

Refineries Derivative Analysis

BUS 419 Professor Geoffrey Poitras Summer 2020

Team Members

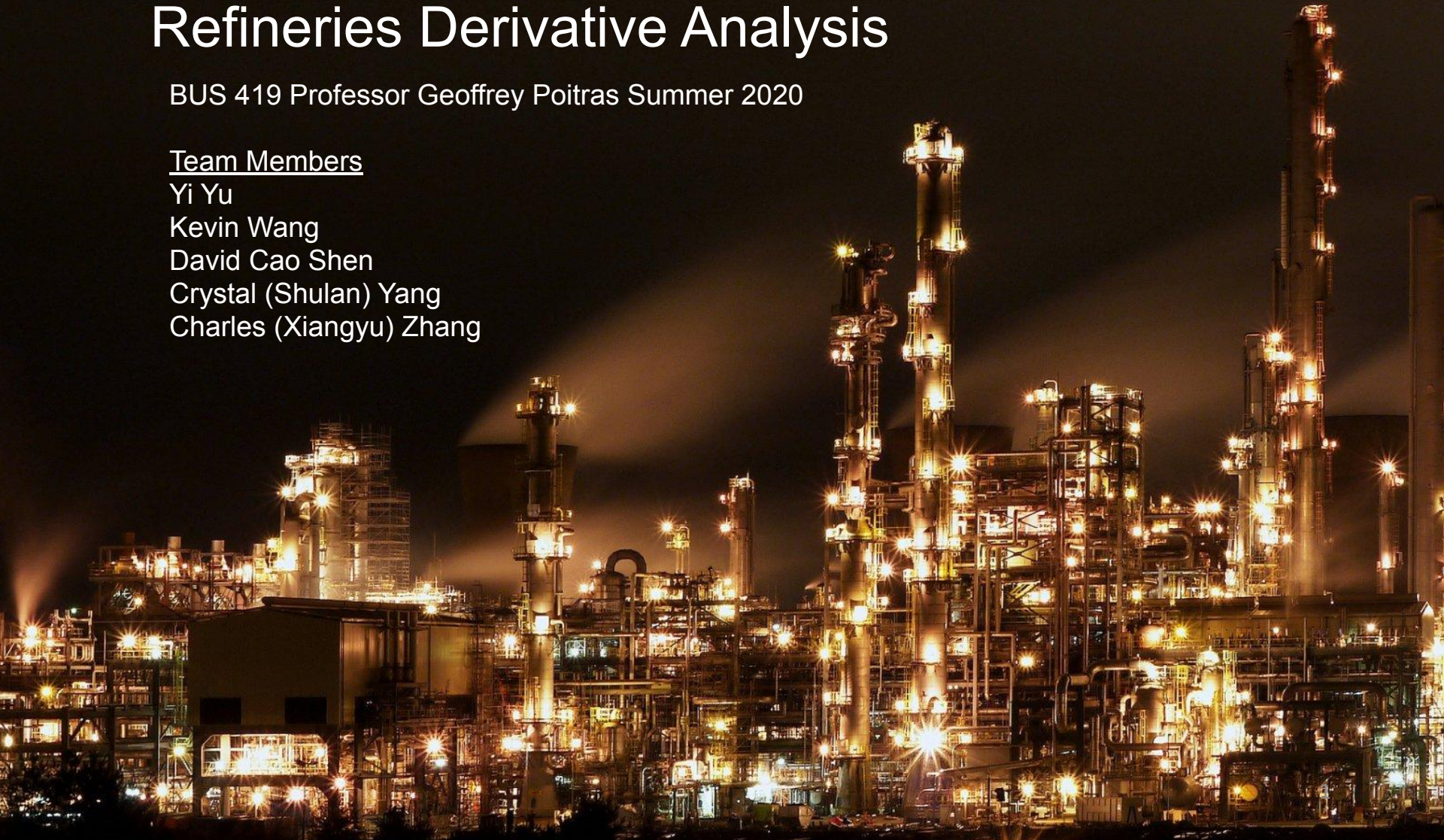
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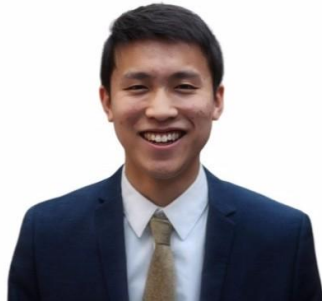
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Industry Overview
Valero Energy



