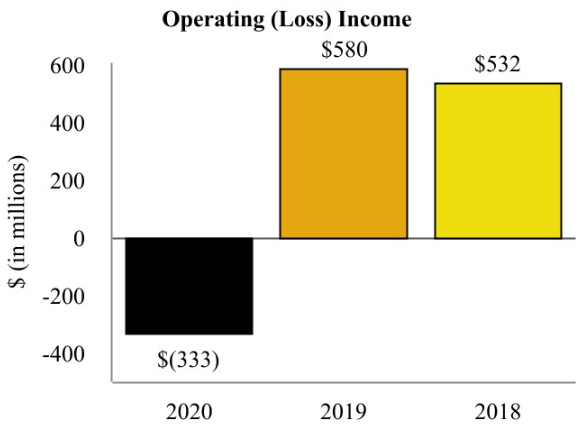
(1) Information used within these charts was obtained from various third-party sources including Green Markets (a Bloomberg Company), Pace Petroleum Coke Quarterly, and the EIA, amongst others.

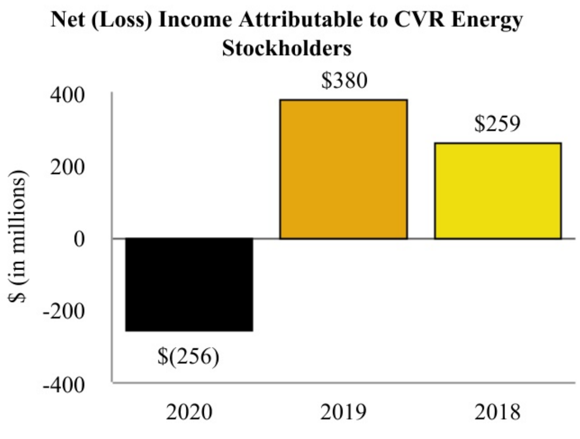
Results of Operations

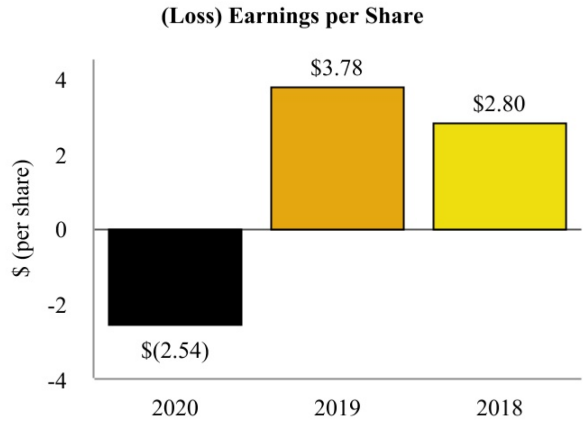
Consolidated

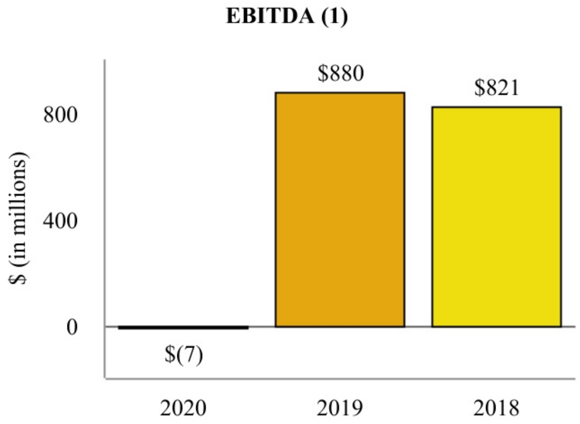
The following sections should be read in conjunction with the information outlined within the previous sections of this Part II, Item 7, the consolidated financial statements, and related notes thereto in Part II, Item 8 of this Report. Our consolidated results of operations include certain other unallocated corporate activities and the elimination of intercompany transactions and therefore do not equal the sum of the operating results of the Petroleum and Nitrogen Fertilizer Segments.

Consolidated Financial Highlights









(1) See “Non-GAAP Reconciliations” section below for reconciliations of the non-GAAP measures shown above.

Overview - The Company’s operating loss and net loss were $333 million and $320 million, respectively, for the year ended December 31, 2020, decreases of $913 million and $682 million, respectively, compared to operating income and net income of $580 million and $362 million, respectively, for the year ended December 31, 2019. These decreases were driven by declines in operating income of $855 million within the Petroleum Segment and $62 million within the Nitrogen Fertilizer Segment for the year ended December 31, 2020 compared to December 31, 2019, respectively. Refer to our discussion of each segment’s results of operations below for further information.

Investment Income from Marketable Securities - During the first quarter of 2020, we acquired a 14.9% ownership interest in Delek US Holdings, Inc. (“Delek”) (NYSE ticker symbol: DK). For the year ended December 31, 2020, we received $7 million in dividend income and recognized $34 million in unrealized gains related to the associated common shares owned.

Income Tax Expense - Income tax benefit for the year ended December 31, 2020 was $95 million, or 23.0% of loss before income taxes, as compared to income tax expense for the year ended December 31, 2019 of $129 million, or 26.2% of income before income taxes. The fluctuation in income tax (benefit) expense was due primarily to changes in pretax income between all periods presented. In addition, the change in the effective tax rate was due primarily to the effects of the Nitrogen Fertilizer Segment’s goodwill impairment recorded during 2020 and changes in pretax earnings attributable to noncontrolling interests between all periods presented.

Segment Financial Highlights and Results of Operations

Petroleum Segment

The Petroleum Segment utilizes certain inputs within its refining operations. These inputs include crude oil, butanes, natural gasoline, ethanol, and bio-diesel (these are also known as “throughputs”).

Refining Throughput and Production Data by Refinery

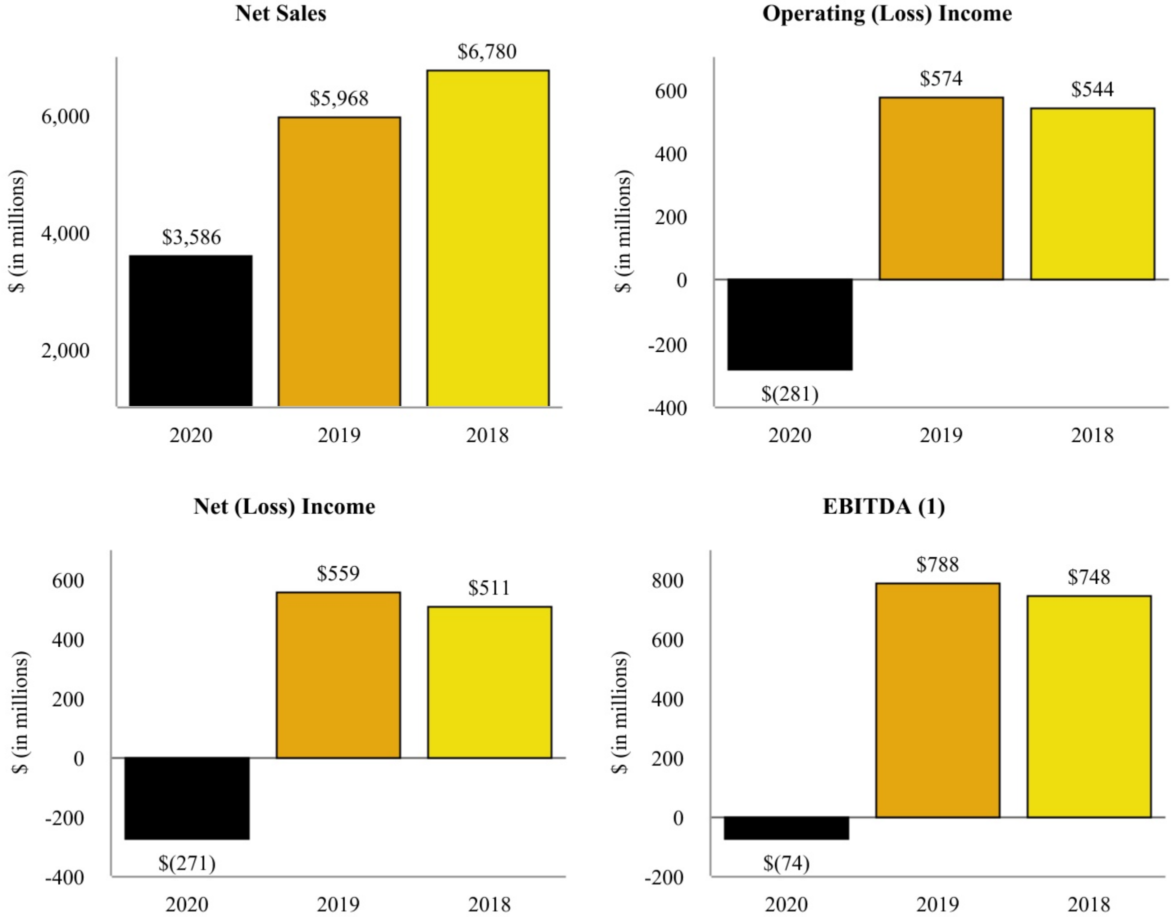
Throughput Data (in bpd)	Year Ended December 31, 2020	2019	2018
Coffeyville			
Regional crude	**34,652**	49,093	31,350
WTI	**51,656**	67,382	66,952
WTL	**—**	473	—
Midland WTI	**—**	3,888	15,893
Condensate	**8,243**	4,331	4,992
Heavy Canadian	**1,020**	4,711	5,302
Other Crude Oil	**5,151**	—	—
Other feedstocks and blendstocks	**8,321**	9,160	8,369
Wynnewood			
Regional crude	**56,932**	53,848	54,746
WTI	**—**	3	2,354
WTL	**6,235**	668	—
Midland WTI	**1,262**	10,995	10,332
Condensate	**6,207**	7,666	7,237
Other feedstocks and blendstocks	**3,616**	3,753	5,068
Total throughput	**183,295**	215,971	212,595

Production Data (in bpd)	Year Ended December 31, 2020	2019	2018
Coffeyville			
Gasoline	**59,419**	71,817	67,091
Distillate	**43,209**	57,549	56,307
Other liquid products	**3,999**	5,810	5,737
Solids	**3,073**	4,573	5,190
Wynnewood			
Gasoline	**38,640**	38,864	40,291
Distillate	**30,638**	32,380	33,442
Other liquid products	**2,629**	3,223	4,025
Solids	**25**	30	41
Total production	**181,632**	214,246	212,124
Light product yield (as % of crude throughput) (1)	**100.3 %**	98.8 %	99.0 %
Liquid volume yield (as % of total throughput) (2)	**97.4 %**	97.1 %	97.3 %
Distillate yield (as % of crude throughput) (3)	**43.1 %**	44.3 %	45.1 %

(1) Total Gasoline and Distillate divided by total Regional crude, WTI, WTL, Midland WTI, Condensate, and Heavy Canadian throughput.
(2) Total Gasoline, Distillate, and Other liquid products divided by total throughput.
(3) Total Distillate divided by total Regional crude, WTI, WTL, Midland WTI, Condensate, and Heavy Canadian throughput.

Financial Highlights

Overview - Petroleum Segment operating loss and net loss for the year ended December 31, 2020 was $281 million and $271 million, respectively, compared to operating income and net income of $574 million and $559 million, respectively, for the year ended December 31, 2019. The declines during both periods were primarily driven by lower sales volumes and unfavorable refining margins when compared to the prior periods.



(1) See "Non-GAAP Reconciliations" section below for reconciliations of the non-GAAP measures shown above.

Net Sales - For the year ended December 31, 2020, net sales for the Petroleum Segment decreased by $2.4 billion when compared to the year ended December 31, 2019. This decline was primarily driven by lower sales volumes and prices as a result of reduced demand and excess supply caused by the COVID-19 pandemic. Further, during the second quarter of 2020, the Coffeyville Refinery completed a full, planned turnaround, which began in the first quarter of 2020 and lasted 57 days. Utilization rates were reduced at both refineries throughout the majority of the second quarter of 2020 given market dynamics and remained below full capacity in the second half of 2020 due to naphtha processing constraints driven by tighter heavy crude oil differentials favoring a very light crude slate.

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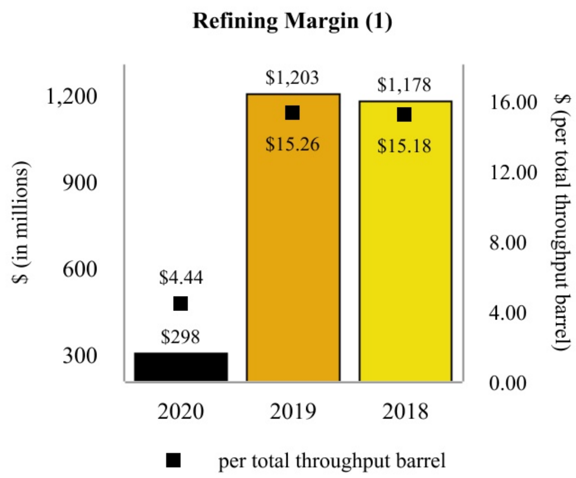
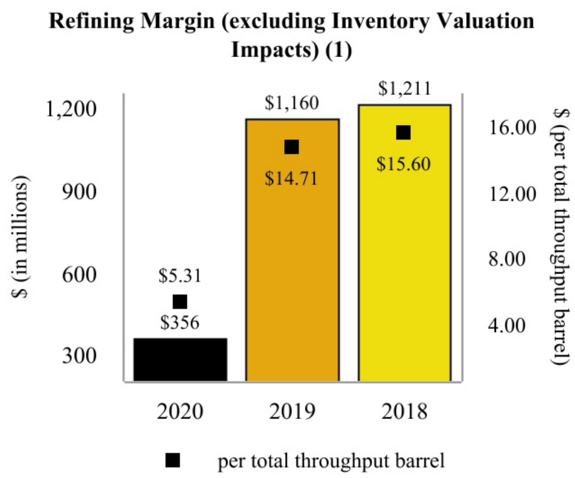
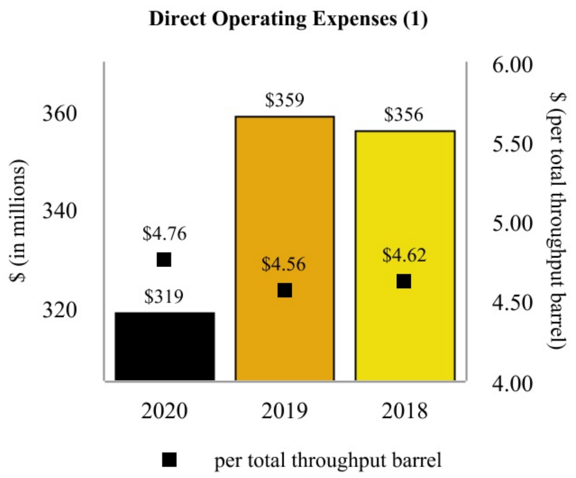




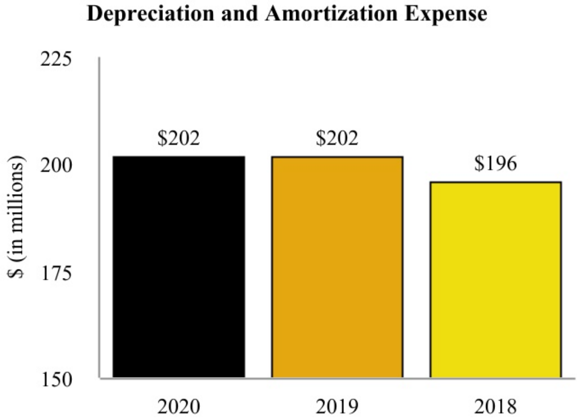
(1) See "Non-GAAP Reconciliations" section below for reconciliations of the non-GAAP measures shown above.

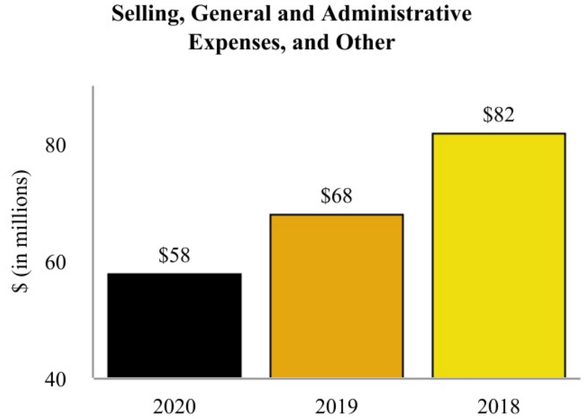
Refining Margin - For the year ended December 31, 2020, refining margin was $298 million, or $4.44 per throughput barrel, as compared to $1.2 billion, or $15.26 per throughput barrel, for the year ended December 31, 2019. The decrease in refining margin of $905 million was primarily driven by the 41% decline in the Group 3 2-1-1 crack spread caused by the overall economic downturn and demand destruction observed in 2020, higher costs to comply with RFS compared to 2019, and unfavorable inventory valuation impacts totaling $58 million, or 87 cents per total throughput barrel driven by lower pricing in the first half of 2020 with some offsetting increases observed through the end of the year. This loss on inventory valuation in 2020 compares to a favorable inventory valuation impact of $43 million from the crude oil price change during 2019. The Company recognized expense of $190 million, or $2.84 per throughput barrel, and $43 million, or 55 cents per throughput barrel, for the years ended December 31, 2020 and 2019, respectively, reflecting our costs to comply with RFS. The significant increase in 2020 is primarily related to significantly higher RIN prices during the year ended December 31, 2020 caused by price volatility for RINs, including significant increases in market prices during the fourth quarter, and our open mark-to-market position for the 2020 compliance year of approximately 240 million RINs as of December 31, 2020. Offsetting these reductions to refining margins were increased gains in derivatives of $55 million recognized during the year ended December 31, 2020 compared to $19 million recognized during the year ended December 31, 2019. Our derivative gains are primarily derived from the sale of WCS barrels at Cushing, hedges of excess inventories, crack spreads swaps, and hedges entered into during 2019 that fixed WCS to WTI differentials for a portion of the WCS barrels we received in 2020.



(1) Exclusive of depreciation and amortization expense.

Direct Operating Expenses (Exclusive of Depreciation and Amortization) - For the year ended December 31, 2020, direct operating expenses on a total throughput barrel basis increased to $4.76 per barrel from $4.56 per barrel, largely due to decreased throughput volumes with the Coffeyville Refinery being in a full, planned turnaround beginning in March 2020 and completed during April 2020, and reduced rates carried through the end of 2020. Direct operating expenses (exclusive of depreciation and amortization) were $319 million and $359 million for the years ended December 31, 2020 and 2019, respectively. The decrease was primarily due to lower natural gas and electricity usage from the refineries running at reduced rates, coupled with a decrease in personnel costs and repairs and maintenance expense resulting from our cost reduction efforts.





Selling, General, and Administrative Expenses, and Other - For the year ended December 31, 2020, selling, general and administrative expenses and other was $58 million compared to $68 million for the year ended December 31, 2019. The decrease was primarily a result of lower personnel costs and other administrative expense in 2020 as compared to 2019 due to our cost reduction efforts, lower stock-based compensation expense driven by lower share prices in 2020, and a $10 million gain on the sale of Cushing tank assets reflected in the 2019 amounts.

Nitrogen Fertilizer Segment

Utilization is an important measure used by management to assess operational output at each of the Nitrogen Fertilizer Segment's Facilities. Utilization is calculated as actual tons produced divided by capacity adjusted for planned maintenance and turnarounds.

The presentation of our utilization is on a two-year rolling average which takes into account the impact of our planned and unplanned outages on any specific period. We believe the two-year rolling average is a more useful presentation of the long-term utilization performance of the Nitrogen Fertilizer Segment's Facilities.

Utilization is presented solely on ammonia production, rather than each nitrogen product, as it provides a comparative baseline against industry peers and eliminates the disparity of facility configurations for upgrade of ammonia into other nitrogen products. With efforts primarily focused on ammonia upgrade capabilities, we believe this measure provides a meaningful view of how well we operate. The following table summarizes the ammonia utilization at the Coffeyville and East Dubuque Facilities.

Ammonia Utilization

	Two Years Ended December 31	
	2020	**2019**
Consolidated	**95 %**	93 %
Coffeyville Fertilizer Facility	**95 %**	94 %
East Dubuque Fertilizer Facility	**95 %**	91 %

On a consolidated basis, the Nitrogen Fertilizer Segment's utilization increased 2% to 95% for the two years ended December 31, 2020 compared to the two years ended December 31, 2019. This increase was primarily a result of ammonia storage capacity constraints at the East Dubuque Fertilizer Facility in the first quarter of 2019 due to inclement weather impacting customers’ ability to apply ammonia and the turnaround at the East Dubuque Fertilizer Facility in the fourth quarter of 2019.

Gross tons produced for ammonia represent the 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. The table below presents this metric for the years ended December 31, 2020 , 2019, and 2018.

Production Volumes

	Year Ended December 31,		
(in thousands of tons)	2020	2019	2018
Ammonia (gross produced)	**852**	766	794
Ammonia (net available for sale)	**303**	223	246
UAN	**1,303**	1,255	1,276

Sales and Pricing per Ton - Two of the Nitrogen Fertilizer Segment’s key operating metrics are total sales for ammonia and UAN along with the product pricing per ton realized at the gate. Total sales for ammonia and UAN were favorable due to strong demand during the spring application coupled with heavy fill orders from the summer through year end caused by higher crop prices increasing farmer demand. Additionally, higher total utilization for 2020 increased the total products available for sale for ammonia and UAN. This increase in production is coupled with an increased draw of ammonia and UAN inventory for 2020. 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 comparable across the fertilizer industry.

	Year Ended December 31,		
	2020	2019	2018
Consolidated sales (thousand tons)			
Ammonia	**332**	241	202
UAN	**1,312**	1,261	1,289
Consolidated product pricing at gate (dollars per ton)			
Ammonia	**$ 284**	$ 392	$ 328
UAN	**152**	199	173

Feedstock - Our Coffeyville Fertilizer Facility utilizes a pet coke gasification process to produce nitrogen fertilizer. Our East Dubuque Fertilizer Facility uses natural gas in its production of ammonia. The table below presents these feedstocks for both facilities within the Nitrogen Fertilizer Segment for the years ended December 31, 2020, 2019, and 2018.

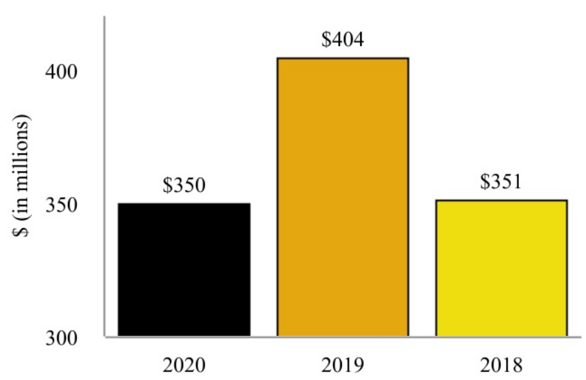
	Year Ended December 31,		
	2020	2019	2018
Pet coke used in production (thousand tons)	**523**	535	463
Pet coke (dollars per ton)	**$ 35.25**	$ 37.47	$ 28.41
Natural gas used in production (thousands of MMBtu) (1)	**8,611**	6,856	7,933
Natural gas used in production (dollars per MMBtu) (1)	**$ 2.31**	$ 2.88	$ 3.28
Natural gas in cost of materials and other (thousands of MMBtu) (1)	**9,349**	6,961	7,122
Natural gas in cost of materials and other (dollars per MMBtu) (1)	**$ 2.35**	$ 3.08	$ 3.15

(1) The feedstock natural gas shown above does not include natural gas used for fuel. The cost of natural gas used for fuel is included in Direct operating expenses (exclusive of depreciation and amortization).

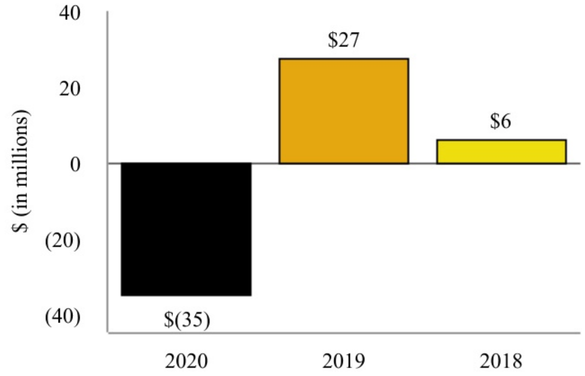
Financial Highlights

Overview - For the year ended December 31, 2020, the Nitrogen Fertilizer Segment’s operating loss and net loss were $35 million and $98 million, respectively, a $62 million decrease in operating income and a $63 million increase in net loss, respectively, compared to the year ended December 31, 2019 driven primarily by lower net sales and the recognition of a non-cash impairment of $41 million driven primarily by the lower pricing environment observed in 2020. These impacts were offset by higher sales volumes and reductions to operating expense.

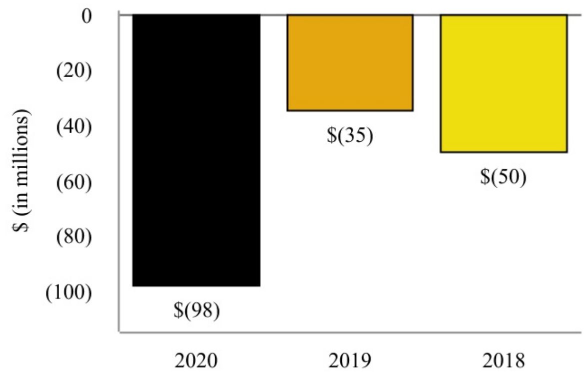
Net Sales



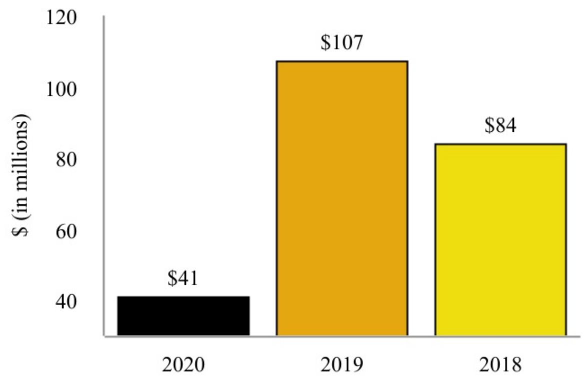
Operating (Loss) Income



Net Loss



EBITDA (1)



(1) See "Non-GAAP Reconciliations" section below for reconciliations of the non-GAAP measures shown above.

Net Sales - The Nitrogen Fertilizer Segment's net sales decreased by $54 million to $350 million for the year ended December 31, 2020 compared to the year ended December 31, 2019. This decrease was primarily due to unfavorable pricing conditions which contributed $99 million in lower revenues offset with increased sales volumes contributing $46 million as compared to the year ended December 31, 2019. For the years ended December 31, 2020 and 2019, net sales included $33 million in freight revenue, respectively, and $10 million and $8 million in other revenue, respectively.

The following table demonstrates the impact of changes in sales volumes and pricing for the primary components of net sales, excluding urea products, freight, and other revenue, for the year ended December 31, 2020 as compared to the year ended December 31, 2019.

(in millions)	Price Variance	Volume Variance
UAN	$ (63)	$ 10
Ammonia	(36)	36

The decrease in UAN and ammonia sales pricing for the year ended December 31, 2020 compared to the year ended December 31, 2019 was primarily attributable to competitive pricing pressures seen throughout the domestic and international markets. For UAN, a softening natural gas market, which is the typical feedstock for nitrogen plants, shifting trade flows in UAN due to the imposition of import duties on UAN in the EU contributed to lower prices. Additionally, lower corn prices due to decreased demand for corn for ethanol blending further contributed to lower UAN prices. For ammonia, lower natural gas and corn prices and reduced demand for industrial uses of ammonia contributed to lower prices. The increase in UAN and ammonia sales volumes for the year ended December 31, 2020 compared to the year ended December 31, 2019 was primarily attributable to strong demand during the 2020 spring application period coupled with heavy fill orders beginning in the summer of 2020 through year end. Additionally, higher crop prices in the second half of 2020 led to greater farmer demand, which was also aided by favorable weather conditions for application.

Cost of Materials and Other - Cost of materials and other for the year ended December 31, 2020 was $91 million, compared to $94 million for the year ended December 31, 2019. The $3 million decrease was comprised primarily of a $2 million decrease in pet coke costs at our Coffeyville Fertilizer Facility due to lower purchases of pet coke from the Coffeyville Refinery, a decrease in freight expenses and distribution costs of $1 million due to higher 2019 freight charges on sales agreements, a decrease in other feedstocks purchases of $1 million due to lower purchases of hydrogen and nitrogen, and a decrease related to a draw in our ammonia and UAN inventories contributing $1 million driven by higher crop prices leading to greater farmer demand coupled with favorable weather for application through year end, offset by an increase in purchases of third-party ammonia at the Coffeyville Fertilizer Facility of $2 million.

Non-GAAP Measures

Our management uses certain non-GAAP performance measures, and reconciliations to those measures, to evaluate current and past performance and prospects for the future to supplement our GAAP financial information presented in accordance with U.S. GAAP. These non-GAAP financial measures are important factors in assessing our operating results and profitability and include the performance and liquidity measures defined below.

The following are non-GAAP measures we present for the year ended December 31, 2020:

EBITDA - Consolidated net income (loss) before (i) interest expense, net, (ii) income tax expense (benefit) and (iii) depreciation and amortization expense.

Petroleum EBITDA and Nitrogen Fertilizer EBITDA - Segment net income (loss) before segment (i) interest expense, net, (ii) income tax expense (benefit), and (iii) depreciation and amortization.

Refining Margin - The difference between our Petroleum Segment net sales and cost of materials and other.

Refining Margin adjusted for Inventory Valuation Impacts - Refining Margin adjusted to exclude the impact of current period market price and volume fluctuations on crude oil and refined product inventories recognized in prior periods and lower of cost or market reserves, if applicable. We record our commodity inventories on the first-in-first-out basis. As a result, significant current period fluctuations in market prices and the volumes we hold in inventory can have favorable or unfavorable impacts on our refining margins as compared to similar metrics used by other publicly-traded companies in the refining industry.

Refining Margin and Refining Margin adjusted for Inventory Valuation Impacts, per Throughput Barrel - Refining Margin and Refining Margin adjusted for Inventory Valuation Impacts divided by the total throughput barrels during the period, which is calculated as total throughput barrels per day times the number of days in the period.

Direct Operating Expenses per Throughput Barrel - Direct operating expenses for our Petroleum Segment divided by total throughput barrels for the period, which is calculated as total throughput barrels per day times the number of days in the period.

Free Cash Flow - Net cash provided by (used in) operating activities less capital expenditures and capitalized turnaround expenditures.

We present these measures because we believe they may help investors, analysts, lenders and ratings agencies analyze our results of operations and liquidity in conjunction with our U.S. GAAP results, including but not limited to our operating performance as compared to other publicly traded companies in the refining and fertilizer industry, without regard to historical cost basis or financing methods and our ability to incur and service debt and fund capital expenditures. Non-GAAP measures have important limitations as analytical tools, because they exclude some, but not all, items that affect net earnings and operating income. These measures should not be considered substitutes for their most directly comparable U.S. GAAP financial measures. See "*Non-GAAP Reconciliations*" included herein for reconciliation of these amounts. Due to rounding, numbers presented within this section may not add or equal to numbers or totals presented elsewhere within this document.

Factors Affecting Comparability of Our Financial Results

Our historical results of operations for the periods presented may not be comparable with prior periods or to our results of operations in the future for the reasons discussed below.

Petroleum Segment

Major Scheduled Turnaround Activities

Coffeyville Refinery - Beginning in March 2020, the Coffeyville Refinery had a planned, full facility turnaround lasting 57 days, which was completed in April 2020. During the year ended December 31, 2020, we capitalized costs of $155 million related to this planned turnaround. During the fourth quarter of 2019, our Coffeyville Refinery capitalized costs of $15 million related to preparations for the same planned turnaround.

Wynnewood Refinery - During the first quarter of 2019, the second phase of the fourth quarter 2017 turnaround on the Wynnewood Refinery hydrocracking unit was completed and $24 million was capitalized.

Nitrogen Fertilizer Segment

Major Scheduled Turnaround Activities

Coffeyville Fertilizer Facility - During 2018, the Coffeyville Fertilizer Facility had a planned, full facility turnaround lasting 15 days and incurred approximately $6 million in turnaround expense in the second quarter of 2018.

East Dubuque Fertilizer Facility - During 2019, the East Dubuque Fertilizer Facility had a planned, full facility turnaround lasting 32 days and cost approximately $1 million in the third and fourth quarters of 2019.

Goodwill Impairment

As a result of lower expectations for market conditions in the fertilizer industry, the market performance of the Nitrogen Fertilizer Segment's common units, a qualitative analysis, and additional risks associated with the business, the Nitrogen Fertilizer Segment concluded a triggering event had occurred that required an interim quantitative impairment assessment of goodwill for this reporting unit as of June 30, 2020. Significant assumptions inherent in the valuation methodologies for goodwill include, but are not limited to, prospective financial information, growth rates, discount rates, inflationary factors, and cost of capital. The results of the impairment test indicated that the carrying amount of the Coffeyville Fertilizer Facility reporting unit exceeded the estimated fair value of the reporting unit, and a full impairment of the asset was required. No such charge was recognized during 2019.

Insurance Recovery

During the fourth quarter of 2018, the Partnership recognized a $6 million business interruption insurance recovery associated with an outage at its Coffeyville Fertilizer Facility during 2017. The recovery is recorded in Other income, net. No such income was recognized in 2020 or 2019.