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PBF Energy

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- Company Overview
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PBF Energy

- Company Overview
- Risk Management

Oil & Gas Industry Overview

Upstream



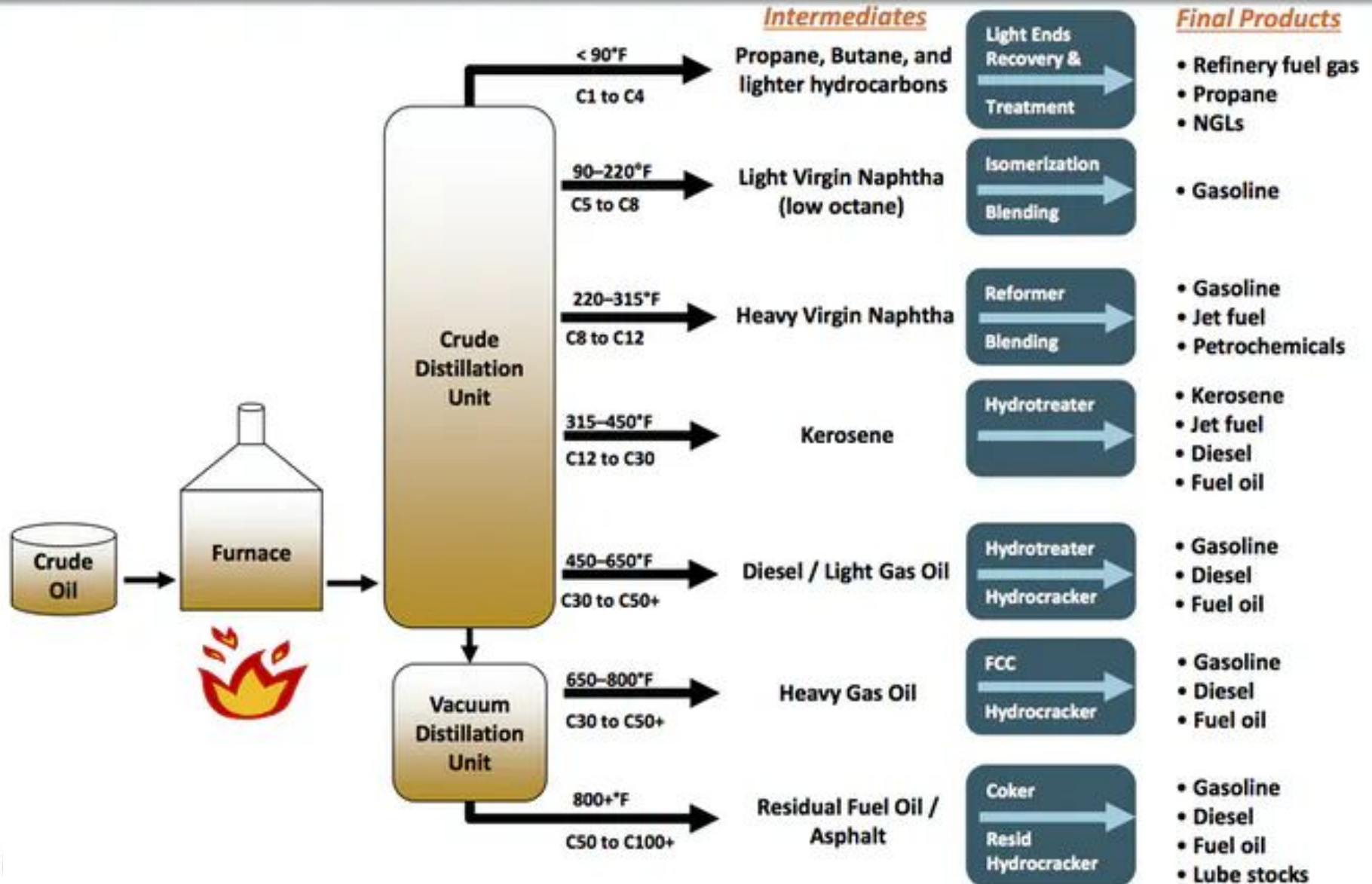
Midstream



Downstream



Basic Refining Concepts



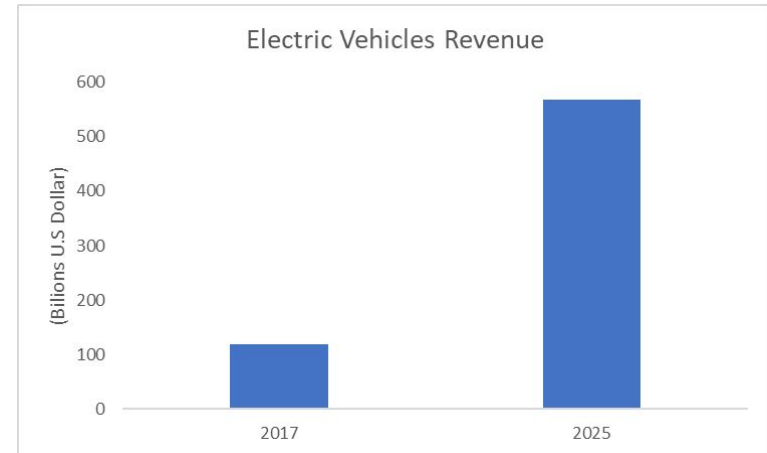
External Analysis

PEST MODEL

- Global Crude demand expected to decrease into 2040
- **Electric Vehicles threaten the Petroleum Industry**
- Changing purchasing behavior & lifestyle of consumers in response to climate change
- **Mature declining Industry**
- Geopolitical Risks & OPEC

ADDITIONAL RISK FACTORS

- Legal compliance & Environmental Protection Agency
- Commodity Price Risk & General Economy
- Interest Rate Risk
- Government Regulation




(Statista Electric Vehicle Report, 2019)

PORTER'S FIVE FORCES

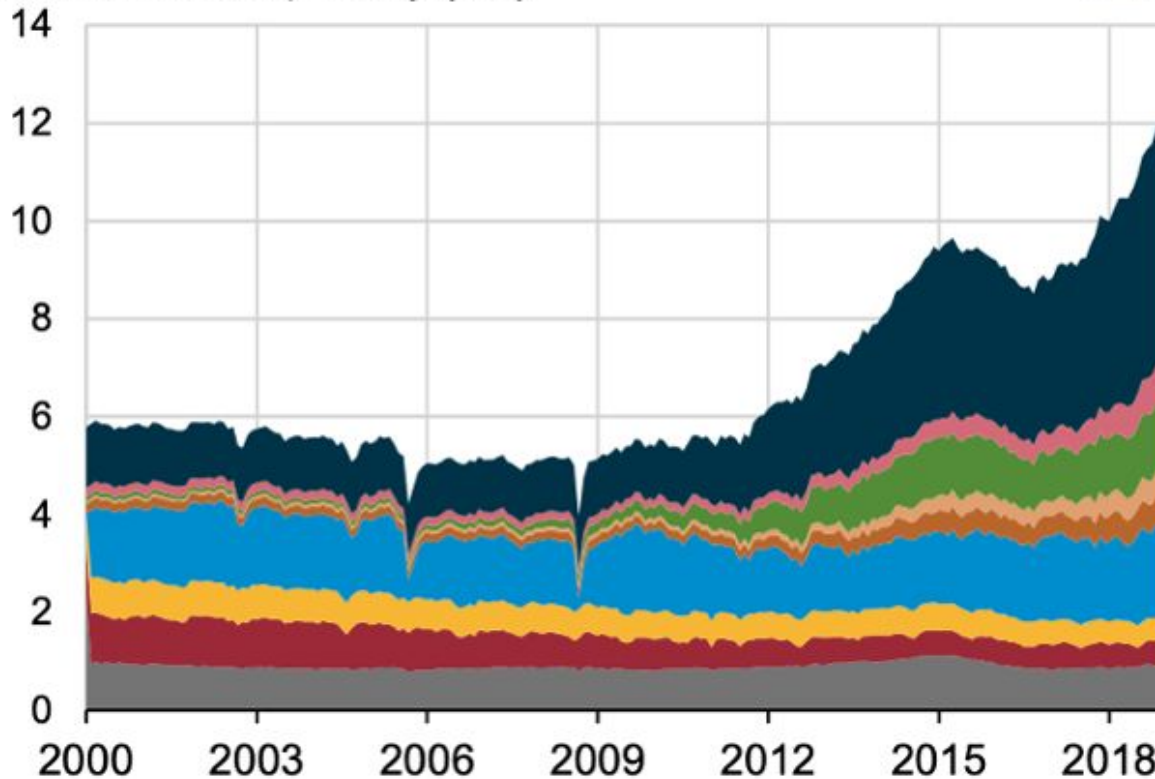
Threat of New Entrant	LOW
Bargaining Power of Buyer	HIGH
Bargaining Power of Supplier	LOW
Competitive Rivalry	HIGH
Threat of Substitution	HIGH