Non-GAAP Reconciliations

Reconciliation of Net (Loss) Income to EBITDA

(in millions)	Year Ended December 31, 2020	2019	2018
Net (loss) income	**$ (320)**	$ 362	$ 366
Add:			
Interest expense, net	**130**	102	102
Income tax (benefit) expense	**(95)**	129	79
Depreciation and amortization	**278**	287	274
EBITDA	**$ (7)**	$ 880	$ 821

Reconciliation of Net Cash (Used In) Provided By Operating Activities to Free Cash Flow

	Year Ended December 31, 2020	2019	2018
Net cash provided by operating activities	**$ 90**	$ 747	$ 628
Less:			
Capital expenditures	**(124)**	(121)	(102)
Capitalized turnaround expenditures	**(159)**	(38)	(8)
(Negative) Free cash flow	**$ (193)**	$ 588	$ 518

Reconciliation of Petroleum Segment Net (Loss) Income to EBITDA

(in millions)	Year Ended December 31, 2020	2019	2018
Petroleum net (loss) income	**$ (271)**	$ 559	$ 511
Add:			
Interest (benefit) expense, net	**(5)**	27	41
Depreciation and amortization	**202**	202	196
Petroleum EBITDA	**$ (74)**	$ 788	$ 748

Reconciliation of Petroleum Segment Gross (Loss) Profit to Refining Margin and Refining Margin Adjusted for Inventory Valuation Impact

	Year Ended December 31,		
(in millions)	**2020**	2019	2018
Net sales	**$ 3,586**	$ 5,968	$ 6,780
Less:			
Cost of materials and other	**3,288**	4,765	5,602
Direct operating expenses (exclusive of depreciation and amortization)	**319**	359	356
Depreciation and amortization	**194**	199	192
Gross (loss) profit	**(215)**	645	630
Add:			
Direct operating expenses (exclusive of depreciation and amortization)	**319**	359	356
Depreciation and amortization	**194**	199	192
Refining margin	**298**	1,203	1,178
Inventory valuation impact, unfavorable (favorable) (1) (2)	**58**	(43)	33
Refining margin, excluding inventory valuation impacts	**$ 356**	$ 1,160	$ 1,211

(1) The Petroleum Segment's basis for determining inventory value under GAAP is First-In, First-Out ("FIFO"). 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 inventory valuation impact when crude oil prices increase and an unfavorable inventory valuation impact when crude oil prices decrease. The inventory valuation impact is calculated based upon inventory values at the beginning of the accounting period and at the end of the accounting period. In order to derive the inventory valuation impact per total throughput barrel, we utilize the total dollar figures for the inventory valuation impact and divide by the number of total throughput barrels for the period.

(2) Includes an inventory valuation charge of $58 million recorded in the first quarter of 2020, as inventories were reflected at the lower of cost or net realizable value. No adjustment was necessary for any other period in 2020, 2019, or 2018.

Reconciliation of Petroleum Segment Total Throughput Barrels

	Year Ended December 31,		
	2020	2019	2018
Total throughput barrels per day	**183,295**	215,971	212,595
Days in the period	**366**	365	365
Total throughput barrels	**67,085,913**	78,829,441	77,597,175

Reconciliation of Petroleum Segment Refining Margin per Total Throughput Barrel

	Year Ended December 31,		
(in millions, except per total throughput barrel)	**2020**	2019	2018
Refining margin	**$ 298**	$ 1,203	$ 1,178
Divided by: total throughput barrels	**67**	79	78
Refining margin per total throughput barrel	**$ 4.44**	$ 15.26	$ 15.18

Reconciliation of Petroleum Segment Refining Margin Adjusted for Inventory Valuation Impact per Total Throughput Barrel

	Year Ended December 31,		
(in millions, except per total throughput barrel)	**2020**	2019	2018
Refining margin, excluding inventory valuation impact	**$ 356**	$ 1,160	$ 1,211
Divided by: total throughput barrels	**67**	79	78
Refining margin per total throughput barrel	**$ 5.31**	$ 14.71	$ 15.60

Reconciliation of Petroleum Segment Direct Operating Expenses per Total Throughput Barrel

(in millions, except per total throughput barrel)	Year Ended December 31, 2020	2019	2018
Direct operating expenses (exclusive of depreciation and amortization)	**$ 319**	$ 359	$ 356
Divided by: total throughput barrels	**67**	79	78
Direct operating expenses per total throughput barrel	**$ 4.76**	$ 4.56	$ 4.62

Reconciliation of Nitrogen Fertilizer Segment Net Loss to EBITDA

(in millions)	Year Ended December 31, 2020	2019	2018
Nitrogen fertilizer net loss	**$ (98)**	$ (35)	$ (50)
Add:			
Interest expense, net	**63**	62	62
Depreciation and amortization	**76**	80	72
Nitrogen fertilizer EBITDA	**$ 41**	$ 107	$ 84

Liquidity and Capital Resources

Our principal source of liquidity has historically been cash from operations. Our principal uses of cash are for working capital, capital expenditures, funding our debt service obligations, and paying dividends to our stockholders, as further discussed below.

The effects of the COVID-19 pandemic have resulted in a significant and swift reduction in U.S. economic activity. For our industry, these effects have predominately resulted in significant changes in crude oil supply, decreases in crude oil and refined product pricing due to dramatic reductions in demand for crude oil and our refined products, primarily gasoline and jet fuel, all of which have caused significant volatility and disruption of the commodity and financial markets. This period of extreme economic disruption, low crude oil and refined product prices, and reduced demand has and is likely to continue to have an impact on our business, results of operations, and access to sources of liquidity.

In view of the uncertainty of the depth and extent of the contraction in demand due to the COVID-19 pandemic, combined with the weaker commodity price environment, we remain focused on safe and reliable operations, cash conservation, and protecting the balance sheet. As a result of these factors, and in light of the uncertainty of the current environment as well as potential future cash requirements of the Company, CVR Energy's board of directors (the "Board") reduced the cash dividend declared for the first quarter of 2020 to $0.40 per share and elected not to declare a cash dividend for the second, third, and fourth quarters of 2020. These decisions support the Company's continued focus on financial discipline through a balanced approach of stockholder distributions and strategic investments while providing additional flexibility to weather the uncertain environment. The Board will continue to evaluate the economic environment, the Company's cash needs, optimal uses of cash, and other applicable factors, and may elect to make additional changes to the Company's dividend (if any) in future periods. Additionally, in exercising financial discipline, we have announced the following proactive measures:

- The deferment of the majority of our growth capital spending, with the exception of the RDU Project at the Wynnewood Refinery;
- A reduction in the amount of maintenance capital expenditures in 2020 to only include those projects which are a priority to support continuing safe and reliable operations, or which we consider are critical to support future activities;
- A reduction in operational and general and administrative costs;
- For the Petroleum Segment, the deferment of the Wynnewood Refinery turnaround from the spring of 2021 to the spring of 2022, resulting in the delay of long-lead expenditures into 2021;
- For the Nitrogen Fertilizer Segment, the deferment of the Coffeyville Fertilizer Facility turnaround from the fall of 2020 to the summer of 2021 and the East Dubuque Fertilizer Facility turnaround from 2021 to 2022;

- The application of or utilization of certain tax benefits under the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") by deferring certain payroll taxes that were otherwise required to be paid in 2020, increasing our business interest deduction, and carrying back our net operating loss generated in 2020; and
- The amendment of the Nitrogen Fertilizer ABL extending its term to September 30, 2022, optimizing the borrowing capacity and fee structure, and revising certain provisions to provide an improved credit facility for the Nitrogen Fertilizer Segment.

When paired with the actions outlined above and prudently managing our operating costs and capital expenditures in 2021, we believe that our cash from operations and existing cash and cash equivalents, along with borrowings, as necessary, under CVR Refining's Amended and Restated ABL Credit Agreement (the "Petroleum ABL") and CVR Partners' ABL Credit Agreement, formerly the AB Credit Facility (the "Nitrogen Fertilizer ABL"), will be sufficient to satisfy anticipated cash requirements associated with our existing operations for at least the next 12 months. However, our future capital expenditures and other cash requirements could be higher than we currently expect as a result of various factors. Additionally, our ability to generate sufficient cash from our operating activities and secure additional financing depends on our future operational performance, which is subject to general economic, political, financial, competitive, and other factors, some of which may be beyond our control.

Depending on the needs of our business, contractual limitations and market conditions, we may from time to time seek to issue equity securities, incur additional debt, issue debt securities, or otherwise refinance our existing debt. There can be no assurance that we will seek to do any of the foregoing or that we will be able to do any of the foregoing on terms acceptable to us or at all.

We do not have any "off-balance sheet arrangements" as such term is defined within the rules and regulations of the SEC.

Cash and Other Liquidity

As of December 31, 2020, we had consolidated cash and cash equivalents of $667 million, $365 million available under the Petroleum ABL and $20 million available under the Nitrogen Fertilizer ABL, we had total liquidity of approximately $1 billion as of December 31, 2020. As of December 31, 2019, we had $652 million in cash and cash equivalents.

(in millions)	December 31, 2020	December 31, 2019
CVR Partners:		
9.25% Senior Secured Notes, due June 2023	**$ 645**	$ 645
6.50% Senior Notes, due April 2021, net of current portion (1)	**—**	2
Unamortized discount and debt issuance costs	**(11)**	(15)
Total CVR Partners debt	**$ 634**	$ 632
CVR Refining:		
6.50% Senior Notes, due November 2022 (2)	**$ —**	$ 500
Unamortized debt issuance cost	**—**	(3)
Total CVR Refining debt	**$ —**	$ 497
CVR Energy:		
5.25% Senior Notes, due February 2025	**$ 600**	$ —
5.75% Senior Notes, due February 2028	**400**	—
Unamortized debt issuance cost	**(6)**	—
Total CVR Energy debt	**$ 994**	$ —
Total long-term debt	**1,628**	1,129
Current portion of long-term debt (1)	**2**	—
Total long-term debt, including current portion	**$ 1,630**	$ 1,129

(1) The 6.50% Notes, due April 2021, mature within 12 months, and, therefore, the outstanding balance of $2 million has been classified as short-term as of December 31, 2020.

(2) On January 27, 2020, the Company redeemed all of the 6.50% Senior Notes, due November 2022 (the "2022 Notes") for a redemption price equal to 101.083%, plus accrued and unpaid interest, on the redeemed notes.

CVR Partners

The Nitrogen Fertilizer Segment has 9.25% Senior Secured Notes, due 2023, 6.50% Senior Notes, due 2021, and the Nitrogen Fertilizer ABL, the proceeds of which may be used to fund working capital, capital expenditures, and for other general corporate purposes. The Nitrogen Fertilizer Segment amended and extended the Nitrogen Fertilizer ABL in September 2020. Refer to Note 6 ("Long-Term Debt and Finance Lease Obligations") for further discussion.

CVR Refining

As of December 31, 2020, the Petroleum Segment has the Petroleum ABL, the proceeds of which may be used to fund working capital, capital expenditures, and for other general corporate purposes. As discussed above, the Company redeemed all of the 2022 Notes in January 2020. Refer to Note 6 ("Long-Term Debt and Finance Lease Obligations") for further discussion.

CVR Energy

On January 27, 2020, CVR Energy issued the 5.25% Senior Notes, due February 2025 (the "2025 Notes"), and 5.75% Senior Notes, due February 2028 (the "2028 Notes"). A portion of the net proceeds from the 2025 Notes and 2028 Notes were used to fund the redemption of the 2022 Notes. The remaining net proceeds will be used for general corporate purposes, which may include funding (i) acquisitions, (ii) capital projects, and/or (iii) share repurchases or other distributions to our stockholders. Refer to Note 6 ("Long-Term Debt and Finance Lease Obligations") for further discussion of the issuance of these new notes and the redemption of the 2022 Notes.

The Company, and its subsidiaries, were in compliance with all applicable covenants under their respective debt instruments as of December 31, 2020. Refer to Note 6 ("Long-Term Debt and Finance Lease Obligations") in Part II, Item 8 for further information.

Capital Spending

We divide capital spending needs into two categories: maintenance and growth. Maintenance capital spending includes non-discretionary maintenance projects and projects required to comply with environmental, health, and safety regulations. Growth capital projects generally involve an expansion of existing capacity and/or a reduction in direct operating expenses. We undertake growth capital spending based on the expected return on incremental capital employed.

In December 2020, our Board of Directors approved the renewable diesel project at our Wynnewood Refinery, which would convert the refinery's hydrocracker to a renewable diesel unit capable of producing 100 million gallons of renewable diesel per year (the "RDU"). Total estimated costs for the project are currently $110 million and completion of the RDU is expected in June 2021.

Our total capital expenditures for the year ended December 31, 2020, along with our estimated expenditures for 2021, by segment, are as follows:

(in millions)	**2020 Actual**			**2021 Estimate (1)(3)**					
				Maintenance		Growth		Total	
	Maintenance	Growth	Total	Low	High	Low	High	Low	High
Petroleum	**$ 77**	**$ 13**	**$ 90**	$ 94	$ 100	$ —	$ —	$ 94	$ 100
Nitrogen Fertilizer	**12**	**4**	**16**	18	20	5	6	23	26
Other (2)(3)	**3**	**12**	**15**	3	4	95	100	98	104
Total	**$ 92**	**$ 29**	**$ 121**	$ 115	$ 124	$ 100	$ 106	$ 215	$ 230

(1) Total 2021 estimated capitalized costs include approximately $3 to 4 million of growth related projects that will require additional approvals before commencement.
(2) Includes total 2020 RDU capital expenditures of $12 million.

(3) Includes total 2021 estimated RDU capital expenditures of between $95 and $100 million.

Our estimated capital expenditures are subject to change due to unanticipated changes in the cost, scope, and completion time for capital projects. For example, we may experience unexpected changes in labor or equipment costs necessary to comply with government regulations or to complete projects that sustain or improve the profitability of the refineries or nitrogen fertilizer facilities. We may also accelerate or defer some capital expenditures from time to time. Capital spending for CVR Partners is determined by the board of directors of its general partner (the "UAN GP Board").

During the year ended December 31, 2020, the Petroleum Segment completed its scheduled turnaround at the Coffeyville Refinery in April 2020 with total capitalized expenditures of $155 million. The next planned turnaround is at the Wynnewood Refinery, where the pre-planning expenditures are expected to start in the spring of 2021 with an estimate of $6 million expected to be incurred in 2021. The next expected turnaround is at the Coffeyville Refinery, where pre-planning expenditures are expected to start in the fall of 2021 with an estimate of $5 million expected to be incurred in 2021. As for the Nitrogen Fertilizer Segment, in light of the changing environment and proactive maintenance performed during several outages at the third-party owned and operated air separation unit at our Coffeyville Fertilizer Facility during the first quarter of 2020, we moved our turnaround from the previously planned time frame of the fall of 2020 to the fall of 2021, with an estimated cost of $7 to $9 million. We will continue to monitor market conditions and make adjustments, if needed, to our current capital spending or turnaround plans.

Dividends to CVR Energy Stockholders

Dividends, if any, including the payment, amount and timing thereof, are subject to change at the discretion of the Company's Board of Directors. IEP, through its ownership of the Company's common shares, is entitled to receive dividends that are declared and paid by the Company based on the number of shares held at each record date. The following table presents dividends paid to the Company's stockholders, including IEP, during the year ended December 31, 2020 (amounts presented in tables below may not add to totals presented due to rounding).

			Dividends Paid (in millions)		
Related Period	**Date Paid**	**Dividend Per Share**	**Stockholders**	**IEP**	**Total**
2019 - 4th Quarter	March 9, 2020	$ 0.80	$ 23	$ 57	$ 80
2020 - 1st Quarter	May 26, 2020	0.40	12	28	40
Total		$ 1.20	$ 35	$ 85	$ 121

No dividends were paid for the second, third, or fourth quarters of 2020. During the years ended December 31, 2019 and 2018, the Company paid dividends totaling $3.05 and $2.50 per common share, or $306 million and $238 million, respectively. Of these dividends, IEP received $218 million and $179 million, respectively, for the same periods.

Distributions to CVR Partners' Unitholders

Distributions, if any, including the payment, amount and timing thereof, are subject to change at the discretion of the UAN GP Board. There were no distributions declared or paid by CVR Partners during the year ended December 31, 2020 related to the fourth quarter of 2019 or the first, second, and third quarters of 2020, and no distributions were declared for the fourth quarter of 2020.

During the year ended December 31, 2019, the Partnership paid distributions totaling $4.00 per common unit on a split-adjusted basis, or $45 million. Of these distributions, CVR Energy received $16 million for the year ended December 31, 2019. The Partnership did not pay distributions during the year ended December 31, 2018.

Capital Structure

On October 23, 2019, the Board authorized a stock repurchase program (the "Stock Repurchase Program"). The Stock Repurchase Program would enable the Company to repurchase up to $300 million of the Company's common stock. Repurchases under the Stock Repurchase Program may be made from time-to-time through open market transactions, block trades, privately negotiated transactions or otherwise in accordance with applicable securities laws. The timing, price and amount of repurchases (if any) will be made at the discretion of management and are subject to market conditions as well as corporate, regulatory, debt maintenance and other considerations. While the Stock Repurchase Program currently has a duration of four years, it does not obligate the Company to acquire any stock and may be terminated by the Board at any time. As of December 31, 2020, the Company has not repurchased any of the Company's common stock under the Stock Repurchase Program.

On May 6, 2020, the UAN GP Board, on behalf of CVR Partners, authorized a unit repurchase program (the "Unit Repurchase Program"). The Unit Repurchase Program enables CVR Partners to repurchase up to $10 million of its common units. During the year ended December 31, 2020, on a split-adjusted basis, CVR Partners repurchased 623,177 common units, on the open market at a cost of $7 million, inclusive of transaction costs, or an average price of $11.35 per common unit. At December 31, 2020, CVR Partners had $3 million in authority remaining under the Unit Repurchase Program. On February 22, 2021, the UAN GP Board authorized an additional $10 million for the Unit Repurchase Program. This Unit Repurchase Program does not obligate CVR Partners to acquire any common units and may be cancelled, terminated, amended, or extended by the UAN GP Board at any time. As a result of the unit repurchases during 2020, CVR Energy's ownership of CVR Partners increased from 34% to 36%.

Additionally, on November 2, 2020, CVR Partners announced that the UAN GP Board had approved a 1-for-10 reverse split of CVR Partners' common units that was completed on November 23, 2020, pursuant to which each ten common units of CVR Partners would be converted into one common unit of the Partnership (the "Reverse Unit Split"). Following the Reverse Unit Split, the number of CVR Partners common units outstanding decreased from approximately 111 million common units to approximately 11 million common units, with proportionate adjustments to the common units under CVR Partners' long-term incentive plan and outstanding awards thereunder. The Reverse Unit Split did not impact CVR Energy's ownership in CVR Partners.

Cash Flows

The following table sets forth our consolidated cash flows for the periods indicated below:

	Year Ended December 31,		
(in millions)	**2020**	**2019**	**2018**
Net cash provided by (used in):			
Operating activities	**$ 90**	$ 747	$ 628
Investing activities	**(423)**	(121)	(108)
Financing activities	**355**	(642)	(334)
Net increase (decrease) in cash and cash equivalents and restricted cash	**$ 22**	$ (16)	$ 186

Operating Activities

The change in operating activities for the year ended December 31, 2020, as compared to the year ended December 31, 2019, was primarily due to a reduction in operating results, excluding non-cash items, of $677 million, offset by favorable changes in working capital of $19 million and favorable changes in non-current assets and liabilities of $1 million.

Investing Activities

The change in investing activities for the year ended December 31, 2020, as compared to the year ended December 31, 2019, was primarily due to the purchase of Delek common stock for $140 million, an increase in turnaround expenditures of $121 million relating to the Coffeyville Refinery turnaround beginning in March 2020 and completed during April 2020, a decrease in proceeds from the sale of assets of $36 million, and an increase in capital expenditures of $3 million.

Financing Activities

The change in net cash provided by financing activities for the year ended December 31, 2020, as compared to the net cash used in financing activities for year ended December 31, 2019 was primarily due to increased cash inflows from the private offering of the 2025 Notes and 2028 Notes totaling $1 billion, a decrease in CVR Energy's dividends and CVR Partners' distributions of $185 million and $30 million, respectively, along with a decrease in cash outflows from the purchase of remaining CVR Refining units outstanding of $301 million during the year ended December 31, 2019 with no corresponding amounts paid in 2020. Cash provided by financing activities is partially offset by payments of $500 million for the redemption of the outstanding 2022 Notes, $5 million in a call premium on the extinguishment of the senior notes, the repurchase of CVR Partner’ common units of $7 million, and an increase in other financing activities of $7 million.

Recent Accounting Pronouncements

Refer to Note 2 (“Summary of Significant Accounting Policies”) in Part II, Item 8 for a discussion of recent accounting pronouncements applicable to the Company.

Critical Accounting Estimates

We prepare our consolidated financial statements in accordance with GAAP requiring management to make judgments, assumptions, and estimates based on the best available information at the time. Accounting estimates are considered to be critical if (1) the nature of the estimates and assumptions is material due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change; and (2) the impact of the estimates and assumptions on financial condition or operating performance is material. Actual results could differ from the estimates and assumptions used.

Inventory Valuation

The cost of our petroleum and nitrogen fertilizer product inventories is determined under the FIFO method. Our FIFO inventories are carried at the lower of cost or net realizable value. We compare the estimated realizable value of inventories to their cost by product at each of our facilities. In our Petroleum Segment, to determine the net realizable value of our inventories, we assume that crude oil and other feedstocks are converted into refined products, which requires us to make estimates regarding the refined products expected to be produced from those feedstocks and the conversion costs required to convert those feedstocks into refined products. We also estimate the usual and customary transportation costs required to move the inventory from our plants to the appropriate points of sale, if material. We then apply an estimated selling price to our inventories based primarily on actual prices observed subsequent to the end of the reporting period with any remaining volumes’ selling price estimated using indicative market pricing available as of the time the estimate is made. If the net realizable value is less than cost, we recognize a loss for the difference in our statements of operations. For our Nitrogen Fertilizer Segment, depending on inventory levels, the per-ton realizable value of our fertilizer products is estimated using pricing on in-transit orders, pricing for open, fixed-price orders that have not shipped, and, if volumes remain unaccounted for, current management pricing estimates for fertilizer products. Management’s estimate for current pricing reflects up-to-date pricing in each facility’s market as of the end of each reporting period. Reductions to selling prices for unreimbursed freight costs are included to arrive at net realizable value, as applicable. During the year ended December 31, 2020, we recognized losses on inventory of $59 million to reflect net realizable value, primarily associated with our Petroleum Segment. No amounts were recognized in 2019 or 2018. Due to the amount and variability in volume of inventories maintained, changes in production costs, and the volatility of market pricing for our products, losses recognized to reflect inventories at the lower of cost or net realizable value could have a material impact on the Company’s results of operations.

Impairment of Long-lived Assets and Goodwill

Long-lived assets used in operations are assessed for impairment whenever changes in facts and circumstances indicate a possible significant deterioration in future expected cash flows. If the sum of the undiscounted expected future cash flows of an asset group is less than the carrying value, including applicable liabilities, the carrying value is written down to its estimated fair value. Individual assets are grouped for impairment purposes based on a judgmental assessment of the lowest level for which there are identifiable cash flows that are largely independent of the cash flows of other assets (for example, at a refinery or fertilizer facility level).

The Company tests goodwill for impairment annually on November 1 of each year, or more frequently if events or changes in circumstances indicate the asset might be impaired. One of our reporting units, the Coffeyville Fertilizer Facility, had a goodwill balance of $41 million at December 31, 2019. During the second quarter of 2020, following completion of the spring planting season, the market pricing for ammonia and UAN, which are the facility’s two primary products, experienced significant pricing declines driven by updated market expectations around supply and demand fundamentals which were expected to continue into the second half of 2020. Additionally, significant uncertainty remained as to the nature and extent of impacts to be seen on the overall demand for corn and soybean given reduced ethanol production and broader economic conditions which had negatively impacted demand. Therefore, in connection with the preparation of the financial statements for the three months ended June 30, 2020, given the pricing declines experienced in the second quarter of 2020, further muting of our near-term economic recovery assumptions, including management's revised forecasts for product pricing in 2020 and beyond, and market price performance of our common units, we concluded an impairment indicator was present and a triggering event under the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 350, *Intangibles-Goodwill and Other*, had occurred as of June 30, 2020 and an interim quantitative impairment assessment was performed. Significant assumptions inherent in the valuation methodologies for goodwill included, but are not limited to, prospective financial information, growth rates, discount rates, inflationary factors, and cost of capital. Based on the interim quantitative analysis, it was determined that the estimated fair value of the Coffeyville Fertilizer Facility reporting unit did not exceed its carrying value. As a result, we recorded a non-cash impairment charge of $41 million during 2020. There is no goodwill remaining as of December 31, 2020.

We performed our annual impairment reviews of goodwill for 2019 and 2018, on November 1 of each such year and concluded no impairments. For the period ended December 31, 2019, we performed a qualitative assessment and concluded there were no events or circumstances which would trigger the performance of a quantitative analysis after reviewing all factors impacting the Coffeyville Facility reporting unit, including improved market conditions and financial results in 2019 as compared to the financial forecasts from those used in the fair value analysis at December 31, 2018, where the estimated fair value of the Coffeyville Fertilizer Facility reporting unit exceeded its carrying value by approximately 36% based upon the results of our quantitative goodwill impairment test.

Item 7A. *Quantitative and Qualitative Disclosures About Market Risk*

Our market risk sensitive instruments and positions have inherent risks including potential loss from adverse changes in commodity prices, RINs prices, and interest rates.

Commodity Price Risk

The Petroleum Segment, as a manufacturer of refined petroleum products, and the Nitrogen Fertilizer Segment, as a manufacturer of nitrogen fertilizer products, all of which are commodities, have exposure to market pricing for products sold in the future. In order to realize value from our processing capacity, a positive spread between the cost of raw materials and the value of finished products must be achieved (i.e., gross margin or crack spread). The physical commodities that comprise our raw materials and finished goods are typically bought and sold at a spot or index price that can be highly variable.

The Petroleum Segment uses a crude oil purchasing intermediary, Vitol, to purchase the majority of its non-gathered crude oil inventory for the refineries, which allows it to take title to and price its crude oil at locations in close proximity to the refineries, as opposed to the crude oil origination point, reducing its risk associated with volatile commodity prices by shortening the commodity conversion cycle time. The commodity conversion cycle time refers to the time elapsed between raw material acquisition and the sale of finished goods. In addition, the Petroleum Segment seeks to reduce the variability of commodity price exposure by engaging in hedging strategies and transactions that will serve to protect gross margin as forecasted in the annual operating plan. With regard to its hedging activities, the Petroleum Segment may enter into, or has entered into, derivative instruments which serve to (1) lock in or fix a percentage of the anticipated or planned gross margin in future periods when the derivative market offers commodity spreads that generate positive cash flows, (2) hedge the value of inventories in excess of minimum required inventories, and (3) manage existing derivative positions related to a change in anticipated operations and market conditions.

RFS Compliance Price Risk

As a producer of transportation fuels from crude oil, the Petroleum Segment is required to blend biofuels into the products it produces or to purchase RINs in the open market in lieu of blending to meet the mandates established by the EPA. The Petroleum Segment is exposed to market risk related to volatility in the price of RINs needed to comply with RFS that are not otherwise generated through blending of renewable fuels in our refining and marketing operations. To mitigate the impact of this risk on the Petroleum Segment's results of operations and cash flows, the Petroleum Segment performs ethanol and biodiesel blending or purchases RINs. Additionally, in December 2020, the Board approved full funding for the development a renewable diesel unit at our Wynnewood Refinery which we estimate will result in the generation of approximately 180 million RINs each year. We continually monitor the impact of RFS on our business and evaluate strategies to mitigate the impacts of the RFS program, the administration thereof, and the market volatility for RINs on our business. Refer to Part I, Item 1A, "Risk

Factors," Part II, Item 7, "Management's Discussion and Analysis" and Part II, Item 8, Note 11 ("Commitments and Contingencies"), of this Report for further discussion about compliance with RFS and the potential impacts on our business.

Item 8. *Financial Statements and Supplementary Data*

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of CVR Energy, Inc.

Opinion on the financial statements

We have audited the accompanying consolidated balance sheets of CVR Energy, Inc. (a Delaware corporation) and subsidiaries (the "Company") as of December 31, 2020 and 2019, the related consolidated statements of operations, changes in equity, and cash flows for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in the 2013 *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), and our report dated February 23, 2021 expressed an unqualified opinion.

Basis for opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical audit matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Petroleum Segment's Inventory Finished Goods Valuation

As described in Note 2 to the consolidated financial statements, the Company utilizes the ability-to-bear methodology to determine the valuation of its Petroleum Segment's finished goods inventories, which was $123 million at December 31, 2020. Management makes certain estimates based on observable inputs, including monthly sales prices and current market prices to determine how much raw materials and production costs are capitalized into Inventories. Management then assesses if a lower of cost or net realizable value adjustment is required. Changes in these estimates could have a significant impact on the Company's valuation of finished goods inventory.

We identified the Company's Petroleum Segment's finished goods inventory valuation process as a critical audit matter. The principal consideration for our determination that the inventory valuation process is a critical audit matter is the degree of complexity and subjectivity inherent in determining management's valuation estimates.

Our audit procedures to evaluate the Company's valuation of finished goods inventory, included the following procedures to test management's process, among others:

- We tested the design and operating effectiveness of management's processes and controls for determining the valuation of finished goods inventory.
- We obtained a sample of invoices to verify the accuracy of the production costs used in estimates.
- We tested or evaluated the reasonableness of inputs including sales volumes, monthly sales prices and current market prices for each product by obtaining third-party market prices and a sample of sales transactions by product to verify the accuracy of the information used by management.
- We tested management's process of calculating the lower of cost or net realizable value including verifying the reasonableness of the methodology used and accuracy of the inputs such as selling prices for refined fuels and market pricing.

Nitrogen Fertilizer Segment's Goodwill Impairment Assessment

As described in Note 2 to the consolidated financial statements, annually or as facts or circumstances may dictate, management performs a valuation of the Coffeyville reporting unit to determine if a goodwill impairment exists. During the second quarter of 2020 following the completion of the spring planting season and observation of certain market and other conditions described in Note 2, the Company's Nitrogen Fertilizer Segment's Coffeyville Fertilizer Facility reporting unit concluded a triggering event occurred and performed an interim quantitative impairment assessment. The identification of a triggering event and the determination of the fair value of the reporting unit required management to make significant estimates and develop assumptions related to cash flow forecasts using estimates of future nitrogen fertilizer product pricing, volumes to be sold, costs to be incurred for key process inputs and other operating expenses as well as estimating appropriate discount rates and growth rates for future periods. Changes in these assumptions could have had a significant impact on the identification of a triggering event as well as the reporting unit's estimated fair value. As a result of the quantitative impairment assessment, a full goodwill impairment of $41 million was recorded during the year ended December 31, 2020.

We identified the goodwill impairment assessment of the Nitrogen Fertilizer Segment's Coffeyville Fertilizer Facility reporting unit as a critical audit matter. The principal consideration for our determination that the goodwill impairment assessment is a critical audit matter was the degree of complexity and subjectivity inherent in determining management's estimates.

Our audit procedures related to the Nitrogen Fertilizer Segment's Coffeyville Fertilizer Facility reporting unit's goodwill impairment assessment included the following, among others:

- We tested the design and operating effectiveness of management's processes and controls over the identification of a triggering event and the fair value assessment of the Coffeyville reporting unit.
- We evaluated the reasonableness of a triggering event by considering the current market conditions following the completion of the spring planting season as well as the economic uncertainty surrounding the COVID-19 pandemic.
- We evaluated the reasonableness of future nitrogen fertilizer pricing assumptions by comparing the prices used by management to current industry and economic trends considering the impacts of the COVID-19 pandemic as well as comparing those prices to the historical performance of the Coffeyville reporting unit, performed sensitivity analyses to evaluate the change in the fair value estimates that would result from changes in those price assumptions, and recalculated management's estimates.
- We compared forecasted sales volumes and expenses to historical operating results.
- We utilized valuation professionals with specialized skills and knowledge to assist in evaluating the Nitrogen Fertilizer Segment's Coffeyville Fertilizer Facility's discounted cash flow model and guideline public company methods and certain significant assumptions, including the discount rate, terminal growth rate, and cost of capital.
- We evaluated whether the assumptions used were consistent with evidence obtained in other areas of the audit.

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2013.
Houston, Texas
February 23, 2021

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of CVR Energy, Inc.

Opinion on internal control over financial reporting

We have audited the internal control over financial reporting of CVR Energy, Inc. (a Delaware corporation) and subsidiaries (the "Company") as of December 31, 2020, based on criteria established in the 2013 *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in the 2013 *Internal Control - Integrated Framework* issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated financial statements of the Company as of and for the year ended December 31, 2020, and our report dated February 23, 2021 expressed an unqualified opinion on those financial statements.

Basis for opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management's Report on Internal Control Over Financial Reporting*. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and limitations of internal control over financial reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ GRANT THORNTON LLP

Houston, Texas
February 23, 2021

CVR Energy, Inc. and Subsidiaries
CONSOLIDATED BALANCE SHEETS

(in millions)	December 31, 2020	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents (including $31 and $37, respectively, of consolidated variable interest entities (VIEs))	**$ 667**	$ 652
Accounts receivable (including $37 and $34, respectively, of VIEs)	**178**	182
Inventories (including $42 and $48, respectively, of VIEs)	**298**	373
Prepaid expenses and other current assets (including $8 and $5, respectively, of VIEs)	**259**	67
Total current assets	**1,402**	1,274
Property, plant and equipment, net (including $898 and $952, respectively, of VIEs)	**2,240**	2,336
Other long-term assets (including $17 and $61, respectively, of VIEs)	**336**	295
Total assets	**$ 3,978**	$ 3,905
LIABILITIES AND EQUITY		
Current liabilities:		
Note payable and finance lease obligations (including $2 and $0, respectively, of VIEs)	**$ 8**	$ 5
Accounts payable (including $25 and $24, respectively, of VIEs)	**282**	412
Other current liabilities (including $49 and $52, respectively, of VIEs)	**369**	179
Total current liabilities	**659**	596
Long-term liabilities:		
Long-term debt and finance lease obligations, net of current portion (including $634 and $632, respectively of VIEs)	**1,683**	1,190
Deferred income taxes	**368**	396
Other long-term liabilities (including $8 and $10, respectively, of VIEs)	**49**	55
Total long-term liabilities	**2,100**	1,641
Commitments and contingencies (See Note 11)		
Equity:		
CVR stockholders' equity:		
Common stock $0.01 par value per share, 350,000,000 shares authorized, 100,629,209 and 100,629,209 shares issued as of December 31, 2020 and 2019, respectively	**1**	1
Additional paid-in-capital	**1,510**	1,507
Retained deficit	**(490)**	(113)
Treasury stock, 98,610 shares at cost	**(2)**	(2)
Total CVR stockholders' equity	**1,019**	1,393
Noncontrolling interest	**200**	275
Total equity	**1,219**	1,668
Total liabilities and equity	**$ 3,978**	$ 3,905

The accompanying notes are an integral part of these consolidated financial statements.

CVR Energy, Inc. and Subsidiaries
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
(in millions, except per share data)	**2020**	**2019**	**2018**
Net sales	**$ 3,930**	$ 6,364	$ 7,124
Operating costs and expenses:			
Cost of materials and other	**3,373**	4,851	5,683
Direct operating expenses (exclusive of depreciation and amortization)	**478**	533	517
Depreciation and amortization	**268**	278	263
Cost of sales	**4,119**	5,662	6,463
Selling, general and administrative expenses (exclusive of depreciation and amortization)	**86**	117	112
Depreciation and amortization	**10**	9	11
Loss (gain) on asset disposals	**7**	(4)	6
Goodwill impairment	**41**	—	—
Operating (loss) income	**(333)**	580	532
Other (expense) income:			
Interest expense, net	**(130)**	(102)	(102)
Investment income from marketable securities	**41**	—	—
Other income, net	**7**	13	15
(Loss) income before income taxes	**(415)**	491	445
Income tax (benefit) expense	**(95)**	129	79
Net (loss) income	**(320)**	362	366
Less: Net (loss) income attributable to non-controlling interest	**(64)**	(18)	107
Net (loss) income attributable to CVR Energy stockholders	**$ (256)**	$ 380	$ 259
Basic and diluted (loss) earnings per share	**$ (2.54)**	$ 3.78	$ 2.80
Dividends declared per share	**$ 1.20**	$ 3.05	$ 2.50
Weighted-average common shares outstanding:			
Basic and Diluted	**100.5**	100.5	92.5

The accompanying notes are an integral part of these consolidated financial statements.