Industry Key Points

- 
- Largest refined oil producers are United States, Saudi Arabia, Canada and China
 - Since 2016, the US leads production of refined petroleum & natural gas products worldwide
 - Refineries profits from Crack Spread Differential
There are different Spreads for different quality of Oil & Gas (Sour Differential, Sweet Differential)

US Refinery Production Locations

U.S. crude oil production by state (2010-2018)
million barrels per day (b/d)



Annual change, 2017-2018
thousand barrels per day



Derivative Analysis





Market Summary > Valero Energy Corporation

NYSE: VLO

 Following



63.79 USD +3.11 (5.13%) ↑

Closed: Jun. 12, 7:42 p.m. EDT · Disclaimer

After hours 63.82 +0.030 (0.047%)

1 day 5 days 1 month 6 months YTD 1 year 5 years **Max**



Open	63.89	Div yield	6.15%
High	64.65	Prev close	60.68
Low	61.66	52-wk high	101.99
Mkt cap	26.01B	52-wk low	31.00
EPS	2.12		

Management Team



- CEO **Joe Gorder** has **20 years** of executive experience at Valero Energy
- Former European operations President overseeing marketing, supply and transportation
- BBA University of Missouri-St, MBA Our Lady of Lake University



- President & CIO **Lane Riggs** has 31 years of experience at Valero Energy
- Bsc Chemical Engineering University of Oklahoma, MBA West Texas A&M University



- Executive VP & CFO **Donna Titzman** has 34 years of experience at Valero Energy
- 20 years of executive experience leading Finance department at Valero Energy
- CPA, BBA Accounting University of Texas at Austin



- Executive VP & General Counsel **Jason Fraser** has 21 years of Legal experience at Valero Energy
- Specialized in Commercial Law, International Law, Employment Law
- BBA Honors University of Texas at Austin, JD Harvard Law School


Refineries Locations



Item 1: Business Model



- Export refined crude products to South America, Africa, and Europe
- Differentiate by **maximizing operating efficiencies, and minimize costs**
- 15 Refineries located in US, Canada, UK with throughput capacity of 3.15 million BPD
- 14 ethanol plants in mid-continental US region
- 3 Business Segments (Refining, Ethanol, Renewable Diesel Fuels)
- Refined products transported via Shipping to countries including US, Canada, UK, Ireland, Latin America
- Refinery by products sold via wholesale unbranded channels