CVR Energy, Inc. and Subsidiaries
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

	Common Stockholders							
(in millions, except share data)	Shares Issued	Common Stock	Additional Paid-In Capital	Retained Deficit	Treasury Stock	Total CVR Stockholders' Equity	Noncontrolling Interest	Total Equity
Balance at December 31, 2017	86,929,660	$ 1	$ 1,197	$ (208)	$ (2)	$ 988	$ 835	$ 1,823
Exchange offer impact	13,699,549	—	276	—	—	276	(192)	84
Dividends paid to CVR Energy stockholders	—	—	—	(238)	—	(238)	—	(238)
Distributions from CVR Refining to public unitholders	—	—	—	—	—	—	(93)	(93)
Other	—	—	1	—	—	1	—	1
Net income	—	—	—	259	—	259	107	366
Balance at December 31, 2018	100,629,209	1	1,474	(187)	(2)	1,286	657	1,943
Dividends paid to CVR Energy stockholders	—	—	—	(306)	—	(306)	—	(306)
Distributions from CVR Partners to public unitholders	—	—	—	—	—	—	(30)	(30)
Acquisition of CVR Refining non-controlling interest	—	—	(2)	—	—	(2)	(334)	(336)
Effect of turnaround accounting change	—	—	35	—	—	35	—	35
Net income (loss)	—	—	—	380	—	380	(18)	362
Balance at December 31, 2019	100,629,209	1	1,507	(113)	(2)	1,393	275	1,668
Dividends paid to CVR Energy stockholders	**—**	**—**	**—**	**(121)**	**—**	**(121)**	**—**	**(121)**
Changes in equity due to CVR Partners' common unit repurchases	**—**	**—**	**3**	**—**	**—**	**3**	**(11)**	**(8)**
Net loss	**—**	**—**	**—**	**(256)**	**—**	**(256)**	**(64)**	**(320)**
Balance at December 31, 2020	**100,629,209**	**$ 1**	**$ 1,510**	**$ (490)**	**$ (2)**	**$ 1,019**	**$ 200**	**$ 1,219**

The accompanying notes are an integral part of these consolidated financial statements.

CVR Energy, Inc. and Subsidiaries
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
(in millions)	**2020**	2019	2018
Cash flows from operating activities:			
Net (loss) income	**$ (320)**	$ 362	$ 366
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Depreciation and amortization	**278**	287	274
Loss on lower of cost or net realizable value adjustments	**59**	—	—
Goodwill impairment	**41**	—	—
Deferred income taxes	**(30)**	24	49
Unrealized gain on marketable securities	**(34)**	—	—
Loss (gain) on asset disposals	**7**	(4)	6
Share-based compensation	**4**	17	16
Other non-cash items	**10**	6	3
Changes in assets and liabilities:			
Accounts receivable	**31**	(40)	56
Inventories	**9**	(10)	(9)
Prepaid expenses and other current assets	**(28)**	16	(29)
Due to parent	**—**	4	2
Accounts payable	**(121)**	94	(21)
Deferred revenue	**(2)**	(15)	11
Other current liabilities	**188**	9	(104)
Other long-term assets and liabilities	**(2)**	(3)	8
Net cash provided by operating activities	**90**	747	628
Cash flows from investing activities:			
Capital expenditures	**(124)**	(121)	(102)
Turnaround expenditures	**(159)**	(38)	(8)
Proceeds from sale of assets	**1**	37	1
Investment in marketable securities	**(140)**	—	—
Other investing activities	**(1)**	1	1
Net cash used in investing activities	**(423)**	(121)	(108)
Cash flows from financing activities:			
Proceeds from issuance of senior secured notes	**1,000**	—	—
Principal payments on senior secured notes	**(500)**	—	—
Call premium on extinguishment of debt	**(5)**	—	—
Repurchase of CVR Partners common units	**(7)**	—	—
Acquisition of CVR Refining common units	**—**	(301)	—
Dividends to CVR Energy's stockholders	**(121)**	(306)	(238)
Distributions to CVR Refining's noncontrolling interest holders	**—**	—	(93)
Distributions to CVR Partners' noncontrolling interest holders	**—**	(30)	—
Other financing activities	**(12)**	(5)	(3)
Net cash provided by (used in) financing activities	**355**	(642)	(334)
Net increase (decrease) in cash and cash equivalents and restricted cash	**22**	(16)	186
Cash and cash equivalents and restricted cash, beginning of period	**652**	668	482
Cash and cash equivalents and restricted cash, end of period	**$ 674**	$ 652	$ 668

The accompanying notes are an integral part of these consolidated financial statements.

CVR Energy, Inc. and Subsidiaries
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(1) Organization and Nature of Business

Organization

CVR Energy, Inc. ("CVR Energy," "CVR," "we," "us," "our," or the "Company") is a diversified holding company primarily engaged in the petroleum refining and nitrogen fertilizer manufacturing industries through its holdings in CVR Refining, LP (the "Petroleum Segment" or "CVR Refining") and CVR Partners, LP (the "Nitrogen Fertilizer Segment" or "CVR Partners"). CVR Refining is an independent petroleum refiner and marketer of high value transportation fuels. CVR Partners produces and markets nitrogen fertilizers in the form of urea ammonium nitrate ("UAN") and ammonia. CVR's common stock is listed on the New York Stock Exchange ("NYSE") under the symbol "CVI." Icahn Enterprises L.P. and its affiliates ("IEP") owned approximately 71% of the Company's outstanding common shares as of December 31, 2020.

Stock Repurchase Program

On October 23, 2019, the Board of Directors authorized a stock repurchase program (the "Stock Repurchase Program"). The Stock Repurchase Program enables the Company to repurchase up to $300 million of the Company's common stock. Repurchases under the Stock Repurchase Program may be made from time-to-time through open market transactions, block trades, privately negotiated transactions or otherwise in accordance with applicable securities laws. The timing, price and amount of repurchases (if any) will be made at the discretion of management and are subject to market conditions as well as corporate, regulatory and other considerations. While the Stock Repurchase Program currently has a duration of four years, it does not obligate the Company to acquire any stock and may be terminated by the Board of Directors at any time. We did not repurchase any of our common stock during the year ended December 31, 2020.

CVR Refining, LP

On January 17, 2019, the general partner of CVR Refining assigned to the Company its right to purchase all of the issued and outstanding CVR Refining common units not already owned by CVR Refining's general partner or its affiliates. On January 29, 2019, the Company purchased all remaining CVR Refining common units not already owned by the Company or its affiliates for a cash purchase price of $10.50 per unit (the "Call Price"), or approximately $241 million in the aggregate (the "Public Unit Purchase"). In conjunction with the exercise of its call right for all CVR Refining common units not already owned by the Company or its affiliates, the Company entered into a purchase agreement with American Entertainment Properties Corporation ("AEP") and IEP, pursuant to which, on January 29, 2019, all of the Common Units held by AEP and IEP were purchased by the Company for a cash price per unit equal to the Call Price, or approximately $60 million in the aggregate (the "Affiliate Unit Purchase" together with the Public Unit Purchase, the "CVRR Unit Purchase"). The total purchase price of $301 million was funded with approximately $105 million in borrowings under a new credit agreement entered into by the Company on January 29, 2019, with the remaining amount being funded from the Company's cash on hand. Amounts drawn under the new credit agreement were fully repaid in February 2019. See Note 6 ("Long-Term Debt and Finance Lease Obligations") for further information on the credit agreement. The consolidated results of operations and financial position of CVR Refining are reflected as CVR's Petroleum Segment. Following this transaction, CVR Refining became a wholly-owned subsidiary of the Company and, therefore, is no longer accounted for as a variable interest entity ("VIE"). Effective February 8, 2019, CVR Refining's reporting obligations under the Exchange Act were suspended.

CVR Partners, LP

Interest Holders - As of December 31, 2020, public common unitholders held approximately 64% of CVR Partners' outstanding common units, and CVR Services, LLC ("CVR Services") (formerly Coffeyville Resources, LLC), a wholly-owned subsidiary of CVR Energy, held approximately 36% of CVR Partners' outstanding common units. In addition, CVR Services held 100% of CVR Partners' general partner, CVR GP, LLC ("CVR GP"), which held a non-economic general partner interest in CVR Partners as of December 31, 2020. Following the acquisition of the non-controlling interest in CVR Refining in January 2019, the non-controlling interest reflected on the consolidated balance sheets of CVR is only impacted by the net income of, and distributions from, CVR Partners.

NYSE Listing Requirements and Reverse Split - On April 20, 2020, the average closing price of CVR Partners' common units over a 30 consecutive trading-day period fell below $1.00 per common unit, resulting in noncompliance with the continued listing compliance standards in Section 802.01C of the NYSE Listed Company Manual. CVR Partners received written notification of this noncompliance from the NYSE on April 22, 2020, and had until January 1, 2021 to regain compliance or be subject to the NYSE's suspension and delisting procedures. See the Form 8-K filed by CVR Partners with the SEC on April 24, 2020 for further discussion.

On November 2, 2020, CVR Partners announced that the board of directors of its general partner (the "UAN GP Board") approved a 1-for-10 reverse split of CVR Partners' common units that was completed on November 23, 2020, pursuant to which each ten common units of CVR Partners would be converted into one common unit of the CVR Partners (the "Reverse Unit Split"). In accordance with CVR Partners' Agreement of Limited Partnership, as amended, following the Reverse Unit Split, any fractional units of record holders were rounded up or down, as applicable, to the nearest whole common unit, with any fraction equal to or above 0.5 common units rounding up to the next higher common unit. Following the Reverse Unit Split, the number of CVR Partners common units outstanding decreased from approximately 111 million common units to approximately 11 million common units, with proportionate adjustments to the common units under CVR Partners' long-term incentive plan and outstanding awards thereunder.

CVR Partners' common units began trading on a split-adjusted basis when markets opened on November 24, 2020, under the symbol "UAN" and a new CUSIP number. The reverse split enabled the Partnership to regain compliance with NYSE listing requirements on November 30, 2020, in advance of the January 1, 2021 deadline.

Unit Repurchase Program - On May 6, 2020, the UAN GP Board, on behalf of CVR Partners, authorized a unit repurchase program (the "Unit Repurchase Program"). The Unit Repurchase Program enables CVR Partners to repurchase up to $10 million of its common units. During the year ended December 31, 2020, CVR Partners repurchased 623,177 common units, on the open market in accordance with a repurchase agreement under Rules 10b5-1 and 10b-18 of the Exchange Act, which was terminated on August 6, 2020, at a cost of $7 million, inclusive of transaction costs, or an average price of $11.35 per common unit. At December 31, 2020, CVR Partners had $3 million in authority remaining under the Unit Repurchase Program. On February 22, 2021, the UAN GP Board authorized an additional $10 million for the Unit Repurchase Program. This Unit Repurchase Program does not obligate CVR Partners to acquire any common units and may be cancelled or terminated by the UAN GP Board at any time.

As a result of these repurchases, and the resulting change in CVR Energy's ownership of CVR Partners while maintaining control, CVR Energy recognized an increase of $3 million to additional paid-in capital from the non-cash reduction of non-controlling interests totaling $4 million and the recognition of a deferred tax liability totaling $1 million from changes in its book versus tax basis in CVR Partners.

Subsequent Events

The Company evaluated subsequent events, if any, that would require an adjustment to the Company's consolidated financial statements or require disclosure in the notes to the consolidated financial statements through the date of issuance of the consolidated financial statements. Where applicable, the notes to these consolidated financial statements have been updated to discuss all significant subsequent events which have occurred.

(2) Summary of Significant Accounting Policies

Principles of Consolidation

The accompanying consolidated financial statements, prepared in accordance with U.S. generally accepted accounting principles ("GAAP") and in accordance with the rules and regulations of the Securities and Exchange Commission ("SEC"), include the accounts of the Company and its majority-owned direct and indirect subsidiaries. All intercompany accounts and transactions have been eliminated. The ownership interests of noncontrolling investors in the Company's subsidiaries are recorded as noncontrolling interests. CVR Energy has not recognized any other comprehensive income for the periods ended December 31, 2020, 2019, and 2018.

CVR Partners is considered a VIE. As the 100% owner of the general partner of CVR Partners, the Company has the sole ability to direct the activities that most significantly impact the economic performance of the partnership and is considered to be the primary beneficiary. In January 2019, following the CVRR Unit Purchase, CVR Refining was no longer considered a VIE and is accounted for as a wholly-owned subsidiary.

Investments in entities over which the Company has significant influence, but not control, are accounted for using the equity method of accounting. Income from equity method investments represents CVR Energy's proportionate share of net income generated by the equity method investees and is recorded in Other income, net on the Company's Consolidated Statements of Operations.

Reclassifications

Certain reclassifications have been made within the consolidated financial statements for the years ended December 31, 2019 and 2018 to conform with current presentation. Catalyst inventory with a value of $17 million as of December 31, 2019 was reclassified in the first quarter of 2020 to Other long-term assets to conform to current presentation.

Use of Estimates

The consolidated financial statements are prepared in conformity with GAAP, which requires management to make estimates and assumptions that affect the reported amounts and disclosure of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Estimates are reviewed on an ongoing basis, based on currently available information. Changes in facts and circumstances may result in revised estimates, and actual results could differ from those estimates.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand and on deposit, investments in highly liquid money market accounts, and debt instruments with original maturities of three months or less.

Restricted Cash

Restricted cash consists of cash that must be maintained in a commercial escrow account pending resolution of certain litigation matters and is discussed further in Note 11 ("Commitments and Contingencies").

Accounts Receivable, net

Accounts receivable, net primarily consist of customer accounts receivable recorded at the invoiced amounts and generally do not bear interest. Also included within accounts receivable of the Nitrogen Fertilizer Segment are unbilled fixed price contracts which is discussed further within Note 7 ("Revenue").

Allowances for doubtful accounts are generally recorded when it becomes probable the receivable will not be collected and is booked to bad debt expense. The largest concentration of credit for any one customer was approximately 11% and 11% of the net accounts receivable balance at December 31, 2020 and 2019, respectively. During the years ended December 31, 2020 and 2019, the Company had nominal bad debt expense, and during the year ended December 31, 2018, a recovery was recognized of $1 million related to bad debt expense previously written off.

Inventories

Inventories consist primarily of domestic and foreign crude oil, blending stock and components, work-in-progress, fertilizer products, and refined fuels and by-products. All inventories are valued at the lower of GAAP First-In, First-Out ("FIFO") cost, or net realizable value. The Petroleum Segment's unfinished and finished products inventory values were determined using the ability-to-bear methodology. Other inventories in the Petroleum and Nitrogen Fertilizer Segments, including other raw materials, spare parts, and supplies, are valued at the lower of moving-average cost, which approximates FIFO, or net realizable value. The cost of inventories includes inbound freight costs.

The carrying amounts of the Petroleum Segment's inventories exceeded their net realizable value (market value) by $58 million resulting in the recognition of a lower of cost or net realizable value adjustment as of March 31, 2020. The $58 million loss represents the difference between the carrying value of the Petroleum Segment's inventories accounted for using the FIFO method and selling prices for refined products subsequent to March 31, 2020. No adjustment was necessary as of December 31, 2020 or December 31, 2019.

Inventories consisted of the following:

	December 31,	
(in millions)	**2020**	**2019**
Finished goods	**$ 133**	$ 177
Raw materials	**83**	112
In-process inventories	**16**	18
Parts and supplies	**66**	66
Total Inventories	**$ 298**	$ 373

At December 31, 2020 and 2019, inventories related to the Nitrogen Fertilizer Segment included depreciation of approximately $2 million and $5 million, respectively.

Property, Plant and Equipment, net

Additions to property, plant and equipment, including capitalized interest and certain costs allocable to construction and property purchases, are recorded at cost. Expenditures for improvements that increase economic benefit or returns and/or extend useful life are capitalized. Depreciation is computed using the straight-line method over the estimated useful lives of the various classes of depreciable assets. The lives used in computing depreciation for significant asset classes are as follows:

Asset	Range of Useful Lives, in Years
Land and improvements	10 to 30
Buildings and improvements	1 to 30
Machinery and equipment	2 to 30
Furniture and fixtures	3 to 10
Right-of-use ("ROU") finance leases	3 to 18
Other	5 to 30

Property, plant and equipment, net consisted of the following:

	December 31,	
(in millions)	**2020**	**2019**
Machinery and equipment	**$ 3,881**	$ 3,805
Buildings and improvements	**88**	87
ROU finance leases	**80**	81
Land and improvements	**47**	46
Furniture and fixtures	**38**	35
Construction in progress	**100**	95
Other	**15**	14
	4,249	4,163
Less: Accumulated depreciation	**2,009**	1,827
Total Property, plant and equipment, net	**$ 2,240**	$ 2,336

Leasehold improvements and assets held under finance leases are depreciated or amortized on the straight-line method over the shorter of the contractual lease term or the estimated useful life of the asset. Expenditures for routine maintenance and repair costs are expensed when incurred. Such expenses are reported in Direct operating expenses (exclusive of depreciation and amortization) in the Company's Consolidated Statements of Operations.

On May 21, 2019, a subsidiary of CVR Energy sold its crude oil storage terminal located in Cushing, Oklahoma and related assets (the "Terminal"). As part of this transaction, the Company received cash consideration of $43 million for the Terminal and related crude oil inventories resulting in a recognition of a gain on sale of $10 million. The carrying value of the inventory sold as part of this transaction has been presented on a net basis, with the proceeds on sale, within the net cash used in investing section of the Consolidated Statements of Cash Flows.

As of December 31, 2020, the Company had not identified the existence of an impairment indicator for its long-lived asset groups as outlined under Accounting Standards Codification ("ASC") Topic 360, *Property, Plant, and Equipment*.

Leases

At inception, the Company determines whether an arrangement is a lease and the appropriate lease classification. Operating leases are included as operating lease ROU assets within Other long-term assets and lease liabilities within Other current liabilities and Other long-term liabilities on our Consolidated Balance Sheets. Finance leases are included as ROU finance leases within Property, plant, and equipment, net, and finance lease liabilities within Note payable and finance lease obligations and Long-term debt and finance lease obligations, net of current portion on our Consolidated Balance Sheets. Leases with an initial expected term of 12 months or less are considered short-term and are not recorded on our Consolidated Balance Sheets. The Company recognizes lease expense for these leases on a straight-line basis over the expected lease term.

ROU assets represent the Company's right to use an underlying asset for the lease term, and lease liabilities represent the obligation to make lease payments arising from the lease. ROU assets and liabilities are recognized at the commencement date based on the present value of minimum lease payments over the lease term. The lease term is modified to reflect options to extend or terminate the lease when it is reasonably certain we will exercise such option. The depreciable life of assets and leasehold improvements is limited by the expected lease term, unless there is a transfer of title or purchase option reasonably certain of exercise, in which case the depreciation policy in the "Property, Plant and Equipment, net" section above is applicable. The periodic lease payments are treated as payments of the lease obligation and interest is recorded as interest expense.

Deferred Financing Costs

Lender and other third-party costs associated with debt issuances are deferred and amortized to interest expense and other financing costs using the effective-interest method over the life of the debt. Deferred financing costs related to line-of-credit arrangements are amortized using the straight-line method through the maturity date of the facility. The deferred financing costs are included net within Long-term debt and finance lease obligations, net of current portion and in Other long-term liabilities for the line-of-credit arrangements where no debt balance exists.

Impairment of Long-Lived Assets and Goodwill

Long-lived assets (excluding goodwill, intangible assets with indefinite lives, and deferred tax assets) are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future net cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated undiscounted future net cash flows, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds their fair value. Assets to be disposed of are reported at the lower of their carrying value or fair value less cost to sell.

Goodwill represents the excess of the cost of an acquired entity over the fair value of the assets acquired less liabilities assumed. Intangible assets are assets that lack physical substance (excluding financial assets). Goodwill acquired in a business combination and intangible assets with indefinite useful lives are not amortized, while intangible assets with finite useful lives are amortized. Goodwill and intangible assets not subject to amortization are tested for impairment annually or more frequently if events or changes in circumstances indicate the asset might be impaired. The Company uses November 1 of each year as its annual valuation date for its goodwill impairment test.

One of the reporting units associated with our Nitrogen Fertilizer Segment's Coffeyville, Kansas facility (the "Coffeyville Facility") had a goodwill balance of $41 million at December 31, 2019. During the second quarter of 2020, following the completion of the spring planting season, the market pricing for ammonia and UAN, the Nitrogen Fertilizer Segment's two primary products, experienced significant pricing declines driven by updated market expectations around supply and demand fundamentals which were expected to continue into the second half of 2020. Additionally, significant uncertainty remained as to the nature and extent of impacts to be seen on the overall demand for corn and soybean given reduced ethanol production and broader economic conditions which may negatively impact demand. Therefore in connection with the preparation of the financial statements for the three months ended June 30, 2020, given the pricing declines experienced in the second quarter of 2020, further muting of our near-term economic recovery assumptions, and market price performance of CVR Partners' common units, the Company concluded an impairment indicator was present and a triggering event under ASC Topic 350, *Intangibles-Goodwill and Other*, had occurred as of June 30, 2020. Significant assumptions inherent in the valuation methodologies for goodwill are employed and include, but are not limited to, prospective financial information, growth rates, discount rates, inflationary factors, and cost of capital. Based on the interim quantitative analysis, it was determined that the estimated fair value of the Coffeyville Facility reporting unit did not exceed its carrying value. As a result, the Company recorded a full, non-cash impairment charge of $41 million during the year ended December 31, 2020.

As there is no goodwill balance at December 31, 2020, no annual impairment review was performed. The Company performed its annual impairment review of goodwill for 2019 and 2018 associated with CVR Partners' Coffeyville, Kansas Nitrogen Fertilizer (the "Coffeyville Fertilizer Facility") reporting unit and concluded there were no impairments. For the period ended December 31, 2019, no events or circumstances were identified which would trigger the performance of a quantitative analysis after reviewing all qualitative factors impacting the reporting unit including improved market conditions, financial results, and financial forecasts from those used in the fair value analysis at December 31, 2018. For the period ended December 31, 2018, the fair value of the Coffeyville Fertilizer Facility exceeded its carrying value by approximately 36% based upon the results of the reporting unit's goodwill impairment test.

Loss Contingencies

In the ordinary course of business, the Company may become party to lawsuits, administrative proceedings, and governmental investigations, including environmental, regulatory, and other matters. The outcome of these matters cannot always be predicted accurately, but the Company accrues liabilities for these matters if the Company has determined that it is probable a loss has been incurred and the loss can be reasonably estimated.

Environmental, Health & Safety ("EHS") Matters

The Petroleum and Nitrogen Fertilizer Segments are subject to various federal, state, and local environmental, health, and safety rules and regulations. Liabilities related to future remediation costs of past environmental contamination of properties are recognized when the related costs are considered probable and can be reasonably estimated. Estimates of these costs are based upon currently available facts, internal and third-party assessments of contamination, available remediation technology, site-specific costs, and currently enacted laws and regulations. In reporting environmental liabilities, no offset is made for potential recoveries. Loss contingency accruals, including those for environmental remediation, are subject to revision as further information develops or circumstances change and such accruals can take into account the legal liability of other parties. Management periodically reviews and, as appropriate, revises its environmental accruals. Environmental expenditures for capital assets are capitalized at the time of the expenditure when such costs provide future economic benefits.

Revenue Recognition

The Company recognizes revenue based on consideration specified in contracts or agreements with customers when performance obligations are satisfied by transferring control over products or services to a customer. The Company's revenue recognition patterns are described below by reportable segment.

- *Petroleum Segment* - The vast majority of Petroleum Segment contracts contain pricing that is based on the market price for the product at the time of delivery. Obligations to deliver product volumes are typically satisfied and revenue is recognized when control of the product transfers to customers. Concurrent with the transfer of control, the right to payment for the delivered product is received, the customer accepts the product, and the customer has significant risks and rewards of ownership of the product. Payment terms require customers to pay shortly after delivery and do not contain significant financing components. Any pass-through finished goods delivery costs reimbursed by customers are reported in Net sales, while an offsetting expense is included in Cost of materials and other. Non-monetary product exchanges and certain buy/sell transactions which are entered into in the normal course of business are included on a net cost basis in Cost of materials and other on the Consolidated Statements of Operations.

- *Nitrogen Fertilizer Segment* - Revenue is recognized based on consideration specified in contracts or agreements with customers when performance obligations are satisfied by transferring control over products or services to a customer. The adoption of ASC Topic 606, *Revenue from Contracts with Customers*, resulted in the recognition of deferred revenue and related receivables, on a gross basis, associated with contracts that guarantee a price and supply of nitrogen fertilizer products in quantities expected to be delivered in the normal course of business.

Other considerations - For both segments, excise and other taxes collected from customers and remitted to governmental authorities are excluded from reported revenues.

Cost Classifications

Cost of materials and other includes cost of crude oil, other feedstocks, blendstocks, purchased refined products, purchased ammonia, purchased hydrogen, pet coke expenses, Renewable Identification Number ("RIN") expenses, derivative gains or losses, and freight and distribution costs. Direct operating expenses (exclusive of depreciation and amortization) consist primarily of energy and other utility costs, direct costs of labor, including applicable share-based compensation expense, property taxes, plant-related maintenance services, including turnaround, and environmental and safety compliance costs, as well as catalyst and chemical costs. Selling, general and administrative expenses (exclusive of depreciation and amortization) consist primarily of labor and other direct expenses associated with the Company's corporate activities, including accounting, finance, information technology, human resources, legal, and other related administrative functions. For the Company's Nitrogen Fertilizer Segment, each of these financial statement line items are also impacted by changes in inventory balances.

Derivatives and Fair Value of Financial Instruments

The Petroleum Segment uses futures contracts, swaps, and forward contracts primarily to reduce exposure to changes in crude oil and finished goods product prices to provide economic hedges of inventory positions. These derivative instruments do not qualify as hedges for hedge accounting purposes under ASC Topic 815, *Derivatives and Hedging*, and accordingly are recorded at fair value at the end of each reporting period based on quoted market prices. The Nitrogen Fertilizer Segment may enter into forward contracts with fixed delivery prices to purchase portions of its natural gas requirements. These natural gas contracts are not treated as derivatives under normal purchase and normal sale exclusions. Accordingly, the fair value of these contracts are not recorded at the end of each reporting period. Refer to Note 8 ("Derivative Financial Instruments, Investments and Fair Value Measurements") for further discussion of the Company's derivative activity.

Other financial instruments consisting of cash and cash equivalents, restricted cash, accounts receivable, and accounts payable are carried at cost, which approximates fair value, as a result of the short-term nature of the instruments. Refer to Note 8 ("Derivative Financial Instruments, Investments and Fair Value Measurements") for further fair value disclosures.

Turnaround Expenses

Turnarounds represent major maintenance activities that require the shutdown of significant parts of a plant to perform necessary inspection, cleaning, repairs, and replacements of assets. Costs incurred for routine repairs and maintenance or unplanned outages at our facilities are expensed as incurred. Planned turnaround activities for the Petroleum Segment vary in frequency dependent on refinery units, but generally occur every four to five years, while the frequency of turnarounds in the Nitrogen Fertilizer Segment is every two to three years. Further details of each segment's turnaround expensing method are discussed below.

Petroleum Segment - Effective January 1, 2019, the Company revised its accounting policy method for the costs of planned major maintenance activities (turnarounds) specific to the Petroleum Segment from being expensed as incurred (the direct-expense method) to the deferral method. Under the deferral method, the costs of turnarounds are deferred and amortized on a straight-line basis over a four-year period of time, which represents the estimated time until the next turnaround occurs. The new method of accounting for turnarounds is considered preferable as it is more consistent with the accounting policy of our peer companies and better reflects the economic substance of the benefits earned from turnaround expenditures. The related Consolidated Statements of Operations, Consolidated Statements of Changes in Equity, and Consolidated Statements of Cash Flows for the year ended December 31, 2018 have been recast to reflect our new accounting policy. Turnaround costs, and related accumulated amortization, are included in the Consolidated Balance Sheets as Other long-term assets. The amortization expense related to turnaround costs is included in Depreciation and amortization in the Consolidated Statements of Operations. During the years ended December 31, 2020, 2019, and 2018, the Petroleum Segment capitalized $155 million, $38 million, and $8 million, respectively.

Nitrogen Fertilizer Segment - The Nitrogen Fertilizer Segment follows the direct-expense method of accounting for turnaround activities. Costs associated with these turnaround activities were included in Direct operating expenses (exclusive of depreciation and amortization) in the Consolidated Statements of Operations. During the years ended December 31, 2020, 2019, and 2018, the Nitrogen Fertilizer Segment incurred turnaround expenses of $1 million, $10 million, and $6 million, respectively.

The following presents the financial statement line items impacted by the Petroleum Segment turnaround accounting change for each of the periods presented within these consolidated financial statements.

Effect of Turnaround Accounting on Consolidated Statement of Operations and Consolidated Statement of Cash Flows for the Year Ended December 31, 2018

	Year Ended December 31, 2018		
(in millions)	As Previously Reported	Effect of Turnaround Accounting Change	As Stated
Consolidated Statement of Operations			
Direct operating expenses	$ 523	$ (6)	$ 517
Depreciation and amortization	202	61	263
Income tax expense (benefit)	89	(10)	79
Net income (loss)	$ 411	$ (45)	$ 366
Less: Net income (loss) attributable to noncontrolling interest	122	(15)	107
Net income (loss) attributable to CVR Energy stockholders	$ 289	$ (30)	$ 259
Consolidated Statement of Cash Flows			
Net cash provided by operating activities	$ 620	$ 8	$ 628
Net cash used by investing activities	$ (100)	$ (8)	$ (108)

Share-Based Compensation

The Company accounts for share-based compensation in accordance with ASC Topic 718, *Compensation — Stock Compensation* (“ASC 718”). Currently, all of the Company’s share-based compensation awards, including those issued by CVR Refining and CVR Partners, are liability-classified and are measured at fair value at the end of each reporting period based on the applicable closing unit price. Compensation expense will fluctuate based on changes in the applicable share or unit prices and expense reversals resulting from employee terminations prior to award vesting. Additionally, the Company has issued certain performance unit awards. The fair value of these performance unit awards is recognized as compensation expense only if the attainment of the performance conditions is considered probable. Uncertainties involved in this estimate include continued employment requirements and whether or not the performance conditions will be attained. The performance objectives are set in accordance with approved levels of the business plan for the fiscal year during the performance cycle and, therefore, are considered reasonably possible of being achieved. If this assumption proves not to be true and the awards do not vest, compensation expense recognized during the performance cycle will be reversed. See Note 9 (“Share-Based Compensation”) for further discussion.

Income Taxes

Income taxes are accounted for utilizing the asset and liability approach. Under this method, deferred tax assets and liabilities are recognized for the anticipated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis. Deferred amounts are measured using enacted tax rates expected to apply to taxable income in the year those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. In assessing the realizability of the deferred income tax assets, including net operating loss and state tax credit carryforwards, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred income tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred income tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. Further, the Company recognizes interest expense (income) and penalties on uncertain tax positions and income tax deficiencies (refunds) in Income tax (benefit) expense.

Earnings Per Share

There were no dilutive awards outstanding during the years ended December 31, 2020, 2019, and 2018.

Recent Accounting Pronouncements - Adoption of Credit Losses Standard

In June 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standard Update ("ASU") 2016-13, Financial Instruments - Credit Losses (Topic 326). The ASU replaces the incurred loss model with a current expected credit loss model for more timely recognition of expected impairment losses for most financial assets and certain other instruments that are not measured at fair value through net income. Effective January 1, 2020, we adopted this ASU with no material impact on the Company's consolidated financial position or results of operations.

Recent Accounting Pronouncements - Adoption of Fair Value Measurement Standard

In August 2018, the FASB issued ASU 2018-13, Fair Value Measurement (Topic 820). The ASU eliminates such disclosures as the amount of, and reasons for, transfers between Level 1 and Level 2 of the fair value hierarchy. Certain disclosures are required to be applied on a retrospective basis and others on a prospective basis. Effective January 1, 2020, we adopted this ASU with no material impact on the Company's disclosures.

Recent Accounting Pronouncements - New Accounting Standards Issued But Not Yet Implemented

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740). The ASU simplifies the accounting for income taxes by removing certain exceptions to the general principles in Topic 740 and modifies other areas of the topic to clarify the application of GAAP. Certain amendments within the standard are required to be applied on a retrospective basis and others on a prospective basis. This standard is effective for the Company beginning January 1, 2021, with early adoption permitted. The Company is evaluating the effect of adopting this new accounting guidance on its consolidated financial statements, but does not currently expect adoption will have a material impact on the Company's consolidated financial position or results of operations. The Company does not intend to early adopt this ASU.

In March 2020, the FASB issued ASU 2020-04, Reference Rate Reform (Topic 848). This ASU was issued because, by the end of 2021, banks will no longer be required to report information that is used to determine London Interbank Offered Rate ("LIBOR"), which is used globally by all types of entities. As a result, LIBOR could be discontinued, as well as other interest rates used globally. ASU 2020-04 provides companies with optional expedients for contract modifications under Topics 310, 470, 842, and 815-15, excluded components of certain hedging relationships, fair value hedges, and cash flow hedges, as well as certain exceptions, which are intended to help ease the potential accounting burden associated with transitioning away from these reference rates. Companies can apply the ASU immediately. However, the guidance will only be available for a limited time (generally through December 31, 2022). The Company is currently evaluating the impact that adopting this new accounting standard will have on its consolidated financial statements and related disclosures. or results of operations.

In October 2020, the FASB issued ASU 2020-10, Codification Improvements. The ASU amends various sections of the codification in the Boards ongoing efforts to simplify and improve guidance. This standard is effective for the Company beginning January 1, 2021, with early adoption permitted. The Company is evaluating the effect of adopting this new accounting guidance on its consolidated financial statements, but does not currently expect adoption will have a material impact on the Company's consolidated financial position or results of operations. The Company does not intend to early adopt this ASU.

(3) Equity Method Investments

For each of the following investments, CVR Refining has the ability to exercise influence through its participation in the management committees, which make all significant decisions. However, since CVR Refining has equal or proportionate influence over each committee as a joint partner without regard to its economic interest and does not serve as the day-to-day operator, we have determined that these entities should not be consolidated and have applied the equity method of accounting.

- *Enable South Central Pipeline, LLC* ("Enable JV", formerly Velocity Pipeline Partners, LLC) - CVR Refining owns a 40% interest in Enable JV, which operates a 12-inch 26-mile crude oil pipeline with a capacity of approximately 115,000 barrels per day that is connected to the Wynnewood Refinery. The remaining interest in Enable JV is owned by Enable Midstream Partners, LP.
- *Midway Pipeline, LLC* ("Midway JV") - CVR Refining owns a 50% interest in Midway JV, which operates a 16-inch 100-mile crude oil pipeline with a capacity of approximately 150,000 barrels per day which connects the Coffeyville Refinery to the Cushing Oklahoma oil hub.

(in millions)	Enable JV	Midway JV	Total
Balance at December 31, 2018	6	78	84
Cash Distributions	(4)	(9)	(13)
Equity income	4	6	10
Balance at December 31, 2019	6	75	81
Cash Distributions	**(4)**	**(6)**	**(10)**
Equity income	**4**	**5**	**9**
Balance at December 31, 2020	**$ 6**	**$ 74**	**$ 80**

(4) Leases

Lease Overview

We lease certain pipelines, storage tanks, railcars, office space, land, and equipment across our refining, fertilizer, and corporate operations. Most leases include one or more options to renew, with renewal terms that can extend the lease term from one to 20 years or more. The exercise of lease renewal options is at our sole discretion. Certain leases also include options to purchase the leased property. Certain of our lease agreements include rental payments which are adjusted periodically for factors such as inflation. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants. Additionally, we do not have any material lessor or sub-leasing arrangements.

Balance Sheet Summary as of December 31, 2020 and 2019

The following tables summarize the right of use asset and lease liability balances for the Company's operating and finance leases at December 31, 2020 and 2019:

	December 31,	
(in millions)	2020	2019
Operating Leases:		
ROU asset, net		
Pipeline and storage	**$ 15**	$ 20
Railcars	**8**	12
Real estate and other	**14**	16
Lease liability		
Pipelines and storage	**$ 16**	$ 22
Railcars	**8**	12
Real estate and other	**14**	14

	December 31,	
(in millions)	2020	2019
Finance Leases:		
ROU asset, net		
Pipeline and storage	**$ 26**	$ 29
Real estate and other	**21**	24
Lease liability		
Pipelines and storage	**$ 38**	$ 40
Real estate and other	**22**	25

Lease Expense Summary for the Year Ended December 31, 2020 and 2019

We recognize lease expense on a straight-line basis over the lease term. For the year ended December 31, 2020 and 2019, we recognized lease expense comprised of the following components:

	Year Ended December 31,	
(in millions)	2020	2019
Operating lease expense	**$ 17**	$ 12
Finance lease expense:		
Amortization of ROU asset	**$ 6**	$ 7
Interest expense on lease liability	**6**	6

Short-term lease expense, recognized within Direct operating expenses (exclusive of depreciation and amortization), was $8 million and $8 million for the year ended December 31, 2020 and 2019, respectively.

Lease Terms and Discount Rates

The following outlines the remaining lease terms and discount rates used in the measurement of the Company's ROU assets and liabilities:

	December 31,	
	2020	**2019**
Weighted-average remaining lease term (years)		
Operating Leases	**3.1**	3.7
Finance Leases	**8.1**	9.0
Weighted-average discount rate		
Operating Leases	**5.5 %**	5.6 %
Finance Leases	**9.0 %**	8.9 %

Maturities of Lease Liabilities

The following summarizes the remaining minimum lease payments through maturity of the Company's right-of-use assets and liabilities at December 31, 2020:

(in millions)	Operating Leases	Finance Leases
2021	**$ 16**	**$ 11**
2022	**12**	**11**
2023	**8**	**10**
2024	**5**	**10**
2025	**—**	**10**
Thereafter	**—**	**33**
Total lease payments	**41**	**85**
Less: imputed interest	**(3)**	**(25)**
Total lease liability	**$ 38**	**$ 60**

On July 31, 2020, Coffeyville Resources Nitrogen Fertilizers, LLC ("CRNF"), a subsidiary of CVR Partners, and Messer LLC ("Messer") entered into an On-Site Product Supply Agreement (the "Messer Agreement"). Under the Messer Agreement, among other obligations, Messer is obligated to supply and make certain capital improvements during the term of the Messer Agreement, and CRNF is obligated to take as available and pay for, oxygen, nitrogen, and compressed dry air from Messer's facility. This arrangement for CRNF's purchase of oxygen, nitrogen, and dry air from Messer does not meet the definition of a lease under FASB ASC Topic 842, *Leases*, ("Topic 842"), as CRNF does not expect to receive substantially all of the output of Messer's on-site production from its air separation unit over the life of the Messer Agreement. The Messer Agreement also obligates Messer to install a new oxygen storage vessel and related equipment to be used solely by the Coffeyville Facility. This arrangement for the use of the oxygen storage vessel and related equipment meets the definition of a lease under Topic 842, as CRNF will receive all output associated with the vessel. Based on terms outlined in the Messer Agreement, the Company expects the lease of the oxygen storage vessel to be classified as a financing lease with an amount between $20 and $25 million being capitalized upon lease commencement when the oxygen storage vessel is placed in service.

(5) Other Current Liabilities

Other current liabilities were as follows:

(in millions)	December 31, 2020	December 31, 2019
Accrued Renewable Fuel Standards ("RFS") obligation	**$ 214**	$ 7
Accrued taxes other than income taxes	**32**	28
Deferred revenue	**31**	28
Personnel accruals	**23**	47
Accrued interest	**25**	9
Accrued derivatives	**17**	7
Operating lease liabilities	**14**	14
Share-based compensation	**4**	6
Accrued income taxes	**—**	24
Other accrued expenses and liabilities	**9**	9
Total other current liabilities	**$ 369**	$ 179

(6) Long-Term Debt and Finance Lease Obligations

(in millions)	December 31, 2020	December 31, 2019
CVR Partners:		
9.25% Senior Secured Notes, due June 2023	**$ 645**	$ 645
6.50% Senior Notes, due April 2021, net of current portion (1)	**—**	2
Unamortized discount and debt issuance costs	**(11)**	(15)
Total CVR Partners debt	**$ 634**	$ 632
CVR Refining:		
6.50% Senior Notes, due November 2022 (2)	**$ —**	$ 500
Finance lease obligations, net of current portion (3)	**55**	61
Unamortized debt issuance cost	**—**	(3)
Total CVR Refining debt	**55**	558
CVR Energy:		
5.250% Senior Notes, due February 2025	**$ 600**	$ —
5.750% Senior Notes, due February 2028	**400**	—
Unamortized debt issuance cost	**(6)**	—
Total CVR Energy debt	**994**	—
Total long-term debt and finance lease obligations	**$ 1,683**	$ 1,190
Current portion of long-term debt and finance lease obligations (1)(3)	**8**	5
Total long-term debt and finance lease obligations, including current portion	**$ 1,691**	$ 1,195

(1) The 6.50% Senior Notes, due April 2021, mature within 12 months, and, therefore, the outstanding balance of $2 million has been classified as short-term as of December 31, 2020.
(2) On January 27, 2020, the Company redeemed all of the 6.50% Senior Notes, due November 2022 (the "2022 Notes") for a redemption price equal to 101.083%, plus accrued and unpaid interest on the redeemed notes.
(3) Current portion of finance lease obligations was approximately $6 million and $5 million as of December 31, 2020 and 2019, respectively.

Credit Agreements

(in millions)	Total Capacity	Amount Borrowed as of December 31, 2020	Outstanding Letters of Credit	Available Capacity as of December 31, 2020	Maturity Date
CVR Partners:					
Asset Based ("Nitrogen Fertilizer ABL") Credit Agreement (1)(2)	**$ 20**	**$ —**	**$ —**	**$ 20**	September 30, 2022
CVR Refining:					
Amended and Restated Asset Based ("Petroleum ABL") Credit Agreement (3)	**$ 400**	**$ —**	**$ 35**	**$ 365**	November 14, 2022

(1) Through December 31, 2020, loans under the Nitrogen Fertilizer ABL bear interest at an annual rate equal to (i) 1.00% plus a base rate. Thereafter, loans will bear interest (i) at such rates if our quarterly excess availability is greater than 50% and (ii) 1.50% plus a base rate, otherwise.
(2) The Nitrogen Fertilizer ABL was amended on September 29, 2020, to, among other things, reduce the commitments thereunder to $35 million and extended the maturity date to September 30, 2022. Deferred financing costs of less than $1 million were capitalized related to this amendment and will be amortized from Prepaid expenses and other current assets and Other long-term assets over the remaining term of Nitrogen Fertilizer ABL.
(3) Loans under the Petroleum ABL bear interest at an annual rate equal to (i) 0.50% plus a base rate, if our quarterly excess availability is greater than 50% and (ii) 0.75% plus a base rate, otherwise.

The Company is in compliance with all covenants of the Nitrogen Fertilizer ABL, Petroleum ABL, and the senior notes as of December 31, 2020.

CVR Partners

2023 Notes - On June 10, 2016, CVR Partners and CVR Nitrogen Finance Corporation ("CVR Nitrogen Finance"), an indirect wholly-owned subsidiary of CVR Partners (together the "2023 Notes Issuers"), certain subsidiary guarantors named therein and Wilmington Trust, National Association, as trustee and as collateral trustee, completed a private offering of $645 million aggregate principal amount of 9.25% Senior Secured Notes due 2023 (the "2023 Notes"). The 2023 Notes mature on June 15, 2023, unless earlier redeemed or repurchased by the issuers. Interest on the 2023 Notes is payable semi-annually in arrears on June 15 and December 15 of each year. The 2023 Notes are guaranteed on a senior secured basis by all of the Nitrogen Fertilizer Partnership's existing subsidiaries.

On or after June 15, 2019, the 2023 Notes Issuers may on any one or more occasions, redeem all or part of the 2023 Notes at the redemption prices set forth below expressed as a percentage of the principal amount of the 2023 Notes plus accrued and unpaid interest to the applicable redemption date.

12-month period beginning June 15,	Percentage
2020	102.313%
2021 and thereafter	100.000%

The 2023 Notes contain customary covenants for a financing of this type that, among other things, restrict CVR Partners' ability and the ability of certain of its subsidiaries to: (i) sell assets; (ii) pay distributions on, redeem or repurchase the Nitrogen Fertilizer Partnership's units or redeem or repurchase its subordinated debt; (iii) make investments; (iv) incur or guarantee additional indebtedness or issue preferred units; (v) create or incur certain liens; (vi) enter into agreements that restrict distributions or other payments from the CVR Partners' restricted subsidiaries to CVR Partners; (vii) consolidate, merge or transfer all or substantially all of the CVR Partners' assets; (viii) engage in transactions with affiliates; and (ix) create unrestricted subsidiaries. In addition, the indenture contains customary events of default, the occurrence of which would result in or permit the trustee or the holders of at least 25% of the 2023 Notes to cause the acceleration of the 2023 Notes, in addition to the pursuit of other available remedies.

Nitrogen Fertilizer ABL - On September 29, 2020, CVR Partners entered into Amendment No. 1 to the Nitrogen Fertilizer ABL with a group of lenders and UBS AG, Stamford Branch ("UBS"), as administrative agent and collateral agent. The Nitrogen Fertilizer ABL reduced its aggregate principal amount of availability from $50 million to $35 million, and extended the scheduled maturity to September 30, 2022. The amendment also removed from the borrowing base calculation the restricted cash and cash equivalent component and increased the advance rate for certain eligible inventory.

CVR Refining

2022 Notes - On October 23, 2012, CVR Refining, LLC ("Refining LLC") and Coffeyville Finance Inc. ("Coffeyville Finance") completed a private offering of $500 million aggregate principal amount of 6.50% Second Lien Senior Notes due 2022 (the "2022 Notes"). The 2022 Notes mature on November 1, 2022, unless earlier redeemed or repurchased by the issuers. Interest is payable on the 2022 Notes semi-annually on May 1 and November 1 of each year, commencing on May 1, 2013. The 2022 Notes are unsecured and fully and unconditionally guaranteed by CVI, CVR Refining and each of Refining LLC's existing domestic subsidiaries (other than the co-issuer, Coffeyville Finance) on a joint and several basis. CVR Refining has no independent assets or operations and Refining LLC is a 100% owned finance subsidiary of CVR Refining. On January 29, 2019, the Company, and certain of the Company's subsidiaries, executed a full and unconditional guarantee of the 2022 Notes.

On January 27, 2020, the Company redeemed all of the outstanding 2022 Notes and settled accrued interest of approximately $8 million through the date of redemption. The redeemed notes were repurchased for approximately $505 million, or 101.083% of par value. Previously deferred financing charges related to the 2022 Notes totaled approximately $3 million. As a result of this transaction, the Company will recognize a $8 million loss on extinguishment of debt in the first quarter of 2020, which includes the total premiums paid of $5 million and the write-off of previously deferred financing charges of $3 million.

Petroleum ABL - On November 14, 2017, CVR Services, CVR Refining, its wholly-owned subsidiary, CVR Refining, LLC ("Refining LLC") and each of the operating subsidiaries of Refining LLC (collectively, the "Credit Parties") entered into Amendment No. 1 to the Amended and Restated ABL Credit Agreement (the "Amendment") with a group of lenders and Wells Fargo Bank, National Association ("Wells Fargo"), as administrative agent and collateral agent. The Amended and Restated ABL is a $400 million asset-based revolving credit facility, with sub-limits for letters of credit and swingline loans of $60 million and $40 million, respectively. The Amended and Restated ABL also includes a $200 million uncommitted incremental facility.

CVR Energy

2025 Notes and 2028 Notes - On January 27, 2020, CVR Energy completed a private offering of $600 million aggregate principal amount of 5.25% Senior Unsecured Notes due 2025 (the "2025 Notes") and $400 million aggregate principal amount of 5.75% Senior Unsecured Notes due 2028 (the "2028 Notes" and, collectively with the 2025 Notes, the "Notes"). Interest on the Notes is payable semi-annually in arrears on February 15 and August 15 each year, commencing on August 15, 2020. The 2025 Notes mature on February 15, 2025, unless earlier redeemed or repurchased by the issuers. The 2028 Notes mature on February 15, 2028, unless earlier redeemed or repurchased by the issuers. The Notes are jointly and severally guaranteed on a senior unsecured basis by the wholly-owned subsidiaries of CVR Energy with the exception of CVR Partners and its subsidiaries and certain immaterial wholly-owned subsidiaries of CVR Energy.

In relation to the issuance of the Notes, the Company received $993 million of net cash proceeds, net of underwriting fees and other third-party fees and expenses associated with the offering. The debt issuance costs of the Notes totaled approximately $7 million and are being amortized over the terms of the respective notes as interest expense using the effective-interest amortization method.

On or after February 15, 2022 and February 15, 2023, we may on any one or more occasions, redeem all or part of the 2025 Notes and 2028 Notes, respectively, at the redemption prices set forth below expressed as a percentage of the principal amount of the respective notes, plus accrued and unpaid interest to the applicable redemption date.

2025 Notes		2028 Notes	
12-month period beginning February 15,	**Percentage**	**12-month period beginning February 15,**	**Percentage**
2022	102.625%	2023	102.875%
2023	101.313%	2024	101.917%
2024 and thereafter	100.000%	2025	100.958%
		2026 and thereafter	100.000%

The indenture governing the Notes imposes covenants that will, among other things, limit our ability and the ability of our restricted subsidiaries to: (i) incur additional indebtedness or issue certain disqualified equity; (ii) create liens on certain assets to secure debt; (iii) pay dividends or make other equity distributions; (iv) purchase or redeem capital stock; (v) make certain investments; (vi) sell assets; (vii) agree to certain restrictions on the ability of restricted subsidiaries to make distributions, loans, or other asset transfers to us; (viii) consolidate, merge, sell, or otherwise dispose of all or substantially all of our assets; (ix) engage in transactions with affiliates; and (x) designate our restricted subsidiaries as unrestricted subsidiaries. In addition, the indenture contains customary events of default, the occurrence of which would result in or permit the trustee or the holders of at least 25% of the 2025 Notes and 2028 Notes to cause, amongst other available remedies, the acceleration of the respective notes.

Credit Agreement - On January 29, 2019, the Company entered into a credit agreement (the "Credit Agreement") with Jefferies Finance LLC to provide a term loan credit facility with a maturity date of March 10, 2019. The borrowings under the Credit Agreement of $105 million were used to fund a portion of the CVRR Unit Purchase. All amounts were repaid on February 11, 2019. As the original maturity was less than three months from the issuance date, the borrowings and repayments under the credit agreement qualified for net reporting on the Consolidated Statements of Cash Flows.

(7) Revenue

The following tables present the Company's revenue disaggregated by major product, which include a reconciliation of the disaggregated revenue by product and other revenue components for the Company's reportable segments.

	Year Ended December 31, 2020			
(in millions)	Petroleum	Nitrogen Fertilizer	Other / Eliminations	Consolidated
Gasoline	$ 1,882	$ —	$ —	$ 1,882
Distillates (1)	1,543	—	—	1,543
Ammonia	—	94	—	94
UAN	—	198	—	198
Other urea products	—	15	—	15
Freight revenue	18	33	—	51
Other (2)	79	10	(6)	83
Revenue from product sales	3,522	350	(6)	3,866
Crude oil sales	63	—	—	63
Other revenue (2)	1	—	—	1
Total revenue	$ 3,586	$ 350	$ (6)	$ 3,930

	Year Ended December 31, 2019			
(in millions)	Petroleum	Nitrogen Fertilizer	Other / Eliminations	Consolidated
Gasoline	$ 3,050	$ —	$ —	$ 3,050
Distillates (1)	2,705	—	—	2,705
Ammonia	—	94	—	94
UAN	—	251	—	251
Other urea products	—	18	—	18
Freight revenue	23	33	—	56
Other (2)	129	8	(8)	129
Revenue from product sales	5,907	404	(8)	6,303
Crude oil sales	58	—	—	58
Other revenue (2)	3	—	—	3
Total revenue	$ 5,968	$ 404	$ (8)	$ 6,364

	Year Ended December 31, 2018			
(in millions)	Petroleum	Nitrogen Fertilizer	Other / Eliminations	Consolidated
Gasoline	$ 3,383	$ —	$ —	$ 3,383
Distillates (1)	3,083	—	—	3,083
Ammonia	—	66	—	66
UAN	—	222	—	222
Other urea products	—	21	—	21
Freight revenue	23	34	—	57
Other (2)	190	8	(7)	191
Revenue from product sales	6,679	351	(7)	7,023
Crude oil sales	96	—	—	96
Other revenue (2)	5	—	—	5
Total revenue	$ 6,780	$ 351	$ (7)	$ 7,124

(1) Distillates consist primarily of diesel fuel, kerosene, and jet fuel.
(2) Other revenue consists primarily of feedstock and asphalt sales and Cushing, OK storage tank lease revenue. See Note 2 ("Summary of Significant Accounting Policies") for further discussion on the Cushing, OK storage tanks.

Petroleum Segment

The Petroleum Segment's revenue from product sales is recorded upon delivery to customers, which is the point at which title is transferred and the customer has assumed the risk of loss. This generally takes place as product passes into the pipeline, as a product transfer order occurs within a pipeline system, or as product enters equipment or locations supplied or designated by the customer. Qualifying excise and other taxes collected from the Petroleum Segment's customers and remitted to governmental authorities are not included in reported revenues.

Many of the Petroleum Segment's contracts have index-based pricing which is considered variable consideration that should be estimated in determining the transaction price. The Petroleum Segment determined that it does not need to estimate the variable consideration because the uncertainty related to the consideration is resolved on the pricing date or the date when the product is delivered.

The Petroleum Segment may incur broker commissions or transportation costs prior to product transfer on some of its sales. The Petroleum Segment expenses these broker costs, since the contract durations are less than a year. Transportation costs are accounted for as fulfillment costs and are expensed as incurred since they do not meet the requirement for capitalization.

The Petroleum Segment's contracts with its customers state the terms of the sale, including the description, quantity, and price of each product sold. Depending on the product sold, payment from customers is generally due in full within 2 to 32 days of product delivery or invoice date. The Petroleum Segment generally provides no warranty other than the implicit promise that goods delivered are free of liens and encumbrances and meet the agreed upon specification. The Petroleum Segment has determined that product returns or refunds are very rare and will account for them as they occur.

Freight revenue recognized by the Petroleum Segment is primarily tariff and line loss charges rebilled to customers to reimburse the Petroleum Segment for expenses incurred from a pipeline operator. An offsetting expense is included in Cost of materials and other.

Nitrogen Fertilizer Segment

The Nitrogen Fertilizer Segment sells its products on a wholesale basis under a contract or by purchase order. The Nitrogen Fertilizer Segment's contracts with customers generally contain fixed pricing and most have terms of less than one year. The Nitrogen Fertilizer Segment recognizes revenue at the point in time at which the customer obtains control of the product, which is generally upon delivery and acceptance by the customer. The customer acceptance point is stated in the contract and may be at one of the Nitrogen Fertilizer Segment's manufacturing facilities, at one of the Nitrogen Fertilizer Segment's off-site loading facilities, or at the customer's designated facility. Freight revenue recognized by the Nitrogen Fertilizer Segment represents the pass-through finished goods delivery costs incurred prior to customer acceptance and is reimbursed by customers. An offsetting expense for freight is included in Cost of materials and other. Qualifying excise and other taxes collected from the Nitrogen Fertilizer Segment's customers and remitted to governmental authorities are not included in reported revenues.

Depending on the product sold and the type of contract, payments from customers are generally either due prior to delivery or within 15 to 30 days of product delivery.

The Nitrogen Fertilizer Segment generally provides no warranty other than the implicit promise that goods delivered are free of liens and encumbrances and meet the agreed upon specifications. Product returns are rare, and as such, the Nitrogen Fertilizer Segment does not record a specific warranty reserve or consider activities related to such warranty, if any, to be a separate performance obligation.

The Nitrogen Fertilizer Segment has an immaterial amount of variable consideration for contracts with an original duration of less than a year. A small portion of the Nitrogen Fertilizer Segment's revenue includes contracts extending beyond one year, some of which contain variable pricing in which the majority of the variability is attributed to the market-based pricing. The Nitrogen Fertilizer Segment's contracts do not contain a significant financing component.

The Nitrogen Fertilizer Segment has an immaterial amount of fee-based revenue, included in other revenue in the table above, that is recognized based on the net amount of the proceeds received, consistent with prior accounting practice.

Remaining Performance Obligations

As of December 31, 2020, the Nitrogen Fertilizer Segment had approximately $6 million of remaining performance obligations for contracts with an original expected duration of more than one year. The Nitrogen Fertilizer Segment expects to recognize approximately $3 million of these performance obligations as revenue by the end of 2021, an additional $2 million by 2022, and the remaining balance thereafter.

Contract Balances

The Nitrogen Fertilizer Segment's deferred revenue is a contract liability that primarily relates to nitrogen fertilizer sales contracts requiring customer prepayment prior to product delivery to guarantee a price and supply of nitrogen fertilizer. Deferred revenue is recorded at the point in time in which a prepaid contract is legally enforceable and the associated right to consideration is unconditional prior to transferring product to the customer. An associated receivable is recorded for uncollected prepaid contract amounts. Contracts requiring prepayment are generally short-term in nature and, as discussed above, revenue is recognized at the point in time in which the customer obtains control of the product.

A summary of the Nitrogen Fertilizer Segment's deferred revenue activity during the year ended December 31, 2020 is presented below:

(in millions)		
Balance at December 31, 2019	$	28
Add:		
New prepay contracts entered into during the period (1)		56
Less:		
Revenue recognized that was included in the contract liability balance at the beginning of the period		(27)
Revenue recognized related to contracts entered into during the period		(26)
Balance at December 31, 2020	$	31

(1) Includes $33 million where the payment associated with prepaid contracts was collected.

Major Customers

Petroleum Segment - The Petroleum Segment has two customers who comprised 26%, 25%, and 25% of petroleum net sales for the years ended December 31, 2020, 2019, and 2018, respectively.

Nitrogen Fertilizer Segment - The Nitrogen Fertilizer Segment has two customers who comprised 26%, 28%, and 20% of nitrogen fertilizer net sales for the years ended December 31, 2020, 2019, and 2018, respectively.

(8) Derivative Financial Instruments, Investments and Fair Value Measurements

Derivative Financial Instruments

Our segments are subject to price fluctuations caused by supply conditions, weather, economic conditions, interest rate fluctuations, and other factors. To manage price risk on crude oil and other inventories and to fix margins on certain future production, the Petroleum Segment from time to time enters into various commodity derivative transactions. On a regular basis, the Company enters into commodity contracts with counterparties for the purchases or sale of crude oil, blendstocks, various finished products, and RINs. The contracts usually qualify for the normal purchase normal sale exception and follow the accrual method of accounting. All other derivative instruments are recorded at fair value using mark-to-market accounting on a periodic basis utilizing third-party pricing.

The Petroleum Segment holds derivative instruments, such as exchange-traded crude oil futures and over-the-counter forward swap agreements, which it believes provide an economic hedge on future transactions, but such instruments are not designated as hedges under GAAP. There are no premiums paid or received at inception of the derivative contracts or upon settlement. The Petroleum Segment may enter into forward purchase or sale contracts associated with RINs. As of December 31, 2020, the Petroleum Segment had open fixed-price commitments to purchase a net 13 million RINs.

Commodity derivatives include commodity swaps and forward purchase and sale commitments. There were 7 million outstanding commodity swap positions as of December 31, 2020 and no open commodity swaps in 2019. There were approximately 4 million and 3 million in forward purchase commitments as of December 31, 2020 and 2019, respectively, and 2 million and 1 million in forward sale commitments as of December 31, 2020 and 2019, respectively.

The following outlines the gains (losses) recognized on the Company's derivative activities, all of which are recorded in Cost of materials and other on the Consolidated Statements of Operations:

Gain (Loss) on Derivatives

	Year Ended December 31,		
(in millions)	2020	2019	2018
Forward purchases and sales contracts, net	$ 53	$ 20	$ 103
Commodity swap instruments	(8)	—	44
Futures contracts	10	(1)	(1)
Total gain (loss) on derivatives, net	$ 55	$ 19	$ 146

Offsetting Assets and Liabilities

The Company elected to offset the fair value amounts recognized for multiple derivative contracts executed with the same counterparty. These amounts are recognized as current assets and current liabilities within the Prepaid expenses and other current assets and Other current liabilities financial statement line items, respectively, in the Consolidated Balance Sheets as follows:

	Derivative Assets		Derivative Liabilities	
	December 31,		December 31,	
(in millions)	2020	2019	2020	2019
Commodity derivatives	$ 1	$ 3	$ (5)	$ (11)
Less: Counterparty netting	(1)	(3)	1	3
Total net fair value of derivatives	$ —	$ —	$ (4)	$ (8)

Investments

Investments consist of equity securities, which are reported at fair value in our Consolidated Balance Sheets. These investments are considered trading securities. Investment income from marketable securities consists of the following:

	Year Ended December 31,		
(in millions)	2020	2019	2018
Dividend income	$ 7	$ —	$ —
Unrealized gain	34	—	—
Investment income from marketable securities	$ 41	$ —	$ —

Fair Value Measurements

In accordance with FASB ASC Topic 820 — *Fair Value Measurements and Disclosures* ("Topic 820"), the Company utilizes the market approach to measure fair value for its financial assets and liabilities. The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets, liabilities, or a group of assets or liabilities, such as a business.

Topic 820 utilizes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The following is a brief description of those three levels:

- Level 1 — Quoted prices in active markets for identical assets or liabilities
- Level 2 — Other significant observable inputs (including quoted prices in active markets for similar assets or liabilities)
- Level 3 — Significant unobservable inputs (including the Company's own assumptions in determining the fair value)

The following table sets forth the assets and liabilities measured or disclosed at fair value on a recurring basis, by input level, as of December 31, 2020 and 2019:

(in millions)	December 31, 2020			
Location and Description	**Level 1**	**Level 2**	**Level 3**	**Total**
Prepaid expenses and other current assets (investments)	**$ 173**	**$ —**	**$ —**	**$ 173**
Total Assets	**$ 173**	**$ —**	**$ —**	**$ 173**
Current portion of long-term debt	**$ —**	**$ (2)**	**$ —**	**$ (2)**
Other current liabilities (commodity derivatives)	**—**	**(17)**	**—**	**(17)**
Other current liabilities (RFS obligation)	**—**	**(214)**	**—**	**(214)**
Long-term debt and finance lease obligations, net of current portion	**—**	**(1,604)**	**—**	**(1,604)**
Total Liabilities	**$ —**	**$ (1,837)**	**$ —**	**$ (1,837)**

(in millions)	December 31, 2019			
Location and Description	**Level 1**	**Level 2**	**Level 3**	**Total**
Other current liabilities (commodity derivatives)	$ —	$ (8)	$ —	$ (8)
Other current liabilities (RFS obligation)	—	(7)	—	(7)
Long-term debt and finance lease obligations, net of current portion	—	(1,180)	—	(1,180)
Total Liabilities	$ —	$ (1,195)	$ —	$ (1,195)

As of December 31, 2020 and 2019, the only financial assets and liabilities that are measured at fair value on a recurring basis are the Company's investments, derivative instruments, long-term debt, and the RFS obligation. The estimated fair value of cash equivalents, included amounts invested in short-term money market funds, and restricted cash approximate their carrying amounts. The Petroleum Segment's commodity derivative contracts and RFS obligation, which use fair value measurements and are valued using broker quoted market prices of similar instruments, are considered Level 2 inputs. The Company had no transfers of assets or liabilities between any of the above levels during the year ended December 31, 2020.

(9) Share-Based Compensation

Overview

CVR Energy, CVR Refining, and CVR Partners all have Long-Term Incentive Plans (collectively, the "LTIPs") which permit the granting of options, stock and unit appreciation rights, restricted shares, restricted stock units, phantom units, unit awards, substitute awards, other unit-based awards, cash awards, dividend and distribution equivalent rights, share awards, and performance awards (including performance share units, performance units, and performance-based restricted stock). Individuals who are eligible to receive awards and grants under the LTIPs include the employees, officers, and directors of the Company, CVR Refining, and CVR Partners. The Company had 6.8 million shares or units, as applicable, available for future grants under our plans at December 31, 2020.

Incentive and Phantom Unit Awards

Incentive and phantom unit awards have been granted to officers, employees, and directors (collectively, the "Share-Based Awards") under the LTIPs. As a result, Share-Based Awards that reflect the value and dividend or distributions of CVR Energy, CVR Refining, or CVR Partners, as applicable, have been granted and remain outstanding as of December 31, 2020. Each Share-Based Award and the related dividend or distribution equivalent right represents the right to receive, upon vesting, a cash payment equal to (i) the average fair market value of one share or unit, as applicable, in accordance with the award agreement, plus (ii) the per share or unit cash value of all dividends or distributions declared and paid, as applicable, from the grant date through the vesting date. The Share-Based Awards are generally graded-vesting awards, which vest over three years with one-third of the award vesting each year the grantee remains employed by the Company or its subsidiaries. Compensation expense is recognized ratably, based on service provided to the Company and its subsidiaries, with the amount recognized fluctuating as a result of the Share-Based Awards being re-measured to fair value at the end of each reporting period due to their liability-award classification.

A summary of activity for the Company's Share-Based Awards for the year ended December 31, 2020 is presented below:

	Shares or Units	Weighted-Average Grant-Date Fair Value (per share or unit)	Aggregate Intrinsic Value (in millions)
Non-vested at December 31, 2019	1,052,480	$ 32.55	$ 36
Granted	**2,036,383**	**15.12**	
Vested	**(508,031)**	**28.36**	
Forfeited	**(126,191)**	**31.65**	
Non-vested at December 31, 2020	**2,454,641**	**$ 19.01**	**$ 37**

Performance Unit Awards

Pursuant to an employment agreement with the Company's current chief executive officer, the Company entered into two performance award agreements on November 1, 2017. In connection with the performance period of January 1, 2018 to December 31, 2018, a performance award was granted with a target value of $1.5 million (the "2018 CEO Performance Award"). The payout of $1.9 million, paid in February 2019, under the 2018 CEO Performance Award was based on the Company's performance against certain safety, operating, and financial measures. Additionally, the Company entered into a performance award agreement (the "CEO Performance Award"). The CEO Performance Award represents the right to receive upon vesting, a cash payment equal to $10 million if the average closing price of the Company's common stock over the 30-trading day period from January 4, 2022 to February 15, 2022 is equal to or greater than $60 per share.

Compensation Expense

A summary of total share based compensation expense and unrecognized compensation expense related to the Share-Based Awards and the Company's performance awards, the amounts allocated to each of the Company's segments, and the amounts that were not allocated to segments during the years ended December 31, 2020, 2019, and 2018 is presented below:

	Expenses For the year ended December 31,			Unrecognized Expense At December 31, 2020	
(in millions)	2020	2019	2018	Amount	Weighted-Average Remaining Years
Share based awards					
Incentive Units	**$ 3**	$ 12	$ 4	**$ 26**	**2.9**
Phantom Units	**1**	5	8	**7**	**2.8**
Performance awards					
CEO Performance Award	**—**	—	2	**7**	**1.0**
2018 CEO Performance Award	**—**	—	2	**—**	**0.0**
Former CEO Performance Award	**—**	—	—	**—**	**0.0**
Total expense	**$ 4**	$ 17	$ 16	**$ 40**	

The total tax benefit recognized during the years ended December 31, 2020, 2019, and 2018 related to compensation expense was $1 million, $4 million and $4 million respectively. For the years ended December 31, 2020, 2019, and 2018, the Company paid cash of $8 million, $23 million, and $17 million, respectively, to settle liability-classified awards upon vesting.

Other Benefit Plans

The Company sponsors and administers two defined-contribution 401(k) plans, the CVR Energy 401(k) Plan and the CVR Energy 401(k) Plan for Represented Employees (the "Plans"), in which the Company's employees may participate. Participants in the Plans may elect to contribute a designated percentage of their eligible compensation in accordance with the Plans, subject to statutory limits. The Company provides a matching contribution of 100% of the first 6% of eligible compensation contributed by participants. Participants in both Plans are immediately vested in their individual contributions. The Plans provide for a three-year vesting schedule for the Company's matching contributions and contain a provision to count service with predecessor organizations. The Company's contributions under the Plans were approximately $10 million, $9 million, and $9 million for the years ended December 31, 2020, 2019, and 2018, respectively. Effective January 1, 2021, the matching contributions for the Plans have been suspended.

(10) Income Taxes

Tax Allocation Agreement

In August 2018, CVR Energy completed an exchange offer whereby public unitholders tendered a total of 21,625,106 CVR Refining common units in exchange for a total of 13,699,549 shares of CVR Energy common stock (the "CVRR Unit Exchange"). Prior to the CVRR Unit Exchange, CVR Energy was a member of the consolidated federal tax group of AEP, an affiliate of IEP, and party to a tax allocation agreement with AEP (the "Tax Allocation Agreement"). The Tax Allocation Agreement provided that AEP would pay all consolidated federal income taxes on behalf of the consolidated tax group. As a result, CVR Energy was required to make payments to AEP in an amount equal to the tax liability, if any, that it would have had paid if it were to file as a consolidated group separate and apart from AEP.