 **Lowest refining cash operating expenses** while maintaining 1st quartile levels of mechanical availability



SWOT Analysis



Strength

- International manufacturer and marketer for both transportation fuels and petrochemical products
- High Project IRR
- Expansion of pipeline to connect Mid-con crude to McKee, Ardmore, and Memphis refineries
- Increasing renewable fuel production by 400,000 bpd via Diamond Green Diesel Train 2 Project, expected completion 2021
- **Highly Profitable, with ability to produce 86 different crude products**

Opportunity

- Dakota Access Pipeline enables transfer of Bakken crude to gulf coast for export
- Opportunity to expand refineries in Midwest region to distribute to domestic wholesale markets (Texas, Minnesota, Illinois)

Weakness

- Crude input sourced from third parties
- **Lack of infrastructure and transformational assets on west coast**
- Concentrated refineries in the mid-con and gulf coast area

Threat

- Fluid Coker Malfunctioning resulting in shutdown of several refinery units
- 8 violations by Air District for visible emissions and public nuisance (Goldberg, 2019b)

Financial Analysis



Key Terms - Types of Hedge Accounting

What is Hedge Accounting?

Netting out of gains/losses on an asset instead of creating accruals for gains/losses separately

Fair Value (FV) Hedge

- instrument used to hedge against assets & liabilities measured using FV
- FV Hedge is entered at the same time assets & liabilities arise
- Company decides on treating item as FV Hedge
- Gains/ Losses recorded in Income

Cash Flow (CF) Hedge:

- CF Hedge is entered before transaction occurred
- Gains/ Losses recorded in OCI -> AOCI -> Retained Earnings

SUMMARY

- Valero Energy uses FV & CF Hedges to account for derivatives
- FV Hedge Gain/losses recognized in I/S the same period
- CF Hedge Gain/losses reported in OCI
- Cash Flows due to derivatives reflected in Operating Activities

Revenue by Geography



	Year Ended December 31,		
	2019	2018	2017
U.S.	\$ 77,173	\$ 82,992	\$ 66,614
Canada	7,915	9,211	7,039
U.K. and Ireland	13,584	15,208	11,556
Other countries	9,652	9,622	8,771
Revenues	<u>\$ 108,324</u>	<u>\$ 117,033</u>	<u>\$ 93,980</u>

Revenues by Segment



		Year Ended December 31,		
		2019	2018	2017
Refining:				
Gasolines and blendstocks		\$ 42,798	\$ 46,596	\$ 40,347
Distillates		51,942	55,037	41,680
Other product revenues		9,006	11,460	8,231
Total refining revenues		103,746	113,093	90,258
Ethanol:				
Ethanol		2,889	2,713	2,764
Distillers grains		717	715	560
Total ethanol revenues		3,606	3,428	3,324
Renewable diesel:				
Renewable diesel		970	508	393
Corporate – other revenues		2	4	5
Revenues		\$ 108,324	\$ 117,033	\$ 93,980

2019 Consolidating Statement of Income



	Valero Energy Corporation	Valero Energy Partners LP	Other Non- Guarantor Subsidiaries	Eliminations	Consolidated
Revenues	\$ —	\$ —	\$ 108,324	\$ —	\$ 108,324
Cost of sales:					
Cost of materials and other	—	—	96,476	—	96,476
Operating expenses (excluding depreciation and amortization expense reflected below)	—	—	4,868	—	4,868
Depreciation and amortization expense	—	—	2,202	—	2,202
Total cost of sales	—	—	103,546	—	103,546
Other operating expenses	—	—	21	—	21
General and administrative expenses (excluding depreciation and amortization expense reflected below)	6	—	862	—	868
Depreciation and amortization expense	—	—	53	—	53
Operating income (loss)	(6)	—	3,842	—	3,836
Equity in earnings of subsidiaries	3,006	406	357	(3,769)	—
Other income, net	193	—	625	(714)	104
Interest and debt expense, net of capitalized interest	(927)	(47)	(194)	714	(454)
Income before income tax expense (benefit)	2,266	359	4,630	(3,769)	3,486
Income tax expense (benefit)	(156)	—	858	—	702
Net income	2,422	359	3,772	(3,769)	2,784
Less: Net income attributable to noncontrolling interests	—	—	360	2	362
Net income attributable to stockholders	\$ 2,422	\$ 359	\$ 3,412	\$ (3,771)	\$ 2,422

2019 Balance Sheet - Assets



VALERO ENERGY CORPORATION NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Condensed Consolidating Balance Sheet December 31, 2019 (in millions)

	Valero Energy Corporation	Valero Energy Partners LP	Other Non- Guarantor Subsidiaries	Eliminations	Consolidated
ASSETS					
Current assets:					
Cash and cash equivalents	\$ 912	\$ —	\$ 1,671	\$ —	\$ 2,583
Receivables, net	—	—	8,904	—	8,904
Receivables from affiliates	4,336	—	13,806	(18,142)	—
Inventories	—	—	7,013	—	7,013
Prepaid expenses and other	63	—	406	—	469
Total current assets	5,311	—	31,800	(18,142)	18,969
Property, plant and equipment, at cost	—	—	44,294	—	44,294
Accumulated depreciation	—	—	(15,030)	—	(15,030)
Property, plant and equipment, net	—	—	29,264	—	29,264
Investment in affiliates	37,902	2,673	382	(40,957)	—
Deferred charges and other assets, net	771	—	4,860	—	5,631
Total assets	\$ 43,984	\$ 2,673	\$ 66,306	\$ (59,099)	\$ 53,864

2019 Balance Sheet - Liabilities & Shareholder Equity



LIABILITIES AND EQUITY					
Current liabilities:					
Current portion of debt and finance lease obligations	\$ —	\$ —	\$ 494	\$ —	\$ 494
Accounts payable	—	—	10,205	—	10,205
Accounts payable to affiliates	12,515	1,291	4,336	(18,142)	—
Accrued expenses	120	7	822	—	949
Taxes other than income taxes payable	—	—	1,304	—	1,304
Income taxes payable	108	—	100	—	208
Total current liabilities	12,743	1,298	17,261	(18,142)	13,160
Debt and finance lease obligations, less current portion	7,095	991	1,092	—	9,178
Deferred income tax liabilities	—	2	5,101	—	5,103
Other long-term liabilities	2,343	—	1,544	—	3,887
Equity:					
Stockholders' equity:					
Common stock	7	—	1	(1)	7
Additional paid-in capital	6,821	—	9,771	(9,771)	6,821
Treasury stock, at cost	(15,648)	—	—	—	(15,648)
Retained earnings	31,974	—	31,636	(31,636)	31,974
Partners' equity	—	382	—	(382)	—
Accumulated other comprehensive loss	(1,351)	—	(833)	833	(1,351)
Total stockholders' equity	21,803	382	40,575	(40,957)	21,803
Noncontrolling interests	—	—	733	—	733
Total equity	21,803	382	41,308	(40,957)	22,536
Total liabilities and equity	\$ 43,984	\$ 2,673	\$ 66,306	\$ (59,099)	\$ 53,864

Cash Flow from Operating Activities



	Year Ended December 31,		
	2019	2018	2017
Cash flows from operating activities:			
Net income	\$ 2,784	\$ 3,353	\$ 4,156
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization expense	2,255	2,069	1,986
Deferred income tax expense (benefit)	234	203	(2,543)
Changes in current assets and current liabilities	294	(1,297)	1,289
Changes in deferred charges and credits and other operating activities, net	(36)	43	594
Net cash provided by operating activities	5,531	4,371	5,482