Following the CVRR Unit Exchange, IEP and affiliates' ownership of CVR Energy was reduced below 80% and, since that time, CVR Energy is no longer eligible to file as a member of the AEP consolidated federal income tax group. On August 2, 2018, CVR Energy became the parent of a new consolidated group for U.S. federal income tax purposes, filing and paying its federal income tax obligations directly to the IRS. Pursuant to the terms of the Tax Allocation Agreement, however, CVR Energy may be required to make payments in respect of taxes owed by AEP for periods prior to the exchange. Similar principles may apply for state or local income tax purposes where CVR Energy filed combined, consolidated or unitary tax returns with AEP. AEP's federal income tax return for the periods ended December 31, 2017 and 2018 are currently under examination by the IRS.

As of December 31, 2020 and 2019, the Company recognized a nominal payable for state income taxes due to AEP. The payable is recognized in Other current liabilities in the Consolidated Balance Sheets. As of December 31, 2020 and 2019, the Company's Consolidated Balance Sheets reflected a receivable of $44 million from and a payable of $20 million to, respectively, the IRS and certain state jurisdictions.

Income Tax (Benefit) Expense

Income tax (benefit) expense is comprised of the following:

	Year Ended December 31,		
(in millions)	**2020**	**2019**	**2018**
Current:			
Federal	**$ (63)**	$ 96	$ 31
State	**(5)**	5	(7)
Total current	**(68)**	101	24
Deferred:			
Federal	**(1)**	3	39
State	**(26)**	25	16
Total deferred	**(27)**	28	55
Total income tax (benefit) expense	**$ (95)**	$ 129	$ 79

The following is a reconciliation of total income tax (benefit) expense to income tax (benefit) expense computed by applying the statutory federal income tax rate to pretax (loss) income:

	Year Ended December 31,		
(in millions)	2020	2019	2018
Tax computed at federal statutory rate	**$ (87)**	$ 103	$ 94
State income taxes, net of federal tax benefit	**(18)**	29	12
State tax incentives, net of federal tax expense	**(7)**	(4)	(4)
Noncontrolling interest	**13**	4	(23)
Goodwill impairment	**3**	—	—
Other, net	**1**	(3)	—
Total income tax (benefit) expense	**$ (95)**	$ 129	$ 79

Deferred Tax Assets and Liabilities

The income tax effect of temporary differences that give rise to the Deferred income tax assets and Deferred income tax liabilities at December 31, 2020 and 2019 are as follows:

	December 31,	
(in millions)	2020	2019
Deferred income tax assets:		
Personnel accruals	**$ 2**	$ —
State tax credit carryforward, net	**20**	7
Net operating loss carryforward	**9**	—
Total gross deferred income tax assets	**31**	7
Deferred income tax liabilities:		
Unrealized gain	**(9)**	—
Investment in CVR Partners	**(67)**	(61)
Investment in CVR Refining	**(320)**	(341)
Other	**(3)**	(1)
Total gross deferred income tax liabilities	**(399)**	(403)
Net deferred income tax liabilities	**$ (368)**	$ (396)

Although realization is not assured, management believes that it is more likely than not that all of the deferred income tax assets will be realized, and therefore, no valuation allowance was recognized as of December 31, 2020 and 2019.

As of December 31, 2020, CVR Energy has state tax credits of approximately $30 million, which are available to reduce future state income taxes. These credits, if not used, will begin expiring in 2033.

Uncertain Tax Positions

A reconciliation of unrecognized tax benefits is as follows:

	Year Ended December 31,		
(in millions)	2020	2019	2018
Balance, beginning of year	**$ 22**	$ 23	$ 29
Decrease based on prior year tax position	**(2)**	—	—
Increase in current year tax positions	**—**	2	—
Reductions related to expirations from statute of limitations	**(3)**	(3)	(6)
Balance, end of year	**$ 17**	$ 22	$ 23

Included in the balance of unrecognized tax benefits as of December 31, 2020, 2019, and 2018 are $13 million, $15 million, and $18 million, respectively, of tax benefits that, if recognized, would affect the effective tax rate. Additionally, the Company reasonably believes that no unrecognized tax positions related to state income tax credits will be recognized by the end of 2021 as a result of the expiration of statute of limitations. Approximately $8 million and $10 million of unrecognized tax benefits were netted with Deferred income tax asset carryforwards as of December 31, 2020 and 2019, respectively. The remaining unrecognized tax benefits are included in Other long-term liabilities in the Consolidated Balance Sheets.

CVR Energy recognized nominal interest expense and $1 million liability for interest as of December 31, 2020, nominal interest benefit and nominal liability for interest as of December 31, 2019, and interest benefit of approximately $1 million and nominal liability for interest as of December 31, 2018. No penalties were recognized during 2020, 2019, or 2018.

At December 31, 2020, the Company's tax filings are generally open to examination in the United States for the tax years ended December 31, 2017 through December 31, 2019 and in various individual states for the tax years ended December 31, 2016 through December 31, 2019.

(11) Commitments and Contingencies

Supply Commitments

The minimum required payments for unconditional purchase obligations are as follows:

Year Ended December 31, (in millions)	Unconditional Purchase Obligations
2021	$ 127
2022	83
2023	81
2024	77
2025	73
Thereafter	325
	$ 766

Supply Commitments - The Company is a party to various supply agreements with both related and third parties which commit the Company to purchase minimum volumes of crude oil, hydrogen, oxygen, nitrogen, pet coke, and natural gas to run its facilities' operations. For the years ended December 31, 2020, 2019, and 2018, amounts purchased under these supply agreements totaled approximately $153 million, $167 million, and $214 million, respectively.

Crude Oil Supply Agreement

On August 31, 2012, an indirect, wholly-owned subsidiary of CVR Refining entered into an Amended and Restated Crude Oil Supply Agreement (as amended, the "Crude Oil Supply Agreement") with Vitol Inc. ("Vitol"). Under the Crude Oil Supply Agreement, Vitol supplies the Petroleum Segment with crude oil and intermediation logistics helping to reduce the amount of inventory held at a certain locations and mitigate crude oil pricing risk. Volumes contracted under the Crude Oil Supply Agreement, as a percentage of the total crude oil purchases (in barrels), was approximately 33%, 36% and 42% for the years ended December 31, 2020, 2019, and 2018, respectively. The Crude Oil Supply Agreement, which currently extends through December 31, 2021, automatically renews for successive one-year terms (each such term, a "Renewal Term") unless either party provides the other with notice of nonrenewal at least 180 days prior to expiration of any Renewal Term.

Contingencies

Call Option - In 2019, the Company, CVR Refining and its general partner, CVR Refining Holdings, IEP, and certain directors and affiliates were named in at least one of nine lawsuits filed in the Delaware Court of Chancery by purported former unitholders of CVR Refining, on behalf of themselves and an alleged class of similarly situated unitholders relating to the Company's exercise of the call option ("Call Option") under the CVR Refining Amended and Restated Agreement of Limited Partnership assigned to it by CVR Refining's general partner (the "Delaware Lawsuits"). The Delaware Lawsuits primarily allege breach of contract, tortious interference, and breach of the implied covenant of good faith and fair dealing and seek monetary damages and attorneys' fees, among other remedies. In January 2020, the court dismissed CVR Holdings and certain former directors of CVR Refining's general partner from the Delaware Lawsuits, though permitted some or all of the claims to proceed against each remaining defendant. On April 6, 2020, a lawsuit was filed in the United States District Court for the Southern District of New York against the Company, CVR Refining and its general partner, CVR Refining Holdings, IEP, and the Company's Chief Executive Officer by purported former unitholders of CVR Refining on behalf of themselves and an alleged class of similarly situated unitholders (the "New York Lawsuit" and together with the Delaware Lawsuits, the "Call Option Lawsuits") primarily alleging violations of Sections 10(b) and 20(a) of the Exchange Act and Rule 10b-5 thereunder and seeking monetary damages and attorney's fees, among other remedies. The Company believes the Call Option Lawsuits are without merit and intends to vigorously defend against them. Discovery is currently on-going. Accordingly, the Company cannot determine at this time the outcome of the Call Option Lawsuits, including whether such outcome would have a material impact on the Company's financial position, results of operations, or cash flows.

On January 27, 2021, a lawsuit was filed against the Company, CVR Refining and its general partner, CVR Refining Holdings, IEP, and certain directors and affiliates in the 434th Judicial District Court of Fort Bend County, Texas by their primary and excess insurers (the "Insurers") seeking a declaratory judgement determining that they owe no indemnity coverage for the Call Option Lawsuits in relation to insurance policies that have coverage limits of $50 million. The Company believes this lawsuit is without merit and intends to vigorously defend the claims against them. The lawsuit is in the early stages of litigation. Accordingly, the Company cannot determine at this time the outcome of the litigation, including whether the outcome of this matter would have a material impact on the Company's financial position, results of operations, or cash flows.

Wynnewood Small Refinery Exemption - During 2019, WRC intervened in a lawsuit filed by four ethanol and biofuels trade associations against the Environmental Protection Agency ("EPA"), claiming the EPA exceeded its authority in granting WRC's Wynnewood Refinery's 2017 small refinery exemption ("SRE") under the RFS program under the CAA, as well as the SREs of two other unrelated refineries. In January 2020, the 10th Circuit vacated the three SREs and remanded the matter to the EPA for further proceedings, holding, in part, that the "extension" language in the CAA requires a small refinery to have received an SRE continuously in every year since inception of the program to be eligible. After the 10th Circuit refused to rehear the case, WRC and others filed a petition for writ of certiorari in the Supreme Court of the United States (the "Supreme Court") on September 4, 2020, which was granted by the Supreme Court on January 8, 2021. The case is currently expected to be argued in April 2021. As it is not yet clear how the Supreme Court will rule, or what steps the EPA will take with respect to SREs, we cannot currently estimate the outcome, impact, or timing of resolution of this matter.

Environmental, Health, and Safety ("EHS") Matters

Clean Air Act Matter - On August 21, 2018, CRRM received a letter from the United States Department of Justice ("DOJ") on behalf of the EPA and KDHE alleging violations of the CAA and a 2012 Consent Decree (the "CD") between Coffeyville Resources Refining & Marketing, LLC ("CRRM"), the United States (on behalf of the EPA) and the Kansas Department of Health and Environment ("KDHE") at CRRM's Coffeyville refinery. In June 2020, a tolling agreement between the parties relating to such allegations expired, and the DOJ and KDHE sent demand letters relating to the allegations (the "Stipulated Claims") and seeking stipulated penalties. In February 2021, the DOJ and KDHE sent CRRM a statement of position under the CD regarding its demand for Stipulated Claims. As CRRM disputes most claims asserted by the government, in accordance with the CD, CRRM deposited funds into a commercial escrow account pending resolution of disputed claims. The escrowed funds are legally restricted for use and are included within Prepaid expenses and other current assets on the consolidated balance sheets. In December 2020, the DOJ and KDHE filed a supplement complaint in the United States District Court for the District of Kansas ("D. Kan") asserting nine counts for alleged violations of the Clean Air Act, the Kansas State Implementation Plan and Kansas law ("the Statutory Claims") and seeking civil penalties, injunctive and related relief. Negotiations relating to the Stipulated Claims and the Statutory Claims are ongoing and the Company cannot determine at this time the outcome of these matters, including whether such outcome, or any subsequent enforcement or litigation relating thereto would have a material impact on the Company's financial position, results of operations, or cash flows.

Renewable Fuel Standards - The Company's Petroleum Segment is subject to the RFS of the EPA that require refiners to either blend renewable fuels in with their transportation fuels or purchase renewable fuel credits, known as RINs, in lieu of blending. The Petroleum Segment is not able to blend the substantial majority of its transportation fuels and has to purchase RINs on the open market, and may have to obtain waiver credits for cellulosic biofuels from the EPA, in order to comply with the RFS.

The Company recognized an expense of approximately $190 million, $43 million, and $60 million for the years ended December 31, 2020, 2019, and 2018, respectively, for the Petroleum Segment's compliance with the RFS. The recognized amounts are included within Cost of materials and other in the Consolidated Statements of Operations and represent costs to comply with the RFS obligation through purchasing of RINs not otherwise reduced by blending of ethanol or biodiesel. At each reporting period, to the extent RINs purchased or generated through blending are less than the RFS obligation, the remaining obligation is marked-to-market using RIN market prices at period end. As of December 31, 2020 and 2019, the Petroleum Segment's RFS obligation was approximately $214 million and $7 million, respectively, which is recorded in Other current liabilities in the Consolidated Balance Sheets.

Environmental Remediation - As of December 31, 2020 and 2019, environmental accruals representing estimated costs for future remediation efforts at certain Petroleum Segment sites totaled approximately $11 million and $6 million, respectively. These amounts are reflected in Other current liabilities or Other long-term liabilities depending on when the Company expects to expend such amounts.

Wynnewood Refinery Incident - In October 2020, the 10th Circuit affirmed a 2019 decision of the Occupational Safety and Health Review Commission which (a) upheld citations issued by the Occupational Safety and Health Administration ("OSHA") to WRC in 2013 for violations of the OSHA arising from a September 2012 explosion in a boiler unit at the Wynnewood Refinery, but (b) found that such violations were not "repeat violations" under the OSHA. As a result of the decision, WRC is obligated to pay a penalty by March 2021, the amount of which is not material. In addition, WRC has been removed from the OSHA Severe Violators Enforcement Program.

(12) Business Segments

The Company has two operating segments: Petroleum and Nitrogen Fertilizer. These operating segments are also the Company's reportable segments. As discussed in Note 1 ("Organization and Nature of Business"), the Petroleum Segment is comprised entirely of the consolidated operations of CVR Refining and its subsidiaries, while the Nitrogen Fertilizer Segment is comprised entirely of the consolidated operations of CVR Partners and its subsidiaries. The other amounts reflect intercompany eliminations, corporate cash and cash equivalents, income tax activities, and other corporate activities that are not allocated to the operating segments. All operations of the segments are located within the United States.

The following tables summarize operating results, capital expenditures, and total asset information by segment:

	Year Ended December 31,		
(in millions)	**2020**	**2019**	**2018**
Net sales			
Petroleum	**$ 3,586**	$ 5,968	$ 6,780
Nitrogen Fertilizer	**350**	404	351
Other	**(6)**	(8)	(7)
Total	**$ 3,930**	$ 6,364	$ 7,124
Operating (loss) income			
Petroleum	**$ (281)**	$ 574	$ 544
Nitrogen Fertilizer	**(35)**	27	6
Other	**(17)**	(21)	(18)
Total	**(333)**	580	532
Interest expense, net	**(130)**	(102)	(102)
Investment income from marketable securities	**41**	—	—
Other income, net	**7**	13	15
(Loss) income before income taxes	**$ (415)**	$ 491	$ 445
Depreciation and amortization			
Petroleum	**$ 202**	$ 202	$ 196
Nitrogen Fertilizer	**76**	80	72
Other	**—**	5	6
Total	**$ 278**	$ 287	$ 274
Capital expenditures (1)			
Petroleum	**$ 90**	$ 89	$ 89
Nitrogen fertilizer	**16**	20	19
Other	**15**	5	3
Total	**$ 121**	$ 114	$ 111

The following table summarizes total assets by segment:

	December 31,	
(in millions)	**2020**	**2019**
Petroleum	**$ 2,991**	$ 3,187
Nitrogen Fertilizer	**1,033**	1,138
Other (2)	**(46)**	(420)
Total assets	**$ 3,978**	$ 3,905

(1) Capital expenditures are shown exclusive of capitalized turnaround expenditures.
(2) Includes elimination of intercompany assets and net cash proceeds from the Notes issued during the year ended December 31, 2020.

(13) Supplemental Cash Flow Information

Cash flows related to income taxes, interest, leases, and capital expenditures included in accounts payable were as follows:

	Year Ended December 31,		
(in millions)	2020	2019	2018
Supplemental disclosures:			
Cash (received for income taxes, net of payments) paid for income taxes, net of refunds	**$ (2)**	$ 69	$ 31
Cash paid for interest	**113**	104	103
Cash paid for amounts included in the measurement of lease liabilities (1):			
Operating cash flows from operating leases	**17**	16	
Operating cash flows from finance leases	**6**	6	
Financing cash flows from finance leases	**5**	5	
Non-cash investing and financing activities:			
Change in construction in progress included in accounts payable (2)	**(3)**	(7)	9

(1) The lease standard was adopted on January 1, 2019 on a prospective basis. Therefore, only 2020 and 2019 disclosures are applicable to be included within the table above.
(2) Capital expenditures are shown exclusive of capitalized turnaround expenditures.

Cash, cash equivalents and restricted cash consisted of the following:

	December 31,	
(in millions)	2020	2019
Cash and cash equivalents	**$ 667**	$ 652
Restricted cash (3)	**7**	—
Cash, cash equivalents and restricted cash	**$ 674**	$ 652

(3) The restricted cash balance is included within Prepaid expenses and other current assets on the consolidated balance sheets.

(14) Related Party Transactions

Activity associated with the Company's related party arrangements for the years ended December 31, 2020, 2019, and 2018 is summarized below:

Expenses with related parties

	Year Ended December 31,		
(in millions)	2020	2019	2018
Cost of materials and other			
Joint Venture Transportation Agreement:			
Enable	**$ 11**	$ 12	$ 8
Payments (received) made			
Dividends (1)	**85**	218	179
Tax Allocation Agreement:			
AEP	**—**	(3)	12

(1) See below for a summary of the dividends paid to IEP for the years ended December 31, 2020, 2019, and 2018.

Enable Joint Venture Agreement

CVR Refining is party to a transportation agreement as part of the Enable JV for an initial term of 20 years under which Enable provides transportation services for crude oil purchased within a defined geographic area. Additionally, CVR Refining entered into a terminalling services agreement with Enable JV under which it receives access to Enable JV's terminal in Lawrence, Oklahoma to unload and pump crude oil into Enable JV's pipeline for an initial term of 20 years.

Midway Joint Venture

For the years ended December 31, 2020, 2019, and 2018, CRRM incurred costs of $17 million, $21 million, and $18 million, respectively, from crude oil transportation services incurred on the Midway JV through Vitol as the intermediary purchasing agent.

Agency Arrangement with IEP

On February 4, 2020, CVR Energy and Icahn Enterprises Holdings LP ("IEH"), a subsidiary of IEP, entered into an agency arrangement wherein IEH would act as the agent for CVR Energy. Under this arrangement, the Company invested approximately $140 million in certain marketable securities of Delek US Holdings, Inc. ("Delek") (NYSE ticker symbol: DK) and could make additional investments in Delek or invest in other public companies in the future under this arrangement. The Company reimbursed IEH for all costs associated with the initial purchase and did not incur any additional fees as part of this transaction.

Property Exchange

On October 18, 2019, the Conflicts Committee of the UAN GP Board and on October 22, 2019, the audit committee of the Board of Directors, each agreed to authorize the exchange of certain parcels of property owned by CRRM with an equal number of parcels owned by CRNF, all located in Coffeyville, Kansas (the "Property Exchange"). On February 19, 2020, CRRM and CRNF executed the Property Exchange agreement. This Property Exchange will enable each such subsidiary to create a more usable, contiguous parcel of land near its own operating footprint. This transaction resulted in no net impact on the Company's condensed consolidated financial statements.

Dividends to CVR Energy Stockholders

Dividends, if any, including the payment, amount and timing thereof, are subject to change at the discretion of the Board of Directors. IEP, through its ownership of the Company’s common shares, is entitled to receive dividends that are declared and paid by the Company based on the number of shares held at each record date. The following presents dividends paid to the Company's stockholders, including IEP, during the year ended December 31, 2020 (amounts presented in tables below may not add to totals presented due to rounding).

			Dividends Paid (in millions)		
Related Period	Date Paid	Dividend Per Share	Stockholders	IEP	Total
2019 - 4th Quarter	March 9, 2020	$ 0.80	$ 23	$ 57	$ 80
2020 - 1st Quarter	May 26, 2020	0.40	12	28	40
Total		$ 1.20	$ 35	$ 85	$ 121

No dividends were declared for the second, third and fourth quarters of 2020. During the years ended December 31, 2019 and 2018, the Company paid dividends totaling $3.05 and $2.50 per common share, or $306 million and $238 million, respectively. Of these dividends, IEP received $218 million and $179 million, respectively, for the same periods.

Distributions to CVR Partners’ Unitholders

Distributions, if any, including the payment, amount and timing thereof, are subject to change at the discretion of the UAN GP Board. There were no distributions declared or paid by CVR Partners during the year ended December 31, 2020 related to the fourth quarter of 2019 or the first, second, and third quarters of 2020, and no distributions were declared for the fourth quarter of 2020.

During the year ended December 31, 2019, the Partnership paid distributions totaling $4.00 per common unit on a split-adjusted basis, or $45 million. Of these distributions, CVR Energy received $16 million for the year ended December 31, 2019. The Partnership did not pay distributions during the year ended December 31, 2018.

Affiliate Pension Obligations

Prior to the exchange offer discussed in Note 1 (“Organization and Nature of Business”), Mr. Carl C. Icahn, through certain affiliates, owned approximately 82% of the Company’s capital stock. Applicable pension and tax laws make each member of a “controlled group” of entities, generally defined as entities in which there is at least an 80% common ownership interest, jointly and severally liable for certain pension plan obligations of any member of the controlled group. These pension obligations include ongoing contributions to fund the plan, as well as liability for any unfunded liabilities that may exist at the time the plan is terminated. As a result of the historical ownership interest in CVR Energy by Mr. Icahn’s affiliates (prior to the exchange offer), the Company was subject to the pension liabilities of all entities in which Mr. Icahn had a direct or indirect ownership interest of at least 80%. Two such entities, ACF Industries LLC (“ACF”) and Federal-Mogul, are the sponsors of several pension plans. As members of the controlled group, CVR Energy would be liable for any failure of ACF and Federal-Mogul to make ongoing pension contributions or to pay the unfunded liabilities upon a termination of their respective pension plans. The unfunded plan balances for these sponsors was $435 million as of June 30, 2018. These results are based on the information provided by Mr. Icahn’s affiliates based on information from the plans’ actuaries. As of December 31, 2020 and 2019, and following the exchange offer, Mr. Icahn’s affiliates owned approximately 71% of the Company’s capital stock, and therefore, the Company is no longer considered to be liable for the aforementioned pension obligations of the controlled group. On October 1, 2018, Federal-Mogul was sold by Mr. Icahn’s affiliates to a third-party.

Item 9. *Changes in and Disagreements with Accountants on Accounting and Financial Disclosure*

None.

Item 9A. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures

As of December 31, 2020, the Company has evaluated, under the direction of the Chief Executive Officer, Chief Financial Officer and Chief Accounting Officer, the effectiveness of our disclosure controls and procedures, as defined in Exchange Act Rule 13a-15(e). There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives. Based upon, and as of the date of that evaluation, the Company's Chief Executive Officer, Chief Financial Officer and Chief Accounting Officer concluded that disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed in the reports filed or submitted under the Exchange Act is accurately recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Such information is accumulated and communicated to the Company's management, including the Chief Executive Officer, Chief Financial Officer and Chief Accounting Officer, as appropriate, to allow accurate and timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Under the supervision and with the participation of management, we conducted an evaluation of the effectiveness of its internal control over financial reporting based on the framework in the 2013 *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on that evaluation, the Company's Chief Executive Officer, Chief Financial Officer and Chief Accounting Officer have concluded that internal control over financial reporting was effective as of December 31, 2020. The Company's independent registered public accounting firm, that audited the consolidated financial statements included herein under Item 8, has issued a report on the effectiveness of the Company's internal control over financial reporting. This report can be found under Item 8.

Changes in Internal Control Over Financial Reporting

There have been no changes in our internal controls over financial reporting required by Rule 13a-15 of the Exchange Act that occurred during the fiscal quarter ended December 31, 2020 that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. Despite many of our employees working in a remote environment due to the COVID-19 pandemic, we have not experienced any material impact to our internal controls over financial reporting. We are continually monitoring and assessing the COVID-19 pandemic to determine any potential impact on the design and operating effectiveness of our internal controls over financial reporting.

Item 9B. *Other Information*

On February 22, 2021, David Landreth, the Company's Executive Vice President and Chief Commercial Officer, announced his intent to retire from the Company effective March 26, 2021. In connection therewith, the Company and Mr. Landreth have entered into the Letter Agreement filed as exhibit 10.44 to this Annual Report on Form 10-K and incorporated herein, under which, provided Mr. Landreth (i) remains employed (and is not earlier terminated for Cause) through March 26, 2021, to assist in transition of his successor, and (ii) signs, returns and does not rescind a release agreement, Mr. Landreth would be entitled to receive a lump sum, less applicable deductions and withholdings, of $450,000.

PART III

Item 10. *Directors, Executive Officers and Corporate Governance*

The information required by Items 401, 405, 406, and 407(c)(3), (d)(4), and (d)(5) of Regulation S-K in response to this item will be set forth in our definitive proxy statement for our 2021 annual meeting of stockholders.

Item 11. *Executive Compensation*

The information required by Items 402 and 407(e)(4) and (e)(5) of Regulation S-K in response to this item will be set forth in our definitive proxy statement for our 2021 annual meeting of stockholders.

Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*

The equity compensation plan information required by Items 201(d) and the information required by Item 403 of Regulation S-K in response to this item will be set forth in our definitive proxy statement for our 2021 annual meeting of stockholders.

Item 13. *Certain Relationships and Related Transactions, and Director Independence*

The information required by Items 404 and 407(a) of Regulation S-K in response to this item will be set forth in our definitive proxy statement for our 2021 annual meeting of stockholders.

Item 14. *Principal Accounting Fees and Services*

The information required by Items 9(e) of Schedule 14A in response to this item will be set forth in our definitive proxy statement for our 2021 annual meeting of stockholders.

PART IV

Item 15. *Exhibits, Financial Statement Schedules*

(a)(1) Financial Statements - See Part II, Item 8 of this Annual Report on Form 10-K.

(a)(2) Financial Statement Schedules - All schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission (the "SEC") are not required under the related instructions or are inapplicable and therefore have been omitted.

(a)(3) Exhibits

Exhibit Number	Exhibit Description
2.1**	Transaction Agreement among CVR Energy, Inc., IEP Energy LLC and each of the other Offeror Parties (as defined therein) dated as of April 18, 2012 (incorporated by reference to Exhibit 2.1 to the Company's Form 8-K filed on April 23, 2012).
3.1**	Amended and Restated Certificate of Incorporation of CVR Energy, Inc. (incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed on June 15, 2018).
3.2**	Second Amended and Restated Bylaws of CVR Energy, Inc. (incorporated by reference to Exhibit 3.2 to the Company's Form 8-K filed on June 15, 2018).
4.1**	Description of Common Stock (incorporated by reference to Exhibit 4.1 to the Company's Form 10-K filed on February 20, 2020).
4.2**	Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1/A, File No. 333-137588, filed on June 5, 2007).
4.3**	Indenture, dated June 10, 2016, by and among CVR Partners, LP, CVR Nitrogen Finance Corporation, the Guarantors (as defined therein) and Wilmington Trust, National Association, as Trustee and Collateral Trustee (incorporated by reference to Exhibit 4.1 of the Form 8-K filed by CVR Partners, LP on June 16, 2016 (Commission File No. 001-35120)).
4.4**	Form of 9.250% Senior Secured Note due 2023 (included within the Indenture filed as Exhibit 4.4 and incorporated by reference to Exhibit 4.1 to the Form 8-K filed by CVR Partners, LP on June 16, 2016 (Commission File No. 001-35120)).
4.9**	Indenture, dated as of January 27, 2020, among CVR Energy, Inc., the guarantors named therein and Wells Fargo Bank, National Association, as Trustee (incorporated by reference to Exhibit 4.1 to the Form 8-K filed on January 27, 2020).
4.10**	Form of 5.250% Senior Notes due 2025 (incorporated by reference to Exhibit 4.2 to the Form 8-K filed on January 27, 2020).
4.11**	Form of 5.750% Senior Notes due 2028 (incorporated by reference to Exhibit 4.3 to the Form 8-K filed on January 27, 2020).
10.1**	Amended and Restated ABL Credit Agreement, dated as of December 20, 2012, among Coffeyville Resources, LLC, CVR Refining, LP, CVR Refining, LLC, Coffeyville Resources Refining & Marketing, LLC, Coffeyville Resources Pipeline, LLC, Coffeyville Resources Crude Transportation, LLC, Coffeyville Resources Terminal, LLC, Wynnewood Energy Company, LLC, Wynnewood Refining Company, LLC and certain of their affiliates, the lenders from time to time party thereto, Wells Fargo Bank, National Association, as collateral agent and administrative agent (incorporated by reference to Exhibit 1.1 to the Company's Form 8-K filed on December 27, 2012).
10.1.1**	Amendment No. 1 to Amended and Restated ABL Credit Agreement, dated November 14, 2017, by and among CVR Refining, LP, Coffeyville Finance Inc., CVR Refining, LLC, Coffeyville Resources Refining & Marketing, LLC, Coffeyville Resources Pipeline, LLC, Coffeyville Resources Crude Transportation, LLC, Coffeyville Resources Terminal, LLC, Wynnewood Energy Company, LLC, Wynnewood Refining Company, LLC, CVR Logistics, LLC, a group of lenders and Wells Fargo, National Association, as administrative agent and collateral agent (incorporated by reference as Exhibit 10.1 to the Form 8-K filed by CVR Refining, LP on November 17, 2017).

10.1.2**	Amendment No. 2 to Amended and Restated ABL Credit Agreement, dated as of December 23, 2019, and effective December 31, 2019, by and among CVR Refining, LP, Coffeyville Finance Inc., CVR Refining, LLC, Coffeyville Resources Refining & Marketing, LLC, Coffeyville Resources Pipeline, LLC, Coffeyville Resources Crude Transportation, LLC, Coffeyville Resources Terminal, LLC, Wynnewood Energy Company, LLC, Wynnewood Refining Company, LLC, CVR Logistics, LLC, a group of lenders and Wells Fargo Bank, National Association, as collateral agent and administrative agent (incorporated by reference to Exhibit 10.1.2 to the Company's Form 10-K filed on February 20, 2020).
10.2**	Amended and Restated ABL Pledge and Security Agreement, dated as of December 20, 2012, among CVR Refining, LP, CVR Refining, LLC, Coffeyville Resources Refining & Marketing, LLC, Coffeyville Resources Pipeline, LLC, Coffeyville Resources Crude Transportation, LLC, Coffeyville Resources Terminal, LLC, Wynnewood Energy Company, LLC, Wynnewood Refining Company, LLC and certain of their affiliates, and Wells Fargo Bank, National Association, as collateral agent (incorporated by reference to Exhibit 1.2 to the Company's Form 8-K filed on December 27, 2012).
10.4**	Master Service Agreement among Coffeyville Resources Refining & Marketing, LLC and Coffeyville Resources Nitrogen Fertilizers, LLC, dated February 19, 2020 (incorporated by reference to Exhibit 10.4 to the Company's Form 10-K filed on February 20, 2020).
10.5**	Master Service Agreement among CVR Services, LLC and subsidiaries of CVR Energy, dated February 19, 2020 (incorporated by reference to Exhibit 10.5 to the Company's Form 10-K filed on February 20, 2020).
10.6**	Purchase Agreement, by and among CVR Energy, Inc., American Entertainment Properties Corp., and Icahn Enterprises Holdings L.P. (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on January 17, 2019).
10.7**	Amended and Restated Crude Oil Supply Agreement, dated August 31, 2012, by and between Vitol Inc. and Coffeyville Resources Refining & Marketing, LLC (incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed on November 6, 2012) (Certain portions of this exhibit have been omitted and separately filed with the SEC pursuant to a request for confidential treatment which has been granted by the SEC).
10.7.1**	First Amendment to Amended and Restated Crude Oil Supply Agreement, dated as of June 8, 2015, by and between Vitol Inc. and Coffeyville Resources Refining & Marketing, LLC (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on July 30, 2015).
10.8**+	Employment Agreement, dated as of November 1, 2017, by and between CVR Energy, Inc. and David L. Lamp (incorporated by reference as Exhibit 10.20 to the Form 10-K filed by CVR Partners, LP on February 23, 2018 (Commission File No. 001-35120)).
10.9**+	Performance Unit Award Agreement, dated as of November 1, 2017, by and between CVR Energy, Inc. and David L. Lamp (incorporated by reference as Exhibit 10.22 to the Form 10-K filed by CVR Partners, LP on February 23, 2018 (Commission File No. 001-35120)).
10.10**	Second Amended and Restated Agreement of Limited Partnership of CVR Partners, LP, dated April 13, 2011 (incorporated by reference to Exhibit 10.7 to the Company's Form 8-K/A filed on May 23, 2011).
10.11**	Amended and Restated Contribution, Conveyance and Assumption Agreement, dated as of April 7, 2011, among Coffeyville Resources, LLC, CVR GP, LLC, Coffeyville Acquisition III LLC, CVR Special GP, LLC and CVR Partners, LP (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K/A filed on May 23, 2011).
10.12**	Environmental Agreement, dated as of October 25, 2007, by and between Coffeyville Resources Refining & Marketing, LLC and Coffeyville Resources Nitrogen Fertilizers, LLC (incorporated by reference to Exhibit 10.7 to the Company's Form 10-Q filed on December 6, 2007).
10.12.1**	Supplement to Environmental Agreement, dated as of February 15, 2008, by and between Coffeyville Resources Refining and Marketing, LLC and Coffeyville Resources Nitrogen Fertilizers, LLC (incorporated by reference to Exhibit 10.17.1 to the Company's Form 10-K filed on March 28, 2008).
10.12.2**	Second Supplement to Environmental Agreement, dated as of July 23, 2008, by and between Coffeyville Resources Refining and Marketing, LLC and Coffeyville Resources Nitrogen Fertilizers, LLC (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on August 14, 2008).
10.16**	Amended and Restated Omnibus Agreement, dated as of April 13, 2011, among CVR Energy, Inc., CVR GP, LLC and CVR Partners, LP (incorporated by reference to Exhibit 10.2 to the Company's Form 8-K/A filed on May 23, 2011).

10.21**	Lease and Operating Agreement, dated as of May 4, 2012, by and between Coffeyville Resources Terminal, LLC and Coffeyville Resources Nitrogen Fertilizers, LLC (incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed on August 2, 2012).
10.22**	Form of Indemnification Agreement (incorporated by reference to Exhibit 10.49 to the Company's Form 10-K for the year ended December 31, 2008, filed on March 13, 2009).
10.23**+	Amended and Restated CVR Energy, Inc. 2007 Long Term Incentive Plan, dated as of December 26, 2013 (incorporated by reference to Exhibit 10.32 to the Company's Form 10-K filed on February 26, 2014).
10.24**+	Form of Incentive Unit Agreement (incorporated by reference to Exhibit 10.30.7 to the Company's Form 10-K filed on February 21, 2018.)
10.25**+	Form of CVR Energy, Inc. Incentive Unit Agreement (incorporated by reference to Exhibit 10.31 to the Company's Form 10-K filed on February 21, 2019).
10.25.1**+	Form CVR Energy, Inc. Incentive Unit Agreement (Executive) (incorporated by reference to Exhibit 10.31.1 to the Company's Form 10-K filed on February 21, 2019).
10.26**+	CVR Energy, Inc. Change in Control and Severance Plan (incorporated by reference to Exhibit 10.1 of CVR Energy, Inc.'s Form 10-Q filed on October 25, 2018).
10.27**+	CVR Energy, Inc. Performance-Based Bonus Plan, approved March 19, 2019 (incorporated by reference to Exhibit 10.1 to the Form 10-Q filed on April 25, 2019).
10.28**+	CVR Partners, LP Performance-Based Bonus Plan, approved March 19, 2019 (incorporated by reference to Exhibit 10.2 to the Form 10-Q filed on April 25, 2019).
10.29**+	CVR Refining, LP Performance-Based Bonus Plan, approved March 19, 2019 (incorporated by reference to Exhibit 10.3 to the Form 10-Q filed on April 25, 2019).
10.30**+	CVR Partners, LP Long-Term Incentive Plan (adopted March 16, 2011) (incorporated by reference to Exhibit 10.1 to the Form S-8 filed by CVR Partners, LP on April 12, 2011).
10.30.1**+	Form of CVR Partners, LP Long-Term Incentive Plan Employee Phantom Unit Agreement (incorporated by reference to Exhibit 10.38.3 to the Company's Form 10-K filed on February 20, 2015).
10.30.2**+	Form of CVR Partners, LP Long-Term Incentive Plan Employee Phantom Unit Agreement (Executive) (incorporated by reference to Exhibit 10.30.2 to the Company's Form 10-K filed on February 20, 2020).
10.30.3**+	Form of CVR Partners, LP Long-Term Incentive Plan Employee Phantom Unit Agreement (incorporated by reference to Exhibit 10.30.3 to the Company's Form 10-K filed on February 20, 2020).
10.31**+	CVR Refining, LP Long-Term Incentive Plan (incorporated by reference to Exhibit 10.2 to the Form 8-K filed by CVR Partners, LP on January 23, 2013 (Commission File No. 001-35781)).
10.31.1**+	Form of CVR Refining, LP Long-Term Incentive Plan Employee Phantom Unit Agreement (incorporated by reference to Exhibit 10.44.2 to the Company's Form 10-K filed on February 20, 2015).
10.32**	Registration Rights Agreement, dated as of August 9, 2015, by and among CVR Partners, Coffeyville Resources, LLC, Rentech Nitrogen Holdings, Inc., and DSHC, LLC (incorporated by reference to Exhibit 4.1 to the Form 8-K filed by CVR Partners, LP on August 13, 2015 (Commission File No. 001-35120)).
10.33**	Collateral Trust Agreement, dated as of June 10, 2016, among CVR Partners, LP, CVR Nitrogen Finance Corporation, the Guarantors (as defined therein) and Wilmington Trust, National Association, as Trustee and Collateral Trustee (incorporated by reference to Exhibit 10.1 of the Form 8-K filed by CVR Partners, LP on June 16, 2016 (Commission File No. 001-35120)).
10.34**	Parity Lien Security Agreement, dated as of June 10, 2016, among CVR Partners, LP, CVR Nitrogen Finance Corporation, the Guarantors (as defined therein) and Wilmington Trust, National Association, as Trustee and Collateral Trustee(incorporated by reference to Exhibit 10.2 of the Form 8-K filed by CVR Partners, LP on June 16, 2016 (Commission File No. 001-35120)).

10.35**	ABL Credit Agreement, dated as of September 30, 2016, among CVR Partners, LP, CVR Nitrogen, LP, East Dubuque Nitrogen Fertilizers, LLC, Coffeyville Resources Nitrogen Fertilizers, LLC, CVR Nitrogen Holdings, LLC, CVR Nitrogen Finance Corporation, CVR Nitrogen GP, LLC, certain of their affiliates from time to time party thereto, the lenders from time to time party thereto, UBS AG, Stamford Branch, as administrative agent and collateral agent (incorporated by reference to Exhibit 10.1 of the Form 8-K filed by CVR Partners, LP on October 6, 2016 (Commission File No. 001-35120)).
10.36**	Security Agreement, dated as of September 30, 2016, among CVR Partners, LP, CVR Nitrogen, LP, East Dubuque Nitrogen Fertilizers, LLC, Coffeyville Resources Nitrogen Fertilizers, LLC, CVR Nitrogen Holdings, LLC, CVR Nitrogen Finance Corporation, CVR Nitrogen GP, LLC, certain of their affiliates from time to time party thereto, and UBS AG, Stamford Branch, as administrative agent and collateral agent (incorporated by reference to Exhibit 10.2 of the Form 8-K filed by CVR Partners, LP on October 6, 2016 (Commission File No. 001-35120)).
10.37**	Intercreditor Agreement, dated as of September 30, 2016, among CVR Partners, LP, CVR Nitrogen, LP, East Dubuque Nitrogen Fertilizers, LLC, Coffeyville Resources Nitrogen Fertilizers, LLC, CVR Nitrogen Holdings, LLC, CVR Nitrogen Finance Corporation, CVR Nitrogen GP, LLC, certain of their affiliates from time to time party thereto, UBS AG, Stamford Branch, as administrative agent and collateral agent for the secured parties, Wilmington Trust, National Association, as trustee and collateral trustee for the secured parties in respect of the outstanding senior secured notes and other parity lien obligations and other parity lien representative from time to time party thereto (incorporated by reference to Exhibit 10.3 of the Form 8-K filed by CVR Partners, LP on October 6, 2016 (Commission File No. 001-35120)).
10.38**+	CVR Energy, Inc. 2020 Performance-Based Bonus Plan, approved February 19, 2020 (incorporated by reference to Exhibit 10.38 to the Company's Form 10-K filed on February 20, 2020).
10.39**+	CVR Partners, LP 2020 Performance-Based Bonus Plan, approved February 19, 2020 (incorporated by reference to Exhibit 10.39 to the Company's Form 10-K filed on February 20, 2020).
10.40**+	CVR Refining, LP 2020 Performance-Based Bonus Plan, approved February 19, 2020 (incorporated by reference to Exhibit 10.40 to the Company's Form 10-K filed on February 20, 2020).
10.41*+	CVR Energy, Inc. 2021 Performance-Based Bonus Plan, approved February 19, 2021.
10.42*+	CVR Partners, LP 2021 Performance-Based Bonus Plan, approved February 19, 2021.
10.43*+	CVR Refining, LP 2021 Performance-Based Bonus Plan, approved February 19, 2021.
10.44*+	Letter Agreement, dated as of February 22, 2021, by and between CVR Services, LLC and David L. Landreth.
21.1*	List of Subsidiaries of CVR Energy, Inc.
23.1*	Consent of Grant Thornton LLP.
31.1*	Rule 13a-14(a)/15d-14(a) Certification of President and Chief Executive Officer.
31.2*	Rule 13a-14(a)/15d-14(a) Certification of Executive Vice President, Chief Financial Officer
31.3*	Rule 13a-14(a)/15d-14(a) Certification of Chief Accounting Officer and Corporate Controller
32.1†	Section 1350 Certification of President and Chief Executive Officer and Executive Vice President, Chief Financial Officer, and Chief Accounting Officer and Corporate Controller
101*	The following financial information for CVR Energy, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2020, formatted in XBRL ("Extensible Business Reporting Language") includes: (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Operations, (iii) Consolidated Statements of Comprehensive Income, (iv) Consolidated Statements of Changes in Equity, (v) Consolidated Statements of Cash Flows, and (vi) the Notes to Consolidated Financial Statements, tagged in detail. The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
104*	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).

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* Filed herewith.

** Previously filed.

† Furnished herewith.

\+ Denotes management contract or compensatory plan or arrangement.

PLEASE NOTE: Pursuant to the rules and regulations of the SEC, we may file or incorporate by reference agreements as exhibits to the reports that we file with or furnish to the SEC. The agreements are filed to provide investors with information regarding their respective terms. The agreements are not intended to provide any other factual information about the Company or its business or operations. In particular, the assertions embodied in any representations, warranties and covenants contained in the agreements may be subject to qualifications with respect to knowledge and materiality different from those applicable to investors and may be qualified by information in confidential disclosure schedules not included with the exhibits. These disclosure schedules may contain information that modifies, qualifies and creates exceptions to the representations, warranties and covenants set forth in the agreements. Moreover, certain representations, warranties and covenants in the agreements may have been used for the purpose of allocating risk between the parties, rather than establishing matters as facts. In addition, information concerning the subject matter of the representations, warranties and covenants may have changed after the date of the respective agreement, which subsequent information may or may not be fully reflected in the Company's public disclosures. Accordingly, investors should not rely on the representations, warranties and covenants in the agreements as characterizations of the actual state of facts about the Company or its business or operations on the date hereof.

Item 16. *Form 10-K Summary*

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

CVR Energy, Inc.

By: /s/ DAVID L. LAMP
David L. Lamp
President and Chief Executive Officer

Date: February 23, 2021

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report had been signed below by the following persons on behalf of the registrant and in the capacity and on the dates indicated.

Signature	Title	Date
/s/ DAVID L. LAMP David L. Lamp	President, Chief Executive Officer, and Director (Principal Executive Officer)	February 23, 2021
/s/ TRACY D. JACKSON Tracy D. Jackson	Executive Vice President, Chief Financial Officer (Principal Financial Officer)	February 23, 2021
/s/ MATTHEW W. BLEY Matthew W. Bley	Chief Accounting Officer and Corporate Controller (Principal Accounting Officer)	February 23, 2021
/s/ SUNGHWAN CHO SungHwan Cho	Chairman of the Board of Directors	February 23, 2021
/s/ JAFFERY A. FIRESTONE Jaffery A. Firestone	Director	February 23, 2021
/s/ JONATHAN FRATES Jonathan Frates	Director	February 23, 2021
/s/ STEPHEN MONGILLO Stephen Mongillo	Director	February 23, 2021
/s/ PATRICIA AGNELLO Patricia Agnello	Director	February 23, 2021
/s/ HUNTER C. GARY Hunter C. Gary	Director	February 23, 2021
/s/ JAMES M. STROCK James M. Strock	Director	February 23, 2021

Exhibit 10.41

CVR Energy, Inc. 2021
Performance-Based Bonus Plan

Philosophy / Background
CVR Energy, Inc. (the “Company”) is committed to wages and benefits that are competitive with a market-based, pay-for-performance compensation philosophy, providing such base pay, bonus and long-term incentive awards in line with those of the refining and fertilizer industries. This Performance-Based Bonus Plan (the “Plan”) is intended to reward high performance employees, and to retain these employees in critical roles, through the issuance of bonus awards (each, a “Bonus”).

Administration
The Plan is maintained and administered by, or under the direction of, the Compensation Committee (the "Compensation Committee") of the board of directors (the “Board”) of the Company with respect to, and references to “employee” herein relate only to, eligible employees or officers of the Company and its subsidiaries, excluding any employees of (or individuals solely subject to the bonus plans of) CVR Refining, LP (“CVRR”), CVR Partners, LP (“UAN”), their respective general partners and their respective subsidiaries.

The Compensation Committee shall annually approve all salaries, targets and bonus metrics for employees in Grade E14 and above, and shall annually approve a total bonus pool for employees in Grade E13 and below. The Compensation Committee delegates to the Chief Executive the authority to approve payouts from such total bonus pool to employees in Grade E13 and below, in his sole discretion. The Chief Executive shall also be responsible for assigning salaries, bonus targets, and Grade levels to employees in Grade 13 and below.

In the event of a claim or dispute brought forth by any employee with a Grade level of E13 or below, the decision of the Chief Executive as to the facts in the case and the meaning and intent of any provision of the Plan, or its application, shall be final, binding, and conclusive. In the event of a claim or dispute brought forth by any employee with a Grade level of E14 or above, the decision of the Compensation Committee as to the facts in the case and the meaning and intent of any provision of the Plan, or its application, shall be final, binding, and conclusive.

The Plan described herein does not create a contractual obligation on the part of the Company. The Company expressly reserves the right to modify, discontinue, or otherwise change the Plan outlined in this document at the sole and absolute discretion of the Company without advance notice.

Introduction
The purpose of the Plan and any Bonus to be paid hereunder is to enhance the Company’s ability to attract, motivate, reward and retain employees, and to strengthen their commitment to the success of the Company.

Eligibility and Administration
Bonuses are made based on the applicable calendar year during which the employees performed the services and are generally paid (to the extent payable) after the financials have been audited and within 90 days of the end of the calendar year (the “Performance Period” or “Period”).

Generally, only exempt, non-exempt and non-union hourly employees are eligible to receive a Bonus, provided that, to receive a Bonus, an employee must: (i) be actively employed with the Company for at least 180 days during the calendar year; (ii) consistently perform at or above expectations for their role; (iii) be actively employed on the date of payout and not on a performance improvement plan or in

corrective or disciplinary action status as a result of poor performance during the Performance Period. Employees hired prior to October 1 during the Performance Period will be eligible to receive a Bonus provided the above requirements (ii) and (iii) are met.

Subject to annual review, Bonuses are computed in accordance with each eligible employee's Grade (as shown in Appendix A), prorated for time in an eligible position, as well as a performance multiplier of zero to 150 percent, based on performance against the achievement of the allocated Company and individual performance measures described herein. Appendices A-E present: the overall compensation structure (Appendix A), example calculations (Appendices B, C), eligibility (Appendix D) and bonus payout measures (Appendix E). The Individual Performance Multiplier component of a Bonus, if any, is entirely discretionary.

In addition, if the Adjusted EBITDA Threshold established for the Company for a given Performance Period is not reached, no Bonus will be paid for the Period, subject to Compensation Committee discretion. The Compensation Committee may, in its sole and absolute discretion, wave the Adjusted EBITDA threshold requirement, increase, decrease, or otherwise adjust performance measures, targets, and payout ranges used hereunder, as a result of extraordinary or non-recurring events, changes in applicable accounting rules or principles, changes in the Company's methods of accounting, changes in applicable law, changes due to consolidations, growth capital spend programs, acquisitions, or reorganizations affecting the Company and its subsidiaries and affiliates, or other similar changes in the Company's business.

Company Performance: Environmental Health & Safety (EH&S) Measures – 25%
EH&S measures are as follows (see appendix F for definitions):
- Personal Safety – Total Recordable Injury Rate (TRIR);
- Process Safety – Process Safety Incident Rate (PSIR); and
- Environmental Events (EE).

Company Performance: Financial Measures – 75%
Financial measures are objectives related to the following (see appendix F for definitions):
- Reliability;
- Equipment Utilization;
- Operating Expense; and
- Return on Capital Employed.

Spot Bonus

Introduction
Employees making an extraordinary contribution to the furtherance of Company financial performance or advances in Company culture may be nominated by their manager or executive sponsor for a Bonus on a spot basis (a "Spot Bonus"), subject to approval by the Chief Executive. Spot Bonuses will be limited to employees in salary grades E13 and below and a maximum value of five thousand dollars ($5,000).

Terms and Conditions of Spot Bonus
Except as specifically set forth herein, the foregoing provisions of the Plan will likewise apply to a Spot Bonus. For the avoidance of doubt, these provisions relate to, among others, forfeiture and/or recoupment, amendment or termination, tax withholding, data protection and consent and governing law.

General Provisions

See Appendix F for definitions relating to the Plan.

Participation in the Plan is subject to (i) each individual employee's compliance with the Company's mission and values, its code of ethics and its policies and procedures, including, without limitation, the Corporate Policies and Procedures and employee handbook (collectively, "Company Policies"), and (ii) the Clawback and Recoupment Policy attached as Appendix G.

Each employee that is eligible and receives a Bonus or Spot Bonus will be liable for any and all federal, state, provincial, local or foreign taxes, pension plan contributions, employment insurance premiums, social insurance contributions, amounts payable to a governmental and/or regulatory body in the employee's country and other levies of any kind required by applicable laws to be deducted or withheld with respect to any such award (collectively, the "Withholding Taxes"). The Company will have the right to deduct and withhold all required Withholding Taxes from any payment or other consideration deliverable to an employee pursuant to any such payment. All awards under the Plan are intended to be exempt from Section 409A of the Internal Revenue Code of 1986, as amended, and shall be construed and interpreted in accordance with such intent.

Participation in the Plan does not confer upon any employee any right to continue in the employ of the Company or its subsidiaries, nor interfere in any way with the right of the Company and its subsidiaries to terminate any employee's employment at any time. The Company and its subsidiaries are under no obligation to continue the Plan in future years.

The Compensation Committee may at any time, or from time to time, in its sole and absolute discretion, (a) amend, alter or modify the provisions of this Plan, (b) terminate this Plan, or (c) terminate the participation of an employee or group of employees in this Plan; provided, however, that in the event of the termination of the Plan or a termination of participation, the Compensation Committee, in its sole and absolute discretion, may determine that a prorated award is payable to employees who were participants in this Plan under such terms and conditions as established by the Compensation Committee.

Notwithstanding anything herein to the contrary, whether or not any payment or award is authorized, earned or paid under the Plan will be determined by the Compensation Committee in its sole and absolute discretion, and no such payment or award shall be earned, nor shall any right to any such payment or award exist or accrue, unless, among other factors, such payment or award has been authorized by the Compensation Committee in its sole and absolute discretion, and actually paid to the employee. In addition, whether or not any payment or award is authorized, earned or paid pursuant to the Plan is without regard to whether any of the individual performance metrics, financial performance targets and/or goals, or any other benchmarks, targets, personal goals or criteria set forth in the Plan are met, not met, exceeded or not exceeded.

No employee, beneficiary or other person shall have any right, title or interest in any amount awarded under the Plan prior to the payment of such award to him or her. An employee's rights to a payment under the Plan are no greater than those of unsecured general creditors of the Company or its subsidiaries.

By participating in the Plan, each employee consents to the holding and processing of personal information provided by such employee to the employer, any affiliate of the employer, trustee or third party service provider, for all purposes relating to the operation of the Plan. Consents include, but are not limited to: (i) administering and maintaining employee records; (ii) providing information to the

employer, its affiliates, trustees of any employee benefit trust, registrars, brokers or third party administrators of the Plan; (iii) providing information to future purchasers or merger partners of the employer or any of its affiliates, or the business in which the employee works; and (iv) to the extent not prohibited by applicable law, transferring information about the employee to any country or territory that may not provide the same protection for the information as the employee’s home country.

The Plan is governed by the laws of the State of New York and as such will be construed under and in accordance with the laws of the State of New York without regard to conflicts of law.

Appendix A
Compensation Structure: Base Pay & Incentive Plans

[Table Redacted]

Individual Performance Measures
Supervisor's assessment of employee's performance will be based on the following categories:

- Interpersonal effectiveness
- Business conduct
- Professional and technical development
- Leadership
- Achievement of goals
- Results orientation

The assessment is discretionary and based on a wide range of considerations which often change over the course of the year.

Appendix B
Bonus Payout and Company Performance Calculations

Bonus Payout Calculation:

25%	X	EH&S Achievement (0-150%)	+	75%	X	[	25% X	Reliability (0-150%)	+	25% X	Equipment Utilization (0-150%)	+	25% X	Operating Expense (0-150%)	+	25% X	ROCE (0-150%)	]

****Company Performance Multiplier:**

Example Bonus Calculation 1:																
Salary Grade	E12															
Eligible Compensation	$196,000	**Eligible Compensation**		**Bonus Target %**			**Co. Perf. Alloc.**		**Co. Perf. Multiplier**		**Ind. Perf. Alloc.**		**Ind. Perf. Multiplier**	
Performance Rating	Exceeds	$196,000	X	40%	X	(	50%	X	110%	+	50%	X	125%	)
Bonus Target %	40%													
Company Performance Allocation	50%		=	$92,120										
Company Performance Multiplier (0-150%)	110%													
Individual Performance Allocation	50%													
Individual Performance Multiplier (0-150%)	125%													

Example Bonus Calculation 2:										
Salary Grade	E06									
Eligible Compensation	$90,000	**Eligible Compensation**		**Bonus Target %**			**Ind. Perf. Alloc.**		**Ind. Perf. Multiplier**	
Performance Rating	Far Exceeds	$90,000	X	14%	X	(	100%	X	150%	)
Bonus Target %	14%									
Company Performance Allocation	N/A		=	$18,900						
Company Performance Multiplier (0-150%)	N/A									
Individual Performance Allocation	100%									
Individual Performance Multiplier (0-150%)	150%									

Example Bonus Calculation 3:										
Hourly Non-Represented	Hrly Non-Rep									
Eligible Compensation	$70,000	**Eligible Compensation**		**Bonus Target %**			**Co. Perf. Alloc.**		**Co. Perf. Multiplier**	
Performance Rating	None	$70,000		6%	X	(	100%	X	110%	)
Bonus Target %	6%									
Company Performance Allocation	100%		=	$4,620						
Company Performance Multiplier (0-150%)	110%									
Individual Performance Allocation	N/A									
Individual Performance Multiplier (0-150%)	N/A									

Appendix C
Bonus Payout Examples

Eligible Compensation	X	Target Bonus % based on Salary Grade	X	[	Company Performance Allocation* (0-100%)	X	Company Perfomance Multiplier (0-150%)	+	Individual Performance Allocation* (0-100%)	X	Individual Perfomance Multiplier (0-150%)	]

*Company Perfomance Allocation + Individual Perfomance Allocation = 100%

Allocations are based on employee salary grade

Appendix D
CVR Energy, Inc.

Eligibility
Non-union General & Administrative and Shared Services employees of the Company and its subsidiaries, including Executive, Legal, Communications, Risk Management, Flight Operations, Finance & Accounting, Treasury, Investor Relations, Tax, IT, Financial Planning & Analysis, Human Resources, Internal Audit, Procurement, Environmental Health & Safety and Ranch Management, but excluding anyone not an eligible employee as described in the Plan.

Company Performance: Bonus Payout
The Company Performance Multiplier for the Performance Period will be derived from the corresponding outcomes for CVRR and UAN (Appendix E) as follows for the Period:
- Weighted based on man-hours worked for the Total Recordable Incident Rate and Process Safety Incident Rate Measures
- Weighted based on Adjusted EBITDA for the Environmental Events Measure and all Financial Measures

Appendix E
CVR Refining, LP and CVR Partners, LP
Bonus Payout Measures

Environmental Health & Safety (EH&S) Measures (25%)
Three measures evenly weighted (33-1/3% each): Total Recordable Incident Rate (TRIR), Process Safety Tier I Incident Rate (PSIR), and Environmental Events (EE):

Percentage Change (over the prior year)	Bonus Achievement
Increase in Incident Rate or Incidents	Zero
0%	50% of Target Percentage (Threshold)
Decrease > 0% and < 3%	Linear Interpolation between Threshold and Target
Decrease of 3%	Target Percentage
Decrease > 3% and < 10%	Linear Interpolation between Target and Maximum
Decrease of 10% or more, or if TRIR is maintained at or below 1.0, PSIR at or below 0.2 and EE at or below 20	150% of Target (Maximum)

Financial Measures (75%)
Four measures evenly weighted (25% each):

Reliability	Bonus Achievement
Greater than 8.0%	Zero
8.00%	50% of Target Percentage (Threshold)
6.01% to 7.99%	Linear Interpolation between Threshold and Target
6.00%	Target Percentage
5.0% to 5.99%	Linear Interpolation between Target and Maximum
Less than 5.0%	150% of Target (Maximum)

Equipment Utilization	Bonus Achievement
Less than 95%	Zero
95%	50% of Target Percentage (Threshold)
95.01% to 99.99%	Linear Interpolation between Threshold and Target
100%	Target Percentage
100.01% to 104.99%	Linear Interpolation between Target and Maximum
Greater than 105%	150% of Target (Maximum)

Operating Expense	Bonus Achievement
Greater than 103.0%	Zero
103%	50% of Target Percentage (Threshold)
100.1% to 102.99%	Linear Interpolation between Threshold and Target
100%	Target Percentage
95.0% to 99.99%	Linear Interpolation between Target and Maximum
Less than 95%	150% of Target (Maximum)

CVRR and UAN ROCE (Ranking vs. Peer Group**)	Bonus Achievement
First (highest)	150% of Target (Maximum)
Second	125% of Target Percentage
Third	112.5% of Target Percentage
Fourth	Target Percentage (100%)
Fifth	75% of Target Percentage
Sixth	50% of Target Percentage (Minimum)
Seventh	Zero

Performance measures subject to peer group ranking will be based on LTM data as of September 30 of the Performance Period.

*The Refining Industry peer group will include Valero, Marathon, PBF Energy, Delek, Holly Frontier and Par Pacific.

**The Fertilizer Industry peer group will consist of CF Industries, LSB Industries, Nutrien Ltd., The Andersons, Inc., Green Plains Partners and Flotek Industries.

Appendix F
Definitions

"Adjusted EBITDA" for the Company means the Adjusted EBITDA under the CVRR LP Performance-Based Bonus Plan and the UAN Performance-Based Bonus Plan, weighted on an absolute basis.

"Adjusted EBITDA Threshold" means actual maintenance and sustaining capital expenditures plus reserves for turnaround expenses plus interest on debt for the given Performance Period, and board-directed actions. **[Redacted].** The same procedure will be used for UAN as for CVRR.

"Chief Executive" means the President and Chief Executive Officer of the Company.

"Eligible Compensation" means (i) for eligible exempt employees, such employee's base salary at the time the Bonus or Spot Bonus is determined (prorated for time in an eligible position), and (ii) for eligible non-exempt and non-union hourly employees, such employees' eligible wages for the applicable year as determined by the Company to be required by law.

"Environmental Events" ("EE") means the total number of reportable quantities and water deviations.

- Reportable quantities are releases of substances during a 24-hour period that exceed a federal, state or local reporting threshold.
    - Reportable quantity is an event or contemporaneous combination of events during at 24-hour period that results in a release that exceeds a reportable quantity or quantities of a EPCRA/CERCLA compound as defined in the EPA List of Lists <u>or</u> a release that exceeds any other federal, state or local reporting threshold. Federally permitted releases and continuous releases defined in 40 CFR §302.6 and §302.8 are not considered reportable quantities under this measure.
    - A reportable quantity is counted by event or contemporaneous combination of events, not by the number of individual reports that are filed or number of compounds which exceed their reportable quantity. Events are considered contemporaneous if they occur within 24-hours or when a common cause results in one or more reportable quantities during contiguous or overlapping 24-hour periods.
- Water deviations are exceedances of a NPDES-based permit limit, wastewater bypasses and sheens to water of the United States.
    - The number of deviations is based on the number of individual permit limits exceeded irrespective of the number of causal events attributed to the deviation. However, a continuance of an ongoing permit limit deviation would not be double-counted if it were contemporaneous with a prior deviation and/or event.
    - Oil sheens and reportable quantities to water are only counted once as a water deviation environmental event.

A single event that results in multiple reportable quantities and/or when a water deviation is also a regulatory reportable quantity is not "double-counted" and will only be considered one Environmental Event.

"Executive Officer" of the Company means an "executive officer" as that term is defined in Rule 3b-7 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or an "officer" of the Company for purposes of Section 16 of the Exchange Act.

"Equipment Utilization" means (i) for CVRR, actual throughput for the Performance Period divided by the planned throughput for the Performance Period, and (ii) for UAN, adjusted equivalent tons of urea ammonium nitrate production divided by the planned equivalent tons of production for the Performance Period, in each case, as adjusted at the discretion of the Compensation Committee for events or downtime caused by third parties. Planned throughput and production is reflected in the Company's annual volumetric plan. Monthly targets may be adjusted on a month by month basis to optimize production for which there is an economic incentive to do so during the given period. In such cases, the annual volumetric plan will be adjusted for the purposes of Bonus calculations with the new targets in place of the original targets.

"Operating Expense" means measurement of actual controllable and fixed operating costs divided by budgeted amounts. For purposes of calculating the Bonus, budgeted amounts are subject to revision by the Board in its discretion based on changes in business conditions or configuration of the business (e.g., items such as acquisitions or divestitures, unusual or non-recurring charges and changes in staffing relating to changed strategy approved by the Board will be considered as items for potential adjustment).

"Process Safety Incident Rate" ("PSIR") means a standardized measure of process safety performance for the number of process safety tier 1 events per 100 full-time equivalent employees, as defined in the recommended practice for process safety performance indicators, ANSI/API RP 754.
A process safety tier 1 event is an unplanned or uncontrolled loss of primary containment of any material, including non-toxic and non-flammable materials, from a process that results in one or more consequences, including:

- an employee, contractor or subcontractor "days away from work" injury and/or fatality;
- a hospital admission and/or fatality or a third-party;
- an officially declared community evacuation or community shelter-in-place;
- a fire or explosion resulting in greater than or equal to $25,000 of direct cost to the company;
- an officially declared community evacuation or community shelter-in-place;
- a pressure relief device (PRD) discharge to atmosphere whether directly or via a downstream destructive device that results in one or more of four defined consequences and a PRD discharge quantity greater than defined threshold quantities in a one-hour period; or,
- a release of material greater than defined threshold quantities described in any one-hour period.

"Reliability" means Lost Profit Opportunity ("LPO"), defined as foregone refining margin that results from operational variance due to factors within the Company's control, specifically including human and equipment performance, divided by the sum of actual refining margin plus LPO.

"Return on Capital Employed" ("ROCE") means operating income before depreciation and amortization (excluding asset impairments, non-cash asset write-downs and inventory valuation gains or losses) divided by average Capital Employed during the Period (averages calculated using 5-quarter end balances for the measurement period).

"Capital Employed" means the total assets, less current liabilities (adjusted for any asset or inventory valuations imputed on operating income).

"Total Recordable Injury Rate" ("TRIR") means a standardized measure of safety performance for the number of work-related injuries per 100 full-time equivalent employees, as defined by OSHA.

"Throughput" means total crude oil and other feedstocks charged to the refinery including isobutane, normal butane, natural gasoline, gas oil, biodiesel and ethanol used for blending.

Appendix G
Clawback and Recoupment Policy

This Clawback and Recoupment Policy applies to each Bonus and Spot Bonus (for purposes of this Plan, an “Award”).

If the Compensation Committee in its sole and absolute discretion, determines that (i) there has been misconduct or a gross dereliction of duty resulting in either a violation of law or Company Policy, that, in either case, causes significant financial or reputational harm to the Company (or any of its affiliates), and that an employee committed the misconduct or gross dereliction of duty, or failed in his or her responsibility to manage or monitor the applicable conduct or risk; (ii) an employee has committed an immoral act which is reasonably likely to impair the reputation of the Company (or any of its affiliates); (iii) an employee committed, or was indicted for, a felony or any crime involving fraud or embezzlement or dishonesty or was convicted of, or entered a plea of *nolo contendere* to a misdemeanor (other than a traffic violation) punishable by imprisonment under federal, state or local law; (iv) an employee violated any securities or employment laws or regulations; (v) an employee materially breached a Company Policy or any non-compete and/or non-solicitation clause included in an agreement or offer letter with such employee’s employer; (vi) an employee embezzled and/or misappropriated any property of the Company (or any of its affiliates) or committed any act involving fraud with respect to the Company (or any of its affiliates); or (vii) an employee engaged in conduct (including by omission) or an event or condition has occurred, which, in each case, would have given the Company or its subsidiaries the right to terminate the employee’s employment for Cause (as defined herein), then, to the extent not prohibited by applicable law, such Compensation Committee, in its sole and absolute discretion, may cancel, declare forfeited, or rescind such Award, or may seek reimbursement from such employee (and such employee will be obligated to repay) all or any portion of any payments made to such employee in respect of such Award.

If the Compensation Committee determines, in its sole and absolute discretion, that calculations underlying the performance measures and targets, including but not limited to mistakes in the Company’s financial statements, were incorrect, then such Compensation Committee may, in its sole and absolute discretion, seek to recover the amount of any payment made to employees that exceeded the amount that would have been paid based on the corrected calculations.

To the extent not prohibited by applicable law, if an employee is an officer, or, if applicable, has otherwise been designated by the Board of the Company as an Executive Officer, the Board may seek reimbursement of any payment made to such employee in respect of an Award in the event of a restatement of such Company’s (or any of its subsidiaries’) financial results (occurring due to material noncompliance with any financial reporting requirements under applicable securities laws) that reduced a previously granted payment made to such employee in respect of an Award. In that event, the Compensation Committee may, in its sole and absolute discretion, seek to recover the amount of any such payment made to the employee that exceeded the amount that would have been paid based on the restated financial results.

If the Company subsequently determines that it is required by law to apply a “clawback” or alternate recoupment provision to an Award, under the Dodd-Frank Wall Street Reform and Consumer Protection Act or otherwise, then such clawback or recoupment provision also shall apply to such Award, as if it had been included on the effective date of such Award.

To the extent not prohibited under applicable law, the Company (or any of its subsidiaries) (as applicable), in its sole and absolute discretion, will have the right to set off (or cause to be set off) any amounts otherwise due to employee from such Company or a subsidiary in satisfaction of any repayment obligation of such employee hereunder, provided that any such amounts are exempt from, or set off in a manner intended to comply with the requirements of Section 409A of the Internal Revenue Code of 1986, as amended.

For the avoidance of doubt, the Company's and its subsidiaries' rights under this Plan will apply to employees, without regard to whether any such employee is currently providing, or previously provided, services to the Company or its subsidiary as an employee.

"Cause" for purposes of any Award means such employee's (i) refusal or neglect to perform substantially his or her employment-related duties or services, (ii) personal dishonesty, incompetence, willful misconduct or breach of fiduciary duty, (iii) indictment for, conviction of or entering a plea of guilty or nolo contendere to a crime constituting a felony or his or her willful violation of any applicable law (other than a traffic violation or other offense or violation outside of the course of employment or services to the Company or its affiliates which in no way adversely affects the Company and its affiliates or their reputation or the ability of the employee to perform his or her employment-related duties or services or to represent the Company or any affiliate of the Company that employs such employee or to which the employee performs services), (iv) failure to reasonably cooperate, following a request to do so by the Company, in any internal or governmental investigation of the Company or any of its affiliates or (v) material breach of any written covenant or agreement with the Company or any of its affiliates not to disclose any information pertaining to the Company or such affiliate or not to compete or interfere with the Company or such affiliate; provided that, in the case of any employee who, as of the date of determination, is party to an effective services, severance or employment agreement with the Company or any affiliate, "Cause" will have the meaning, if any, specified in such agreement.

CVR Partners, LP 2021
Performance-Based Bonus Plan

Philosophy / Background
CVR Partners, LP (the “Company”) is committed to wages and benefits that are competitive with a market-based, pay-for-performance compensation philosophy, providing such base pay, bonus and long-term incentive awards in line with those of the fertilizer industry. This Performance-Based Bonus Plan (the “Plan”) is intended to reward high performance employees, and to retain these employees in critical roles, through the issuance of bonus awards (each, a “Bonus”).

Administration
The Plan is maintained and administered by, or under the direction of, the Compensation Committee (the "Compensation Committee") of the board of directors (the “Board”) of the general partner of the Company with respect to, and references to “employee” herein relate only to, eligible employees or officers of the Company and its general partner and subsidiaries, excluding any employees of (or individuals solely subject to the bonus plans of) CVR Energy, Inc. (“CVI”), CVR Refining, LP (“CVRR”), their respective general partners and their respective subsidiaries.

The Compensation Committee shall annually approve all salaries, targets and bonus metrics for employees in Grade E14 and above, and shall annually approve a total bonus pool for employees in Grade E13 and below. The Compensation Committee delegates to the Chief Executive the authority to approve payouts from such total bonus pool to employees in Grade E13 and below, in his sole discretion. The Chief Executive shall also be responsible for assigning salaries, bonus targets, and Grade levels to employees in Grade 13 and below.

In the event of a claim or dispute brought forth by any employee with a Grade level of E13 or below, the decision of the Chief Executive as to the facts in the case and the meaning and intent of any provision of the Plan, or its application, shall be final, binding, and conclusive. In the event of a claim or dispute brought forth by any employee with a Grade level of E14 or above, the decision of the Compensation Committee as to the facts in the case and the meaning and intent of any provision of the Plan, or its application, shall be final, binding, and conclusive.

The Plan described herein does not create a contractual obligation on the part of the Company. The Company expressly reserves the right to modify, discontinue, or otherwise change the Plan outlined in this document at the sole and absolute discretion of the Company without advance notice.

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Eligibility and Administration
Bonuses are made based on the applicable calendar year during which the employees performed the services and are generally paid (to the extent payable) after the financials have been audited and within 90 days of the end of the calendar year (the “Performance Period” or “Period”).

Generally, only exempt, non-exempt and non-union hourly employees are eligible to receive a Bonus, provided that, to receive a Bonus, an employee must: (i) be actively employed with the Company for at least 180 days during the calendar year; (ii) consistently perform at or above expectations for their role; (iii) be actively employed on the date of payout and not on a performance improvement plan or in

corrective or disciplinary action status as a result of poor performance during the Performance Period. Employees hired prior to October 1 during the Performance Period will be eligible to receive a Bonus provided the above requirements (ii) and (iii) are met.

Subject to annual review, Bonuses are computed in accordance with each eligible employee's Grade (as shown in Appendix A), prorated for time in an eligible position, as well as a performance multiplier of zero to 150 percent, based on performance against the achievement of the allocated Company and individual performance measures described herein. Appendices A-E present the overall compensation structure (Appendix A), example calculations (Appendices B, C), eligibility (Appendix D) and bonus payout measures (Appendix E). The Individual Performance Multiplier component of a Bonus, if any, is entirely discretionary.

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Company Performance: Environmental Health & Safety (EH&S) Measures – 25%
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- Personal Safety – Total Recordable Injury Rate (TRIR);
- Process Safety – Process Safety Incident Rate (PSIR); and
- Environmental Events (EE).

Company Performance: Financial Measures – 75%
Financial measures are objectives related to the following (see Appendix F for definitions):

- Reliability;
- Equipment Utilization;
- Operating Expense; and
- Return on Capital Employed.

Spot Bonus

Introduction
Employees making an extraordinary contribution to the furtherance of Company financial performance or advances in Company culture may be nominated by their manager or executive sponsor for a Bonus on a spot basis (a "Spot Bonus"), subject to approval by the Chief Executive. Spot Bonuses will be limited to employees in salary grades E13 and below and a maximum value of five thousand dollars ($5,000).

Terms and Conditions of Spot Bonus
Except as specifically set forth herein, the foregoing provisions of the Plan will likewise apply to a Spot Bonus. For the avoidance of doubt, these provisions relate to, among others, forfeiture and/or recoupment, amendment or termination, tax withholding, data protection and consent and governing law.

General Provisions

See Appendix F for definitions relating to the Plan.

Participation in the Plan is subject to (i) each individual employee's compliance with the Company's mission and values, its code of ethics and its policies and procedures, including, without limitation, the Corporate Policies and Procedures and employee handbook (collectively, "Company Policies"), and (ii) the Clawback and Recoupment Policy attached as Appendix G.

Each employee that is eligible and receives a Bonus or Spot Bonus will be liable for any and all federal, state, provincial, local or foreign taxes, pension plan contributions, employment insurance premiums, social insurance contributions, amounts payable to a governmental and/or regulatory body in the employee's country and other levies of any kind required by applicable laws to be deducted or withheld with respect to any such award (collectively, the "Withholding Taxes"). The Company will have the right to deduct and withhold all required Withholding Taxes from any payment or other consideration deliverable to an employee pursuant to any such payment. All awards under the Plan are intended to be exempt from Section 409A of the Internal Revenue Code of 1986, as amended, and shall be construed and interpreted in accordance with such intent.

Participation in the Plan does not confer upon any employee any right to continue in the employ of the Company or its subsidiaries, nor interfere in any way with the right of the Company and its subsidiaries to terminate any employee's employment at any time. The Company and its subsidiaries are under no obligation to continue the Plan in future years.

The Compensation Committee may at any time, or from time to time, in its sole and absolute discretion, (a) amend, alter or modify the provisions of this Plan, (b) terminate this Plan, or (c) terminate the participation of an employee or group of employees in this Plan; provided, however, that in the event of the termination of the Plan or a termination of participation, the Compensation Committee, in its sole and absolute discretion, may determine that a prorated award is payable to employees who were participants in this Plan under such terms and conditions as established by the Compensation Committee.

Notwithstanding anything herein to the contrary, whether or not any payment or award is authorized, earned or paid under the Plan will be determined by the Compensation Committee in its sole and absolute discretion, and no such payment or award shall be earned, nor shall any right to any such payment or award exist or accrue, unless, among other factors, such payment or award has been authorized by the Compensation Committee in its sole and absolute discretion, and actually paid to the employee. In addition, whether or not any payment or award is authorized, earned or paid pursuant to the Plan is without regard to whether any of the individual performance metrics, financial performance targets and/or goals, or any other benchmarks, targets, personal goals or criteria set forth in the Plan are met, not met, exceeded or not exceeded.

No employee, beneficiary or other person shall have any right, title or interest in any amount awarded under the Plan prior to the payment of such award to him or her. An employee's rights to a payment under the Plan are no greater than those of unsecured general creditors of the Company or its subsidiaries.

By participating in the Plan, each employee consents to the holding and processing of personal information provided by such employee to the employer, any affiliate of the employer, trustee or third party service provider, for all purposes relating to the operation of the Plan. Consents include, but are not limited to: (i) administering and maintaining employee records; (ii) providing information to the

employer, its affiliates, trustees of any employee benefit trust, registrars, brokers or third party administrators of the Plan; (iii) providing information to future purchasers or merger partners of the employer or any of its affiliates, or the business in which the employee works; and (iv) to the extent not prohibited by applicable law, transferring information about the employee to any country or territory that may not provide the same protection for the information as the employee's home country.

The Plan is governed by the laws of the State of New York and as such will be construed under and in accordance with the laws of the State of New York without regard to conflicts of law.

Appendix A
Compensation Structure: Base Pay & Incentive Plans

[Table Redacted]

Individual Performance Measures
Supervisor's assessment of employee's performance will be based on the following categories:

- Interpersonal effectiveness
- Business conduct
- Professional and technical development
- Leadership
- Achievement of goals
- Results orientation

The assessment is discretionary and based on a wide range of considerations which often change over the course of the year.

Appendix B
Bonus Payout and Company Performance Calculations

Bonus Payout Calculation:

25%	X	EH&S Achievement (0-150%)	+	75%	X	[	25% X	Reliability (0-150%)	+	25% X	Equipment Utilization (0-150%)	+	25% X	Operating Expense (0-150%)	+	25% X	ROCE (0-150%)	]

****Company Performance Multiplier:**

Example Bonus Calculation 1:														
Salary Grade	E12													
Eligible Compensation	$196,000	**Eligible Compensation**		**Bonus Target %**			**Co. Perf. Alloc.**		**Co. Perf. Multiplier**		**Ind. Perf. Alloc.**		**Ind. Perf. Multiplier**	
Performance Rating	Exceeds	$196,000	X	40%	X	(	50%	X	110%	+	50%	X	125%	)
Bonus Target %	40%													
Company Performance Allocation	50%		=	$92,120										
Company Performance Multiplier (0-150%)	110%													
Individual Performance Allocation	50%													
Individual Performance Multiplier (0-150%)	125%													
Example Bonus Calculation 2:														
Salary Grade	E06													
Eligible Compensation	$90,000	**Eligible Compensation**		**Bonus Target %**			**Ind. Perf. Alloc.**		**Ind. Perf. Multiplier**					
Performance Rating	Far Exceeds	$90,000	X	14%	X	(	100%	X	150%	)				
Bonus Target %	14%													
Company Performance Allocation	N/A		=	$18,900										
Company Performance Multiplier (0-150%)	N/A													
Individual Performance Allocation	100%													
Individual Performance Multiplier (0-150%)	150%													
Example Bonus Calculation 3:														
Hourly Non-Represented	Hrly Non-Rep													
Eligible Compensation	$70,000	**Eligible Compensation**		**Bonus Target %**			**Co. Perf. Alloc.**		**Co. Perf. Multiplier**					
Performance Rating	None	$70,000		6%	X	(	100%	X	110%	)				
Bonus Target %	6%													
Company Performance Allocation	100%		=	$4,620										
Company Performance Multiplier (0-150%)	110%													
Individual Performance Allocation	N/A													
Individual Performance Multiplier (0-150%)	N/A													

Appendix C
Bonus Payout Examples

Eligible Compensation	X	Target Bonus % based on Salary Grade	X	[Company Performance Allocation* (0-100%)	X	Company Perfomance Multiplier (0-150%)	+	Individual Performance Allocation* (0-100%)	X	Individual Perfomance Multiplier (0-150%)]

*Company Perfomance Allocation + Individual Perfomance Allocation = 100%

Allocations are based on employee salary grade

Appendix D
CVR Partners, LP

Eligibility
Non-union direct employees of Company, its general partner and their respective subsidiaries, including Fertilizer Executives, Marketing, Logistics, Company Controller, Coffeyville Nitrogen Planning and East Dubuque Nitrogen Fertilizers Planning, and any employee of any affiliated entity deemed by the Chief Executive in their sole discretion to be solely dedicated to the Company or its subsidiaries, but excluding anyone not an eligible employee as described in the Plan.

Appendix E
CVR Partners, LP
Bonus Payout Measures

Environmental Health & Safety (EH&S) Measures (25%)
Three measures evenly weighted (33-1/3% each): Total Recordable Incident Rate (TRIR), Process Safety Tier I Incident Rate (PSIR), and Environmental Events (EE):

Percentage Change(over the prior year)	Bonus Achievement
Increase in Incident Rate or Incidents	Zero
0%	50% of Target Percentage (Threshold)
Decrease > 0% and < 3%	Linear Interpolation between Threshold and Target
Decrease of 3%	Target Percentage
Decrease > 3% and < 10%	Linear Interpolation between Target and Maximum
Decrease of 10% or more, or if TRIR is maintained at or below 1.0, PSIR at or below 0.2 and EE at or below 20	150% of Target (Maximum)

Financial Measures (75%)
Four measures evenly weighted (25% each):

Reliability	Bonus Achievement
Greater than 8.0%	Zero
8.00%	50% of Target Percentage (Threshold)
6.01% to 7.99%	Linear Interpolation between Threshold and Target
6.00%	Target Percentage
5.0% to 5.99%	Linear Interpolation between Target and Maximum
Less than 5.0%	150% of Target (Maximum)

Equipment Utilization	Bonus Achievement
Less than 95%	Zero
95%	50% of Target Percentage (Threshold)
95.01% to 99.99%	Linear Interpolation between Threshold and Target
100%	Target Percentage
100.01% to 104.99%	Linear Interpolation between Target and Maximum
Greater than 105%	150% of Target (Maximum)

Operating Expense	Bonus Achievement
Greater than 103.0%	Zero
103%	50% of Target Percentage (Threshold)
100.1% to 102.99%	Linear Interpolation between Threshold and Target
100%	Target Percentage
95.0% to 99.99%	Linear Interpolation between Target and Maximum
Less than 95%	150% of Target (Maximum)

ROCE (Ranking vs. Peer Group*)	Bonus Achievement
First (highest)	150% of Target (Maximum)
Second	125% of Target Percentage
Third	112.5% of Target Percentage
Fourth	Target Percentage (100%)
Fifth	75% of Target Percentage
Sixth	50% of Target Percentage (Minimum)
Seventh	Zero

Performance measures subject to peer group ranking will be based on LTM data as of September 30 of the Performance Period.

*The Fertilizer Industry peer group will consist of CF Industries, LSB Industries, Nutrien Ltd., The Andersons, Inc., Green Plains Partners and Flotek Industries.

Appendix F
Definitions

"Adjusted EBITDA" for the Company means earnings before interest, taxes, depreciation and amortization, and adjusted for inventory valuation impacts, unrealized gains and losses on derivative transactions, turnaround expenses to the extent they are included in EBITDA, loss on extinguishment of debt, asset impairment charges, and board-directed actions.

"Adjusted EBITDA Threshold" means actual maintenance and sustaining capital expenditures plus reserves for turnaround expenses plus interest on debt for the given Performance Period, and board-directed actions. **[Redacted].**

"Chief Executive" means the President and Executive Chairman of the Company's general partner.

"Eligible Compensation" means (i) for eligible exempt employees, such employee's base salary at the time the Bonus or Spot Bonus is determined (prorated for time in an eligible position), and (ii) for eligible non-exempt and non-union hourly employees, such employees' eligible wages for the applicable year as determined by the Company to be required by law.

"Environmental Events" ("EE") means the total number of reportable quantities and water deviations.

- Reportable quantities are releases of substances during a 24-hour period that exceed a federal, state or local reporting threshold.
    - Reportable quantity is an event or contemporaneous combination of events during at 24-hour period that results in a release that exceeds a reportable quantity or quantities of a EPCRA/CERCLA compound as defined in the EPA List of Lists <u>or</u> a release that exceeds any other federal, state or local reporting threshold. Federally permitted releases and continuous releases defined in 40 CFR §302.6 and §302.8 are not considered reportable quantities under this measure.
    - A reportable quantity is counted by event or contemporaneous combination of events, not by the number of individual reports that are filed or number of compounds which exceed their reportable quantity. Events are considered contemporaneous if they occur within 24-hours or when a common cause results in one or more reportable quantities during contiguous or overlapping 24-hour periods.
- Water deviations are exceedances of a NPDES-based permit limit, wastewater bypasses and sheens to water of the United States.
    - The number of deviations is based on the number of individual permit limits exceeded irrespective of the number of causal events attributed to the deviation. However, a continuance of an ongoing permit limit deviation would not be double-counted if it were contemporaneous with a prior deviation and/or event.
    - Oil sheens and reportable quantities to water are only counted once as a water deviation environmental event.

A single event that results in multiple reportable quantities and/or when a water deviation is also a regulatory reportable quantity is not "double-counted" and will only be considered one Environmental Event.

"Executive Officer" of the Company means an "executive officer" as that term is defined in Rule 3b-7 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or an "officer" of the Company for purposes of Section 16 of the Exchange Act.

"Equipment Utilization" means adjusted equivalent tons of urea ammonium nitrate production divided by the planned equivalent tons of production for the Performance Period, as adjusted at the discretion of the Compensation Committee for events or downtime caused by third parties. Planned production is reflected in the Company's annual volumetric plan. Monthly targets may be adjusted on a month by month basis to optimize production for which there is an economic incentive to do so during the given period. In such cases, the annual volumetric plan will be adjusted for the purposes of Bonus calculations with the new targets in place of the original targets.

"Operating Expense" means measurement of actual controllable and fixed operating costs divided by budgeted amounts. For purposes of calculating the Bonus, budgeted amounts are subject to revision by the Board in its discretion based on changes in business conditions or configuration of the business (e.g., items such as acquisitions or divestitures, unusual or non-recurring charges and changes in staffing relating to changed strategy approved by the Board will be considered as items for potential adjustment).

"Process Safety Incident Rate" ("PSIR") means a standardized measure of process safety performance for the number of process safety tier 1 events per 100 full-time equivalent employees, as defined in the recommended practice for process safety performance indicators, ANSI/API RP 754.
A process safety tier 1 event is an unplanned or uncontrolled loss of primary containment of any material, including non-toxic and non-flammable materials, from a process that results in one or more consequences, including:

a. an employee, contractor or subcontractor "days away from work" injury and/or fatality;
b. a hospital admission and/or fatality or a third-party;
c. an officially declared community evacuation or community shelter-in-place;
d. a fire or explosion resulting in greater than or equal to $25,000 of direct cost to the company;
e. an officially declared community evacuation or community shelter-in-place;
f. a pressure relief device (PRD) discharge to atmosphere whether directly or via a downstream destructive device that results in one or more of four defined consequences and a PRD discharge quantity greater than defined threshold quantities in a one-hour period; or,
g. a release of material greater than defined threshold quantities described in any one-hour period.

"Reliability" means Lost Profit Opportunity ("LPO"), defined as foregone gross margin that results from operational variance due to factors within the Company's control, specifically including human and equipment performance, divided by the sum of actual gross margin plus LPO.

"Return on Capital Employed" ("ROCE") means operating income before depreciation and amortization (excluding asset impairments, non-cash asset write-downs and inventory valuation gains or losses) divided by average Capital Employed during the Period (averages calculated using 5-quarter end balances for the measurement period).

"Capital Employed" means total assets, less current liabilities (adjusted for any asset or inventory valuations imputed on operating income.

"Total Recordable Injury Rate" ("TRIR") means a standardized measure of safety performance for the number of work-related injuries per 100 full-time equivalent employees, as defined by OSHA.

Appendix G
Clawback and Recoupment Policy

This Clawback and Recoupment Policy applies to each Bonus and Spot Bonus (for purposes of this Plan, an "Award").

If the Compensation Committee in its sole and absolute discretion, determines that (i) there has been misconduct or a gross dereliction of duty resulting in either a violation of law or Company Policy, that, in either case, causes significant financial or reputational harm to the Company (or any of its affiliates), and that an employee committed the misconduct or gross dereliction of duty, or failed in his or her responsibility to manage or monitor the applicable conduct or risk; (ii) an employee has committed an immoral act which is reasonably likely to impair the reputation of the Company (or any of its affiliates); (iii) an employee committed, or was indicted for, a felony or any crime involving fraud or embezzlement or dishonesty or was convicted of, or entered a plea of *nolo contendere* to a misdemeanor (other than a traffic violation) punishable by imprisonment under federal, state or local law; (iv) an employee violated any securities or employment laws or regulations; (v) an employee materially breached a Company Policy or any non-compete and/or non-solicitation clause included in an agreement or offer letter with such employee's employer; (vi) an employee embezzled and/or misappropriated any property of the Company (or any of its affiliates) or committed any act involving fraud with respect to the Company (or any of its affiliates); or (vii) an employee engaged in conduct (including by omission) or an event or condition has occurred, which, in each case, would have given the Company or its subsidiaries the right to terminate the employee's employment for Cause (as defined herein), then, to the extent not prohibited by applicable law, such Compensation Committee, in its sole and absolute discretion, may cancel, declare forfeited, or rescind such Award, or may seek reimbursement from such employee (and such employee will be obligated to repay) all or any portion of any payments made to such employee in respect of such Award.

If the Compensation Committee determines, in its sole and absolute discretion, that calculations underlying the performance measures and targets, including but not limited to mistakes in the Company's financial statements, were incorrect, then such Compensation Committee may, in its sole and absolute discretion, seek to recover the amount of any payment made to employees that exceeded the amount that would have been paid based on the corrected calculations.

To the extent not prohibited by applicable law, if an employee is an officer, or, if applicable, has otherwise been designated by the Board of the Company as an Executive Officer, the Board may seek reimbursement of any payment made to such employee in respect of an Award in the event of a restatement of such Company's (or any of its subsidiaries') financial results (occurring due to material noncompliance with any financial reporting requirements under applicable securities laws) that reduced a previously granted payment made to such employee in respect of an Award. In that event, the Compensation Committee may, in its sole and absolute discretion, seek to recover the amount of any such payment made to the employee that exceeded the amount that would have been paid based on the restated financial results.

If the Company subsequently determines that it is required by law to apply a "clawback" or alternate recoupment provision to an Award, under the Dodd-Frank Wall Street Reform and Consumer Protection Act or otherwise, then such clawback or recoupment provision also shall apply to such Award, as if it had been included on the effective date of such Award.

To the extent not prohibited under applicable law, the Company (or any of its subsidiaries) (as applicable), in its sole and absolute discretion, will have the right to set off (or cause to be set off) any amounts otherwise due to employee from such Company or a subsidiary in satisfaction of any repayment obligation of such employee hereunder, provided that any such amounts are exempt from, or set off in a manner intended to comply with the requirements of Section 409A of the Internal Revenue Code of 1986, as amended.

For the avoidance of doubt, the Company's and its subsidiaries' rights under this Plan will apply to employees, without regard to whether any such employee is currently providing, or previously provided, services to the Company or its subsidiary as an employee.

"Cause" for purposes of any Award means such employee's (i) refusal or neglect to perform substantially his or her employment-related duties or services, (ii) personal dishonesty, incompetence, willful misconduct or breach of fiduciary duty, (iii) indictment for, conviction of or entering a plea of guilty or nolo contendere to a crime constituting a felony or his or her willful violation of any applicable law (other than a traffic violation or other offense or violation outside of the course of employment or services to the Company or its affiliates which in no way adversely affects the Company and its affiliates or their reputation or the ability of the employee to perform his or her employment-related duties or services or to represent the Company or any affiliate of the Company that employs such employee or to which the employee performs services), (iv) failure to reasonably cooperate, following a request to do so by the Company, in any internal or governmental investigation of the Company or any of its affiliates or (v) material breach of any written covenant or agreement with the Company or any of its affiliates not to disclose any information pertaining to the Company or such affiliate or not to compete or interfere with the Company or such affiliate; provided that, in the case of any employee who, as of the date of determination, is party to an effective services, severance or employment agreement with the Company or any affiliate, "Cause" will have the meaning, if any, specified in such agreement.

CVR Refining, LP 2021
Performance-Based Bonus Plan

Philosophy / Background
CVR Refining, LP (the “Company”) is committed to wages and benefits that are competitive with a market-based, pay-for-performance compensation philosophy, providing such base pay, bonus and long-term incentive awards in line with those of the refining industry. This Performance-Based Bonus Plan (the “Plan”) is intended to reward high performance employees, and to retain these employees in critical roles, through the issuance of bonus awards (each, a “Bonus”).

Administration
The Plan is maintained and administered by, or under the direction of, the Compensation Committee (the "Compensation Committee") of the board of directors (the “Board”) of CVR Energy, Inc. with respect to, and references to “employee” herein relate only to, eligible employees or officers of the Company and its subsidiaries, excluding any employees of (or individuals solely subject to the bonus plans of) CVR Energy, Inc. (“CVI”), CVR Partners, LP (“UAN”) and, with respect to UAN, its general partner and subsidiaries.

The Compensation Committee shall annually approve all salaries, targets and bonus metrics for employees in Grade E14 and above, and shall annually approve a total bonus pool for employees in Grade E13 and below. The Compensation Committee delegates to the Chief Executive the authority to approve payouts from such total bonus pool to employees in Grade E13 and below, in his sole discretion. The Chief Executive shall also be responsible for assigning salaries, bonus targets, and Grade levels to employees in Grade 13 and below.

In the event of a claim or dispute brought forth by any employee with a Grade level of E13 or below, the decision of the Chief Executive as to the facts in the case and the meaning and intent of any provision of the Plan, or its application, shall be final, binding, and conclusive. In the event of a claim or dispute brought forth by any employee with a Grade level of E14 or above, the decision of the Compensation Committee as to the facts in the case and the meaning and intent of any provision of the Plan, or its application, shall be final, binding, and conclusive.

The Plan described herein does not create a contractual obligation on the part of the Company. The Company expressly reserves the right to modify, discontinue, or otherwise change the Plan outlined in this document at the sole and absolute discretion of the Company without advance notice.

Introduction
The purpose of the Plan and any Bonus to be paid hereunder is to enhance the Company’s ability to attract, motivate, reward and retain employees, and to strengthen their commitment to the success of the Company.

Eligibility and Administration
Bonuses are made based on the applicable calendar year during which the employees performed the services and are generally paid (to the extent payable) after the financials have been audited and within 90 days of the end of the calendar year (the “Performance Period” or “Period”).

Generally, only exempt, non-exempt and non-union hourly employees are eligible to receive a Bonus, provided that, to receive a Bonus, an employee must: (i) be actively employed with the Company for at least 180 days during the calendar year; (ii) consistently perform at or above expectations for their role; (iii) be actively employed on the date of payout and not on a performance improvement plan or in

corrective or disciplinary action status as a result of poor performance during the Performance Period. Employees hired prior to October 1 during the Performance Period will be eligible to receive a Bonus provided the above requirements (ii) and (iii) are met.

Subject to annual review, Bonuses are computed in accordance with each eligible employee's Grade (as shown in Appendix A), prorated for time in an eligible position, as well as a performance multiplier of zero to 150 percent, based on performance against the achievement of the allocated Company and individual performance measures described herein. Appendices A-E present the overall compensation structure (Appendix A), example calculations (Appendices B, C), eligibility (Appendix D) and bonus payout measures (Appendix E). The Individual Performance Multiplier component of a Bonus, if any, is entirely discretionary.

In addition, if the Adjusted EBITDA Threshold established for the Company for a given Performance Period is not reached, no Bonus will be paid for the Period, subject to Compensation Committee discretion. The Compensation Committee may, in its sole and absolute discretion, waive the Adjusted EBITDA Threshold requirement, increase, decrease, or otherwise adjust performance measures, targets, and payout ranges used hereunder, as a result of extraordinary or non-recurring events, changes in applicable accounting rules or principles, changes in the Company's methods of accounting, changes in applicable law, changes due to consolidations, growth capital spend programs, acquisitions, or reorganizations affecting the Company and its subsidiaries and affiliates, or other similar changes in the Company's business.

Company Performance: Environmental Health & Safety (EH&S) Measures – 25%
EH&S measures are as follows (see Appendix F for definitions):

- Personal Safety – Total Recordable Injury Rate (TRIR);
- Process Safety – Process Safety Incident Rate (PSIR); and
- Environmental Events (EE).

Company Performance: Financial Measures – 75%
Financial measures are objectives related to the following (see Appendix F for definitions):

- Reliability;
- Equipment Utilization;
- Operating Expense; and
- Return on Capital Employed.

Spot Bonus

Introduction
Employees making an extraordinary contribution to the furtherance of Company financial performance or advances in Company culture may be nominated by their manager or executive sponsor for a Bonus on a spot basis (a "Spot Bonus"), subject to approval by the Chief Executive. Spot Bonuses will be limited to employees in salary grades E13 and below and a maximum value of five thousand dollars ($5,000).

Terms and Conditions of Spot Bonus
Except as specifically set forth herein, the foregoing provisions of the Plan will likewise apply to a Spot Bonus. For the avoidance of doubt, these provisions relate to, among others, forfeiture and/or recoupment, amendment or termination, tax withholding, data protection and consent and governing law.

General Provisions

See Appendix F for definitions relating to the Plan.

Participation in the Plan is subject to (i) each individual employee’s compliance with the Company’s mission and values, its code of ethics and its policies and procedures, including, without limitation, the Corporate Policies and Procedures and employee handbook (collectively, “Company Policies”), and (ii) the Clawback and Recoupment Policy attached as Appendix G.

Each employee that is eligible and receives a Bonus or Spot Bonus will be liable for any and all federal, state, provincial, local or foreign taxes, pension plan contributions, employment insurance premiums, social insurance contributions, amounts payable to a governmental and/or regulatory body in the employee’s country and other levies of any kind required by applicable laws to be deducted or withheld with respect to any such award (collectively, the “Withholding Taxes”). The Company will have the right to deduct and withhold all required Withholding Taxes from any payment or other consideration deliverable to an employee pursuant to any such payment. All awards under the Plan are intended to be exempt from Section 409A of the Internal Revenue Code of 1986, as amended, and shall be construed and interpreted in accordance with such intent.

Participation in the Plan does not confer upon any employee any right to continue in the employ of the Company or its subsidiaries, nor interfere in any way with the right of the Company and its subsidiaries to terminate any employee’s employment at any time. The Company and its subsidiaries are under no obligation to continue the Plan in future years.

The Compensation Committee may at any time, or from time to time, in its sole and absolute discretion, (a) amend, alter or modify the provisions of this Plan, (b) terminate this Plan, or (c) terminate the participation of an employee or group of employees in this Plan; provided, however, that in the event of the termination of the Plan or a termination of participation, the Compensation Committee, in its sole and absolute discretion, may determine that a prorated award is payable to employees who were participants in this Plan under such terms and conditions as established by the Compensation Committee.

Notwithstanding anything herein to the contrary, whether or not any payment or award is authorized, earned or paid under the Plan will be determined by the Compensation Committee in its sole and absolute discretion, and no such payment or award shall be earned, nor shall any right to any such payment or award exist or accrue, unless, among other factors, such payment or award has been authorized by the Compensation Committee in its sole and absolute discretion, and actually paid to the employee. In addition, whether or not any payment or award is authorized, earned or paid pursuant to the Plan is without regard to whether any of the individual performance metrics, financial performance targets and/or goals, or any other benchmarks, targets, personal goals or criteria set forth in the Plan are met, not met, exceeded or not exceeded.

No employee, beneficiary or other person shall have any right, title or interest in any amount awarded under the Plan prior to the payment of such award to him or her. An employee’s rights to a payment under the Plan are no greater than those of unsecured general creditors of the Company or its subsidiaries.

By participating in the Plan, each employee consents to the holding and processing of personal information provided by such employee to the employer, any affiliate of the employer, trustee or third party service provider, for all purposes relating to the operation of the Plan. Consents include, but are not limited to: (i) administering and maintaining employee records; (ii) providing information to the

employer, its affiliates, trustees of any employee benefit trust, registrars, brokers or third party administrators of the Plan; (iii) providing information to future purchasers or merger partners of the employer or any of its affiliates, or the business in which the employee works; and (iv) to the extent not prohibited by applicable law, transferring information about the employee to any country or territory that may not provide the same protection for the information as the employee's home country.

The Plan is governed by the laws of the State of New York and as such will be construed under and in accordance with the laws of the State of New York without regard to conflicts of law.

Appendix A
Compensation Structure: Base Pay & Incentive Plans

[Table Redacted]

Individual Performance Measures
Supervisor’s assessment of employee’s performance will be based on the following categories:

- Interpersonal effectiveness
- Business conduct
- Professional and technical development
- Leadership
- Achievement of goals
- Results orientation

The assessment is discretionary and based on a wide range of considerations which often change over the course of the year.

Appendix B
Bonus Payout and Company Performance Calculations

Bonus Payout Calculation:

Eligible Compensation	X	Target Bonus % based on Salary Grade	X	[	Company Performance Allocation* (0-100%)	X	Company Performance Multiplier (0-150%)	+	Individual Performance Allocation* (0-100%)	X	Individual Performance Multiplier (0-150%)	]

*Company Performance Allocation + Individual Performance Allocation = 100%
Allocations are based on employee salary grade

****Company Performance Multiplier:**

25%	X	EH&S Achievement (0-150%)	+	75%	X	[	25% X	Reliability (0-150%)	+	25% X	Equipment Utilization (0-150%)	+	25% X	Operating Expense (0-150%)	+	25% X	ROCE (0-150%)]

Appendix C
Bonus Payout Examples

Example Bonus Calculation 1:														
Salary Grade	E12													
Eligible Compensation	$196,000	**Eligible Compensation**		**Bonus Target %**			**Co. Perf. Alloc.**		**Co. Perf. Multiplier**		**Ind. Perf. Alloc.**		**Ind. Perf. Multiplier**	
Performance Rating	Exceeds	$196,000	X	40%	X	(	50%	X	110%	+	50%	X	125%	)
Bonus Target %	40%													
Company Performance Allocation	50%		=	$92,120										
Company Performance Multiplier (0-150%)	110%													
Individual Performance Allocation	50%													
Individual Performance Multiplier (0-150%)	125%													
Example Bonus Calculation 2:														
Salary Grade	E06													
Eligible Compensation	$90,000	**Eligible Compensation**		**Bonus Target %**			**Ind. Perf. Alloc.**		**Ind. Perf. Multiplier**					
Performance Rating	Far Exceeds	$90,000	X	14%	X	(	100%	X	150%	)				
Bonus Target %	14%													
Company Performance Allocation	N/A		=	$18,900										
Company Performance Multiplier (0-150%)	N/A													
Individual Performance Allocation	100%													
Individual Performance Multiplier (0-150%)	150%													
Example Bonus Calculation 3:														
Hourly Non-Represented	Hrly Non-Rep													
Eligible Compensation	$70,000	**Eligible Compensation**		**Bonus Target %**			**Co. Perf. Alloc.**		**Co. Perf. Multiplier**					
Performance Rating	None	$70,000		6%	X	(	100%	X	110%	)				
Bonus Target %	6%													
Company Performance Allocation	100%		=	$4,620										
Company Performance Multiplier (0-150%)	110%													
Individual Performance Allocation	N/A													
Individual Performance Multiplier (0-150%)	N/A													

Appendix D
CVR Refining, LP

Eligibility
Non-union direct employees of Company, its general partner and their respective subsidiaries, including Commercial Executives, Pipeline, Trucking, Marketing, Company Controller, Crude, Planning, Wholesale, Wynnewood and Coffeyville refineries and Capital Projects, and any employee of any affiliated entity deemed by the Chief Executive in their sole discretion to be solely dedicated to the Company or its subsidiaries, but excluding anyone not an eligible employee as described in the Plan.

Appendix E
CVR Refining, LP
Bonus Payout Measures

Environmental Health & Safety (EH&S) Measures (25%)
Three measures evenly weighted (33-1/3% each): Total Recordable Incident Rate (TRIR), Process Safety Tier I Incident Rate (PSIR), and Environmental Events (EE):

Percentage Change(over the prior year)	Bonus Achievement
Increase in Incident Rate or Incidents	Zero
0%	50% of Target Percentage (Threshold)
Decrease > 0% and < 3%	Linear Interpolation between Threshold and Target
Decrease of 3%	Target Percentage
Decrease > 3% and < 10%	Linear Interpolation between Target and Maximum
Decrease of 10% or more, or if TRIR is maintained at or below 1.0, PSIR at or below 0.2 and EE at or below 20	150% of Target (Maximum)

Financial Measures (75%)
Four measures evenly weighted (25% each):

Reliability	Bonus Achievement
Greater than 8.0%	Zero
8.00%	50% of Target Percentage (Threshold)
6.01% to 7.99%	Linear Interpolation between Threshold and Target
6.00%	Target Percentage
5.0% to 5.99%	Linear Interpolation between Target and Maximum
Less than 5.0%	150% of Target (Maximum)

Equipment Utilization	Bonus Achievement
Less than 95%	Zero
95%	50% of Target Percentage (Threshold)
95.01% to 99.99%	Linear Interpolation between Threshold and Target
100%	Target Percentage
100.01% to 104.99%	Linear Interpolation between Target and Maximum
Greater than 105%	150% of Target (Maximum)

Operating Expense	Bonus Achievement
Greater than 103.0%	Zero
103%	50% of Target Percentage (Threshold)
100.1% to 102.99%	Linear Interpolation between Threshold and Target
100%	Target Percentage
95.0% to 99.99%	Linear Interpolation between Target and Maximum
Less than 95%	150% of Target (Maximum)

CVRR ROCE (Ranking vs. Peer Group*)	Bonus Achievement
First (highest)	150% of Target (Maximum)
Second	125% of Target Percentage
Third	112.5% of Target Percentage
Fourth	Target Percentage (100%)
Fifth	75% of Target Percentage
Six	50% of Target Percentage (Minimum)
Seventh	Zero

Performance measures subject to peer group ranking will be based on LTM data as of September 30 of the Performance Period.

*The Refining Industry peer group will include Valero, Marathon, PBF Energy, Delek, Holly Frontier and Par Pacific.

Appendix F
Definitions

“Adjusted EBITDA” for the Company means earnings before interest, taxes, depreciation and amortization, and adjusted for inventory valuation impacts,, unrealized gains and losses on derivative transactions, turnaround expenses to the extent they are included in EBITDA, loss on extinguishment of debt, asset impairment charges, and board-directed actions.

“Adjusted EBITDA Threshold” means actual maintenance and sustaining capital expenditures plus reserves for turnaround expenses plus interest on debt for the given Performance Period, and board-directed actions. **[Redacted].**

“Chief Executive” means the President and Chief Executive Officer of the Company.

“Eligible Compensation” means (i) for eligible exempt employees, such employee’s base salary at the time the Bonus or Spot Bonus is determined (prorated for time in an eligible position), and (ii) for eligible non-exempt and non-union hourly employees, such employees’ eligible wages for the applicable year as determined by the Company to be required by law.

“Environmental Events” (“EE”) means the total number of reportable quantities and water deviations.

- Reportable quantities are releases of substances during a 24-hour period that exceed a federal, state or local reporting threshold.
  - Reportable quantity is an event or contemporaneous combination of events during at 24-hour period that results in a release that exceeds a reportable quantity or quantities of a EPCRA/CERCLA compound as defined in the EPA List of Lists <u>or</u> a release that exceeds any other federal, state or local reporting threshold. Federally permitted releases and continuous releases defined in 40 CFR §302.6 and §302.8 are not considered reportable quantities under this measure.
  - A reportable quantity is counted by event or contemporaneous combination of events, not by the number of individual reports that are filed or number of compounds which exceed their reportable quantity. Events are considered contemporaneous if they occur within 24-hours or when a common cause results in one or more reportable quantities during contiguous or overlapping 24-hour periods.
- Water deviations are exceedances of a NPDES-based permit limit, wastewater bypasses and sheens to water of the United States.
  - The number of deviations is based on the number of individual permit limits exceeded irrespective of the number of causal events attributed to the deviation. However, a continuance of an ongoing permit limit deviation would not be double-counted if it were contemporaneous with a prior deviation and/or event.
  - Oil sheens and reportable quantities to water are only counted once as a water deviation environmental event.

A single event that results in multiple reportable quantities and/or when a water deviation is also a regulatory reportable quantity is not “double-counted” and will only be considered one Environmental Event.

“Executive Officer” of the Company means an “executive officer” as that term is defined in Rule 3b-7 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) or an “officer” of the Company for purposes of Section 16 of the Exchange Act.

“Equipment Utilization” means actual throughput for the Performance Period divided by the planned throughput for the Performance Period, as adjusted at the discretion of the Compensation Committee for events or downtime caused by third parties. Planned throughput is reflected in the Company's annual volumetric plan. Monthly targets may be adjusted on a month by month basis to optimize production for which there is an economic incentive to do so during the given period. In such cases, the annual volumetric plan will be adjusted for the purposes of Bonus calculations with the new targets in place of the original targets.

"Operating Expense" means measurement of actual controllable and fixed operating costs divided by budgeted amounts. For purposes of calculating the Bonus, budgeted amounts are subject to revision by the Board in its discretion based on changes in business conditions or configuration of the business (e.g., items such as acquisitions or divestitures, unusual or non-recurring charges and changes in staffing relating to changed strategy approved by the Board will be considered as items for potential adjustment).

"Process Safety Incident Rate" ("PSIR") means a standardized measure of process safety performance for the number of process safety tier 1 events per 100 full-time equivalent employees, as defined in the recommended practice for process safety performance indicators, ANSI/API RP 754.
A process safety tier 1 event is an unplanned or uncontrolled loss of primary containment of any material, including non-toxic and non-flammable materials, from a process that results in one or more consequences, including:

a. an employee, contractor or subcontractor "days away from work" injury and/or fatality;
b. a hospital admission and/or fatality or a third-party;
c. an officially declared community evacuation or community shelter-in-place;
d. a fire or explosion resulting in greater than or equal to $25,000 of direct cost to the company;
e. an officially declared community evacuation or community shelter-in-place;
f. a pressure relief device (PRD) discharge to atmosphere whether directly or via a downstream destructive device that results in one or more of four defined consequences and a PRD discharge quantity greater than defined threshold quantities in a one-hour period; or,
g. a release of material greater than defined threshold quantities described in any one-hour period.

"Reliability" means Lost Profit Opportunity ("LPO"), defined as foregone refining margin that results from operational variance due to factors within the Company's control, specifically including human and equipment performance, divided by the sum of actual refining margin plus LPO.

"Return on Capital Employed" ("ROCE") means operating income before depreciation and amortization (excluding asset impairments, non-cash asset write-downs and inventory valuation gains or losses) divided by average Capital Employed during the Period (averages calculated using 5-quarter end balances for the measurement period).

"Capital Employed" means the total assets, less current liabilities (adjusted for any asset or inventory valuations imputed on operating income).

"Total Recordable Injury Rate" ("TRIR") means a standardized measure of safety performance for the number of work-related injuries per 100 full-time equivalent employees, as defined by OSHA.

"Throughput" means total crude oil and other feedstocks charged to the refinery including isobutane, normal butane, natural gasoline, gas oil, biodiesel and ethanol used for blending.

Appendix G
Clawback and Recoupment Policy

This Clawback and Recoupment Policy applies to each Bonus and Spot Bonus (for purposes of this Plan, an “Award”).

If the Compensation Committee in its sole and absolute discretion, determines that (i) there has been misconduct or a gross dereliction of duty resulting in either a violation of law or Company Policy, that, in either case, causes significant financial or reputational harm to the Company (or any of its affiliates), and that an employee committed the misconduct or gross dereliction of duty, or failed in his or her responsibility to manage or monitor the applicable conduct or risk; (ii) an employee has committed an immoral act which is reasonably likely to impair the reputation of the Company (or any of its affiliates); (iii) an employee committed, or was indicted for, a felony or any crime involving fraud or embezzlement or dishonesty or was convicted of, or entered a plea of *nolo contendere* to a misdemeanor (other than a traffic violation) punishable by imprisonment under federal, state or local law; (iv) an employee violated any securities or employment laws or regulations; (v) an employee materially breached a Company Policy or any non-compete and/or non-solicitation clause included in an agreement or offer letter with such employee’s employer; (vi) an employee embezzled and/or misappropriated any property of the Company (or any of its affiliates) or committed any act involving fraud with respect to the Company (or any of its affiliates); or (vii) an employee engaged in conduct (including by omission) or an event or condition has occurred, which, in each case, would have given the Company or its subsidiaries the right to terminate the employee’s employment for Cause (as defined herein), then, to the extent not prohibited by applicable law, such Compensation Committee, in its sole and absolute discretion, may cancel, declare forfeited, or rescind such Award, or may seek reimbursement from such employee (and such employee will be obligated to repay) all or any portion of any payments made to such employee in respect of such Award.

If the Compensation Committee determines, in its sole and absolute discretion, that calculations underlying the performance measures and targets, including but not limited to mistakes in the Company’s financial statements, were incorrect, then such Compensation Committee may, in its sole and absolute discretion, seek to recover the amount of any payment made to employees that exceeded the amount that would have been paid based on the corrected calculations.

To the extent not prohibited by applicable law, if an employee is an officer, or, if applicable, has otherwise been designated by the Board of the Company as an Executive Officer, the Board may seek reimbursement of any payment made to such employee in respect of an Award in the event of a restatement of such Company’s (or any of its subsidiaries’) financial results (occurring due to material noncompliance with any financial reporting requirements under applicable securities laws) that reduced a previously granted payment made to such employee in respect of an Award. In that event, the Compensation Committee may, in its sole and absolute discretion, seek to recover the amount of any such payment made to the employee that exceeded the amount that would have been paid based on the restated financial results.

If the Company subsequently determines that it is required by law to apply a “clawback” or alternate recoupment provision to an Award, under the Dodd-Frank Wall Street Reform and Consumer Protection Act or otherwise, then such clawback or recoupment provision also shall apply to such Award, as if it had been included on the effective date of such Award.

To the extent not prohibited under applicable law, the Company (or any of its subsidiaries) (as applicable), in its sole and absolute discretion, will have the right to set off (or cause to be set off) any amounts otherwise due to employee from such Company or a subsidiary in satisfaction of any repayment obligation of such employee hereunder, provided that any such amounts are exempt from, or set off in a manner intended to comply with the requirements of Section 409A of the Internal Revenue Code of 1986, as amended.

For the avoidance of doubt, the Company’s and its subsidiaries’ rights under this Plan will apply to employees, without regard to whether any such employee is currently providing, or previously provided, services to the Company or its subsidiary as an employee.

“Cause” for purposes of any Award means such employee’s (i) refusal or neglect to perform substantially his or her employment-related duties or services, (ii) personal dishonesty, incompetence, willful misconduct or breach of fiduciary duty, (iii) indictment for, conviction of or entering a plea of guilty or nolo contendere to a crime constituting a felony or his or her willful violation of any applicable law (other than a traffic violation or other offense or violation outside of the course of employment or services to the Company or its affiliates which in no way adversely affects the Company and its affiliates or their reputation or the ability of the employee to perform his or her employment-related duties or services or to represent the Company or any affiliate of the Company that employs such employee or to which the employee performs services), (iv) failure to reasonably cooperate, following a request to do so by the Company, in any internal or governmental investigation of the Company or any of its affiliates or (v) material breach of any written covenant or agreement with the Company or any of its affiliates not to disclose any information pertaining to the Company or such affiliate or not to compete or interfere with the Company or such affiliate; provided that, in the case of any employee who, as of the date of determination, is party to an effective services, severance or employment agreement with the Company or any affiliate, “Cause” will have the meaning, if any, specified in such agreement.

February 22, 2021

Via Hand Delivery
Mr. David L. Landreth

Dear Mr. Landreth,

This Letter Agreement memorializes the terms under which, in connection with your agreement to remain employed by CVR Services, LLC (“***Company***”) through March 26, 2021 (your “***Separation Date***”) and to comply with other obligations as set forth herein, you would be eligible for certain compensation as outlined in this Letter Agreement including the Release Agreement, attached hereto as Exhibit A and incorporated herein, to which you would not otherwise be entitled.

1. **Interim Obligations.** You agree to remain employed through your Separation Date and to perform any and all services, including with respect to transition and related activities, reasonably requested by Company or any Released Parties (as defined in Exhibit A) in accordance with industry best practices, applicable law and all policies, standards, procedures and practices of Company (collectively, the “***Interim Obligations***”).

2. **General Benefits.** Your eligibility for and coverage under the Company’s employee benefit plans will end on the Separation Date. Following your Separation Date, you will be (a) entitled to receive any earned but unused Paid Time Off (less applicable withholdings and deductions) to which you would be entitled following your Separation Date under applicable policy of Company or any Released Parties (“***Unused PTO***”); (b) entitled to receive your base salary (less applicable withholdings and deductions) earned for periods on and preceding your Separation Date (“***Earned Base Salary***”); (c) immediately eligible for continued benefits, at your own expense, in accordance with COBRA (“***COBRA Eligibility***” and together with Unused PTO and Earned Base Salary, the “***General Benefits***”).

3. **Separation Benefits.** Provided you (a) agree to the terms of this Letter Agreement; (b) comply with and reasonably perform all Interim Obligations; (c) do not quit, resign, or get dismissed for Cause (as defined herein) prior to your Separation Date; (d) sign (no earlier than your Separation Date), return and do not rescind the Release Agreement, attached hereto as Exhibit A and incorporated herein; and (e) comply with all terms and conditions of such Release Agreement (including but not limited to the Confidentiality and Non-Disparagement provisions contained therein), you will also receive a lump sum payment (less applicable deductions and withholdings) in the amount of $450,000 (the “***Separation Benefit***”), payable on the date determined reasonably practicable by Company in its sole discretion following expiration of any applicable rescission periods relating to the Release Agreement.

4. **No Other Benefits.** You agree that you are entitled to no other benefits, compensation, payments, sums or amounts under (a) applicable law, (b) any policy, standard or procedure or similar arrangement of any Released Parties (including but not limited to the Severance Pay Plan), or (c) any agreement by and between you and any Released Parties (but not limited to any awards or agreements under any Long-Term Incentive Plan or similar plan of any Released Parties, and you voluntarily agree to waive any rights thereunder. While you will be entitled to the General Benefits regardless of whether you

sign, return and do not rescind the Release Agreement, you will only be entitled to the Separation Payment unless you comply with all conditions set forth under Section 3(a) through 3(d) above.

Please note, in the event of a conflict between the terms of this Letter Agreement and the Release Agreement, the Release Agreement shall control. Should you have any questions regarding this Letter Agreement or the Release Agreement, please contact Alicia Skalnik.

Sincerely,

CVR SERVICES, LLC

/s/ Alicia Skalnik

Alicia Skalnik
Vice President – Human Resources

Agreed to this 22nd day of February, 2021

/s/ David L. Landreth
David L. Landreth

RELEASE AGREEMENT

This Release Agreement (the "***Agreement***") is entered into between David L. Landreth ("***Employee***") and CVR Services, LLC ("***Company***") on the ___ day of __________, 2021.

1. Separation. Employee and the Company ended their employment relationship on March 26, 2021 ("***Separation Date***"). Effective on the Separation Date, Employee is no longer authorized to transact business or incur any expenses, obligations or liabilities on behalf of the Company. Employee acknowledges, represents and warrants that (a) Employee has reported to the Company any and all work-related injuries incurred during employment and has disclosed to the Company any information he has concerning any fraudulent or unlawful conduct involving the Released Parties; (b) the Company properly provided any leave of absence because of Employee's or a family member's health condition or military service, and Employee has not been subjected to any improper treatment, conduct or actions due to a request for or taking such leave; (c) Employee has provided the Company with written notice of any and all concerns regarding suspected ethical and compliance issues or violations of law, rule, regulation or order on the part of the Company or any other Released Parties; (d) Employee does not have a claim of unlawful discrimination, harassment, sexual harassment, abuse, assault, or other criminal conduct or retaliation; and (e) upon receipt of a final paycheck, Employee has been paid and/or received all leave (paid or unpaid), all unused Paid Time Off to which Employee is entitled, compensation, wages, bonuses, severance or termination pay, commissions and/or benefits to which Employee may have been entitled and that no other remuneration or benefits are due to Employee, except as set forth in this Agreement.

2. Separation Benefits. In return for Employee's release of claims and other promises in this Agreement, including the confidentiality and non-solicitation provisions contained in Section 10, the Company will provide Employee the following separation benefits, to which Employee agrees he is are not otherwise entitled: the total gross amount of $450,000, less applicable withholdings and deductions ("***Separation Benefits***"), to be paid as soon as administratively feasible after the Effective Date (as defined below). Amounts the Company is paying in consideration for the Agreement will be treated as taxable compensation but are not intended by either party to be treated, and will not be treated, as compensation for purposes of eligibility or benefits under any benefit plan of the Company. The Company will apply standard tax and other applicable withholdings to payments made to Employee. Employee agrees that the consideration the Company will provide includes amounts in addition to anything of value to which Employee already is entitled. The Company also will pay Employee base salary through the Separation Date and accrued and unused paid time off as of the Separation Date, if applicable under state law and Company policy, regardless of whether Employee signs this Agreement, in each case, subject to applicable tax and other applicable withholdings.

3. Release of Claims. In consideration of the separation benefits provided by the Company, Employee, for Employee personally and Employee's representatives, heirs, executors, administrators, successors, assigns and anyone acting by, through, under or on behalf of Employee, fully, finally and forever releases, waives and discharges the Company and its

affiliates, as well as their respective successors, assigns, officers, owners, controlling persons, stockholders (including Carl C. Icahn and his family members), directors, agents, representatives, carriers, attorneys, and employees (collectively, "***Released Parties***"), of and from all claims, demands, actions, causes of action, suits, damages, losses, and expenses, of any and every nature whatsoever, individually or as part of a group action, known or unknown, as a result of actions or omissions occurring through the date Employee signs this Agreement. Specifically included in this waiver and release are, among other things, claims of unlawful discrimination, harassment, or failure to accommodate; related to terms and conditions of employment; for compensation or benefits; and/or for wrongful termination of employment, under Title VII of the Civil Rights Act of 1964, the Americans with Disabilities Act, the Civil Rights Act of 1866, the Employee Retirement Income Security Act (ERISA), the Age Discrimination in Employment Act (ADEA), the Family and Medical Leave Act (FMLA), the National Labor Relations Act (NLRA), any amendments to the foregoing, or any other federal, state or local statute, rule, ordinance, or regulation, including, but not limited to (all as amended), Kansas Acts Against Discrimination, Kan. Stat, Ann. § 44-1001, et seq. and Kansas Age Discrimination in Employment Act, Kan. Stat. Ann. § 44-1111, et seq.; Illinois Human Rights Act, 775 Ill. Comp. Stat. Ann. 5/1-103, 5/2-101, 5/2-102, 5/2-103, 5/2-104, and 56 Ill Adm. Code 5210.110; Oklahoma Anti-Discrimination Act, including 25 Okla. Stat. §§ 1201 *et seq*., Okla. Admin Code § 335, Ch. 15, Subchapter 3, Chapters 21 and 451 of the Tex. Lab. Code, Florida Civil Rights Act, f/k/a Human Rights Act of 1977,Fla. Stat. § 760.01 et seq., Florida Equal Pay Law, Fla. Stat. § 448.07, Fla. Stat. § 725.07, Florida AIDS Act, Fla. Stat. § 760.50, Florida Law Sickle-Cell Trait Discrimination Law, Fla. Stat. §§ 448.075, 448.076, Florida Private Whistleblower Protection Law, Fla. Stat. § 448.101 et seq., Florida Public Whistle-Blower's Act, Fla. Stat. § 112.3187 et seq., Florida Worker's Compensation Retaliation Law, Fla. Stat. § 440.205, Florida Unpaid Wages Law, Fla. Stat. § 448.08; Florida Minimum Wage Act, Fla. Stat. §§ 448.109, 448.110, Florida Leave to Victims of Domestic Violence Act, Fla. Stat. § 741.313; New York State Human Rights Law, New York Executive Law, New York Civil Rights Law, New York City Human Rights Law, New York City Local Civil Rights Restoration Act of 2005, New York City Administrative Code, New York Minimum Wage Act, New York City Earned Safe and Sick Time Act, New York Worker Adjustment Retraining and Notification Act, New York Labor Law, New York Wage Theft Prevention Act, the New York Paid Family Leave Law, the New York laws for jury duty, voting, bone marrow and blood donation, and military family leave, the New York Fair Credit Reporting Act and the retaliation provisions of the New York Workers' Compensation law; and waivable rights under the state constitutions of all applicable states; as well as claims in equity or under common law for tort, breach of contract, wrongful discharge, defamation, emotional distress, and negligence.

Employee agrees and acknowledges that he has received valuable bargained for consideration in exchange for the terms of this Agreement, including but not limited to the Release, Confidentiality and Non-Disparagement provisions set forth herein.

4. Proprietary Information. Employee acknowledges access to and receipt of confidential business and proprietary information of or regarding the Company and its affiliates including, without limitation, trade secrets, customer and supplier lists and information, pricing,

business opportunities, valuation models and methodologies, processes, technologies, and any intellectual property. Employee agrees not to make any such information known to any member of the public. Employee further agrees to return to the Company within five (5) business days from the Separation Date all confidential and proprietary information (including notes, documents and records related thereto) and all other Company property, such as office equipment, computers, cell phones, and security badges, as well as all copies or excerpts of any property, files or documents obtained as a result of employment with the Company.

5. Confidentiality and Non-Disparagement. The nature and terms of this Agreement are confidential and he has not been and shall not be disclosed by Employee at any time to any person other than Employee's lawyer or accountant, a governmental agency, or Employee's spouse or significant other, without the prior written consent of the General Counsel of the Company, except as necessary in any legal proceedings directly related to the provisions and terms of this Agreement, to prepare and file income tax forms, or as required by court order after reasonable notice to the Company, and provided, in each case, that Employee makes reasonable efforts to secure the confidential treatment of such information in connection therewith. Employee further agrees not to solicit or initiate any demand by others not party hereto for any disclosure of the terms and conditions of this or any similar agreement. Employee also agrees to keep confidential and not to publish, post, communicate, use or disclose any confidential or personal information, or to (directly or indirectly) write or contribute to any book, film, broadcast, article, blog or other publication of any kind, about, of or concerning, in whole or in part, any Released Parties (including Carl C. Icahn and his family members), in each case, except to the extent compelled by the non-appealable order of a court or other body having jurisdiction. Employee agrees not to make statements to clients, customers, suppliers or others regarding any Released Parties that are in any way disparaging or negative towards the Released Parties (including Carl C. Icahn and his family) or their businesses, products or services, or encourage others to do so. Nothing in this Agreement is intended to or will be used in any way to limit Employee's rights to make truthful statements or disclosures about his employment to any governmental agency or in any sworn testimony. Employee agrees that the requirements and obligations in this Section 5 serve the mutual interests of both Employee and Released Parties in ensuring an amicable separation between the parties. Employee further agrees that it is his preference, and in the mutual interest of both Employee and the Released Parties that this Agreement and any claims Employee may have otherwise raised, but that are now released by this Agreement, remain confidential.

Notwithstanding the confidentiality and non-disclosure obligations in this Agreement and otherwise, Employee understands that nothing in this agreement prohibits him from reporting any possible violations of federal law or regulation to any government agency or entity, including but not limited to the Department of Justice and the Securities and Exchange Commission, or making any other disclosures that are protected under the whistleblower provisions of federal law or regulation. Employee is not required to notify the Company that he will make or has made such reports or disclosures. Non-Compliance with the disclosure provisions of this Agreement shall not subject Employee to criminal or civil liability under any Federal or State trade secret law for the disclosure of a Company trade secret if the disclosure is made: (i) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney in confidence solely for the purpose of reporting or investigating a suspected violation of law; (ii) in a complaint or other document filed in a lawsuit or other proceeding, provided that any complaint or document containing the trade secret is filed under seal; or (iii) to an attorney representing Employee in a lawsuit for retaliation by the Company for reporting a suspected violation of law or to use the trade secret information in that court proceeding, provided that any document containing the trade secret is filed under seal and Employee does not disclose the trade secret, except pursuant to court order.

6. Cooperation. Employee agrees to cooperate with the Released Parties regarding matters within the knowledge or responsibility of Employee. Without limiting the foregoing, Employee agrees to (a) meet with a Released Party's representatives, its counsel or other designees at mutually convenient times and places with respect to any items within the scope of this provision; (b) provide truthful testimony regarding same to any court, agency, or other adjudicatory body; and (c) provide the Company with notice of contact by any non-governmental adverse party or such adverse party's representative, except to the extent such notice is prohibited by law. The Company will reimburse Employee for his actual and reasonable expenses incurred in connection with such cooperation.

7. Non-Admission. This Agreement shall not be construed as an admission by any Released Party of any liability or acts of wrongdoing or unlawful discrimination, nor shall it be considered to be evidence of any liability, wrongdoing, or unlawful discrimination.

8. No Future Association. Employee waives his right to any future association, employment, contractual relationship, or any other relationship of any kind with any Released Party and agrees not to apply to any Released Party for employment or a contractual relationship.

9. Advice of Counsel, Consideration and Revocation Periods, Other Information. The Company advises Employee to consult with an attorney prior to signing this Agreement. Employee has 21 days to consider whether to sign this Agreement from the date Employee receives this Agreement and any attached information (the "***Consideration Period***"), which Employee can waive by signing and returning this Agreement to Company's Vice President – Human Resources ("***HR***") within the Consideration Period, but not before the Separation Date. If Employee signs and returns this Agreement before the end of the Consideration Period, it is because Employee freely chose to do so after carefully considering its terms. Additionally, Employee shall have seven days from the date the Employee signs and returns to the Company this Agreement (the "***Revocation Period***") to revoke this Agreement by delivering a written notice of revocation to the Company's Vice President – HR either by email or by certified or registered mail to 2277 Plaza Drive, Suite 500, Sugar Land, Texas 77479. If the Revocation Period expires on a weekend or holiday, Employee will have until the end of the next business day to revoke. This Agreement will become effective on the day after the end of the Revocation Period, provided Employee does not revoke this Agreement (the "***Effective Date***"). Employee and the Company agree that any changes proposed and/or made by either party to the Agreement, whether material or immaterial, do not restart the running of the Consideration

Period or the Revocation Period. In exchange for waiving any rights or claims, including rights or claims under the ADEA, Title VII, the ADA, and the IHRA, Employee has received valid and sufficient consideration pursuant to this Agreement, and such consideration is in addition to anything of value to which he was already entitled.

10. Non-Solicitation. In order to protect Released Parties' confidential information and key relationships, Employee agrees that for a period of one year following the Effective Date, Employee will not directly or indirectly, in any capacity, and will not induce, encourage, or assist any other individual or entity, directly or indirectly, in any capacity, to or from: (a) hiring or engaging in any capacity any individual who is or was within the last twelve months an employee of any Released Parties of whom Employee gained knowledge through his employment, or solicit or seek to persuade any such individual to discontinue their employment with the Released Parties; (b) solicit or encourage any customer of or contractor providing any services to any Released Parties, with whom Employee had material contact or about whom he has had access to confidential information during the last two years of his employment, to terminate or diminish its relationship with the Released Parties; or (c) seek to persuade any current, former (within the last twelve months) or prospective customer of the Released Parties to conduct with anyone else any business or activity that such customer or prospective customer conducts or could conduct with any Released Parties; or (d) attempt to divert, divert, or otherwise usurp any actual or potential business opportunity or transaction about which Employee gained knowledge through his employment with the Company or its affiliates. For purposes of this Section 10, "in any capacity" includes, but is not limited to, as an employee, independent contractor, volunteer, or owner.[1] Nothing herein is intended or to be construed as a prohibition against general advertising such as "help wanted" ads that are not targeted at the Released Parties' employees.

11. Special Remedies. Each of Employee's obligations under Section 10 of this Agreement shall be considered a separate and severable obligation. If a court or arbitrator determines that a restriction in this Agreement cannot be enforced as written due to an overbroad limitation (such as time, geography, or scope of activity), the parties agree that the court or arbitrator shall reform or modify the restrictions or enforce the restrictions to such lesser extent as is allowed by law. If, despite the foregoing, any provision in Section 10 is determined to be void or unenforceable, in whole or in part, then the other provisions of this Agreement will remain in full force and effect. The Parties agree that the Company will suffer irreparable harm, in addition to any damages that can be quantified, by a breach of this Agreement by Employee. Accordingly, in the event of such a breach or a threatened breach, the Released Parties will be entitled to all remedies that may be awarded by a court of competent jurisdiction or arbitrator.

12. Applicable Law and General Provisions. This Agreement shall be interpreted under the law of the state in which Employee worked for the Company. Any unresolved dispute arising out of this Agreement and the general release contained herein shall be litigated

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[1] If Oklahoma law is deemed to apply, then the following applies to Employee: (i) Sections 10 (b) and (c) are rewritten and replaced with the following: "solicit the established customers of the Company for the purpose of doing any business that would compete with the Company's business"; and (ii) Section 10 (d) shall not apply.

exclusively in any court of competent jurisdiction sitting in Houston, Texas, provided that the Released Parties may elect to pursue, without having to post any bond in connection therewith, a court action to seek injunctive relief in any court of competent jurisdiction to enforce any of its rights hereunder, including, without limitation, to terminate the violation of any of its proprietary rights, including but not limited to trade secrets, copyrights or trademarks as well as the restrictions in Section 10. Each party shall pay its own costs and fees in connection with any dispute or litigation hereunder.

13. General Provisions. Employee is not relying on any other agreements or oral representations not addressed in this Agreement. This Agreement sets forth the entire agreement between the parties, and any prior agreements between or directly involving Employee and the Company are superseded by this Agreement, except Employee's obligations under previously signed agreements or applicable policies related to business ideas, insider trading, confidentiality and unfair competition remain intact. The provisions of this Agreement are severable, and if any part of this Agreement except the release of claims is found by a court of law to be unenforceable, the remainder of this Agreement will continue to be valid and effective, and such provision shall be narrowed as minimally as necessary to make it enforceable and shall then be enforceable in its narrowed form. The headings in this Agreement are provided for reference only and shall not affect the substance of this Agreement. This Agreement may be executed in two or more counterparts, each of which shall be in an original, but all of which shall constitute one and the same instrument, and facsimile or PDF pages containing the parties' signatures shall have the same effect as the originals.

14. Protected Rights. By signing this letter agreement, Employee is not waiving his right to file a charge with, or participate in an investigation conducted by, any governmental agency, including, without limitation, the United States Equal Employment Opportunity Commission (EEOC). Nevertheless, as set forth in paragraph 3 above, Employee acknowledges that he cannot benefit monetarily or obtain damages or equitable relief of any kind from or through any such charge or any action commenced by a government agency or third party with respect to claims waived in paragraph 3.

In exchange for the promises contained in this Agreement, the Company promises to provide the benefits set forth in this Agreement.

Date:____________	CVR Services, LLC By: Alicia Skalnik Its: Vice President - HR 2277 Plaza Drive, Suite 500	______________________________ Signature

By signing this letter agreement, Employee agrees that he: (i) has carefully read this letter agreement in its entirety; (ii) is signing it voluntarily of his own free will; (iii) has had at least 21 days within which to consider its terms; (iv) is hereby advised by the Company to consult with an attorney of his choosing in connection with his decision whether to accept this letter agreement, (v) fully understands the significance of all of the terms and conditions of this letter agreement and has discussed them with an attorney of his choice, or has had a reasonable opportunity to do so; and (vi) will abide by all of the terms and conditions contained herein.

Date:_____________ Not valid if signed before Separation Date	____________________________ David L. Landreth	________________________________ Signature

LIST OF SUBSIDIARIES OF
CVR ENERGY, INC*

The following is a list of all subsidiaries of CVR Energy, Inc and their jurisdiction of organization.

Entity	**Jurisdiction**
CVR Energy Holdings, Inc.	Delaware
Wynnewood Insurance Corporation	Texas
CVR Services, LLC	Delaware
CVR Refining GP, LLC	Delaware
CVR Refining, LP	Delaware
CVR Refining, LLC	Delaware
Wynnewood Energy Company, LLC	Delaware
Wynnewood Refining Company, LLC	Delaware
Coffeyville Resources Refining & Marketing, LLC	Delaware
Coffeyville Resources Crude Transportation, LLC	Delaware
Coffeyville Resources Terminal, LLC	Delaware
Coffeyville Resources Pipeline, LLC	Delaware
CVR GP, LLC	Delaware
CVR Partners, LP	Delaware
CVR Nitrogen GP, LLC	Delaware
CVR Nitrogen, LP	Delaware
CVR Nitrogen Finance Corporation	Delaware
East Dubuque Nitrogen Fertilizers, LLC	Delaware
Coffeyville Resources Nitrogen Fertilizers, LLC	Delaware

* Pursuant to Item 601(b)(21)(ii) of Regulation S-K, the names of other subsidiaries of CVR Energy, Inc. are omitted because, considered in the aggregate, they would not constitute a significant subsidiary as of the end of the year covered by this report.

EXHIBIT 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our reports dated February 23, 2021, with respect to the consolidated financial statements and internal control over financial reporting included in the Annual Report of CVR Energy, Inc. on Form 10-K for the year ended December 31, 2020. We consent to the incorporation by reference of said reports in the Registration Statements of CVR Energy, Inc. on Forms S-8 (File No. 333-146907 and File No. 333-148783).

/s/ GRANT THORNTON LLP

Houston, Texas
February 23, 2021

EXHIBIT 31.1

Certification of President and Chief Executive Officer Pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, David L. Lamp, certify that:

1. I have reviewed this report on Form 10-K of CVR Energy, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 23, 2021

By: /s/ DAVID L. LAMP
David L. Lamp
President and Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

Certification of Executive Vice President and Chief Financial Officer Pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Tracy D. Jackson, certify that:

1. I have reviewed this report on Form 10-K of CVR Energy, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 23, 2021

By: /s/ TRACY D. JACKSON

Tracy D. Jackson
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

Exhibit 31.3

Certification of Chief Accounting Officer and Corporate Controller Pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Matthew W. Bley, certify that:

1. I have reviewed this report on Form 10-K of CVR Energy, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 23, 2021	By:	/s/ MATTHEW W. BLEY
		Matthew W. Bley
		Chief Accounting Officer and Corporate Controller
		(Principal Accounting Officer)

EXHIBIT 32.1

Certification Pursuant to 18 U.S.C. Section 1350,
as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the filing of the Annual Report on Form 10-K of CVR Energy, Inc., a Delaware corporation (the "Company"), for the fiscal year ended December 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Company certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to the best of such officer's knowledge and belief:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and,

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company as of the dates and for the periods expressed in the Report.

Date: February 23, 2021

By: /s/ DAVID L. LAMP
David L. Lamp
President and Chief Executive Officer

By: /s/ TRACY D. JACKSON
Tracy D. Jackson
Executive Vice President, Chief Financial Officer

By: /s/ MATTHEW W. BLEY
Matthew W. Bley
Chief Accounting Officer and Corporate Controller