2019 Cash Flow Statement Investing Activities



	Valero Energy Corporation	Valero Energy Partners LP	Other Non- Guarantor Subsidiaries	Eliminations	Consolidated
Net cash provided by (used in) operating activities	\$ (131)	\$ (46)	\$ 6,165	\$ (457)	\$ 5,531
Cash flows from investing activities:					
Capital expenditures (excluding VIEs)	—	—	(1,627)	—	(1,627)
Capital expenditures of VIEs:					
DGD	—	—	(142)	—	(142)
Other VIEs	—	—	(225)	—	(225)
Deferred turnaround and catalyst cost expenditures (excluding VIEs)	—	—	(762)	—	(762)
Deferred turnaround and catalyst cost expenditures of DGD	—	—	(18)	—	(18)
Investments in unconsolidated joint ventures	—	—	(164)	—	(164)
Acquisitions of ethanol plants	—	—	(3)	—	(3)
Acquisitions of undivided interests	—	—	(72)	—	(72)
Intercompany investing activities	395	2	(2,973)	2,576	—
Other investing activities, net	—	—	12	—	12
Net cash provided by (used in) investing activities	395	2	(5,974)	2,576	(3,001)

2019 Cash Flow Statement - Financing



Cash flows from financing activities:					
Proceeds from debt issuances and borrowings (excluding VIEs)	992	—	900	—	1,892
Proceeds from borrowings of VIEs	—	—	239	—	239
Repayments of debt and finance lease obligations (excluding VIEs)	(871)	—	(934)	—	(1,805)
Repayments of debt of VIEs	—	—	(6)	—	(6)
Intercompany financing activities	2,520	268	(212)	(2,576)	—
Purchases of common stock for treasury	(777)	—	—	—	(777)
Common stock dividends	(1,492)	—	(81)	81	(1,492)
Acquisition of VLP publicly held common units	—	—	(950)	—	(950)
Distributions to noncontrolling interests and unitholders of VLP	—	(376)	(70)	376	(70)
Other financing activities, net	(15)	—	(13)	—	(28)
Net cash provided by (used in) financing activities	357	(108)	(1,127)	(2,119)	(2,997)
Effect of foreign exchange rate changes on cash	—	—	68	—	68
Net increase (decrease) in cash and cash equivalents	621	(152)	(868)	—	(399)
Cash and cash equivalents at beginning of year	291	152	2,539	—	2,982
Cash and cash equivalents at end of year	\$ 912	\$ —	\$ 1,671	\$ —	\$ 2,583



Item 1A: Risk Factors

- Refining Margins are volatile and depend on crude price, and **market price** of refined products
- Changes in environmental, Climate Change and **Regulation** can negatively impact financial performance
- Investor **social sentiment** towards Climate Change, Fossil Fuel, and Sustainability could negatively impact stock performance
- **Severe weather** can substantially impact assets and operations
- **Competitors** with own feedstock, retail sites, greater financial resources alternative energy sources may have a competitive advantage
- **Illiquidity** in capital markets may impact ability to obtain financing and can negatively affect financial performance of business partners

Item 1A: Risk Factors Part 2

- Compliance with **EPA & RFS** could impact financial performance
- Disruption obtaining **crude supply** can negatively impact operations
- **Government** withdrawal of international trade agreements substantially impact our business, operations, and financial performance
- Valero is subject to increased cost due to reliance on 3rd party transportation of crude products
- **Costs** may increase upon use of rail carts for transportation of refined products
- Significant disruption in one or more refinery will adversely affect business
- Significant disruption in IT can disrupt the business
- Increasing privacy and security issues result in potential for lawsuits, investigations, restrictions and other liabilities

Item 1A: Risk Factors Part 3

- Employee Strike can significantly impact business
- Insurance may not be sufficient to cover potential losses due to operational hazards
- **Large capital projects require many years, market conditions change and could consequently impact project return**
- Changes in tax law could impact financial performance
- Investments in Joint Venture decrease ability to manage risks
- Forward and derivative contracts may result in losses
- Changes or replacement of LIBOR may affect interest rates
- Changes in UK and EU Laws may negatively impact the business

Item 7: Management Discussion & Analysis



Average Market Reference Prices and Differentials



	Year Ended December 31,		
	2019	2018	Change
Refining			
Feedstocks (dollars per barrel)			
Brent crude oil	\$ 64.18	\$ 71.62	\$ (7.44)
Brent less West Texas Intermediate (WTI) crude oil	7.15	6.71	0.44
Brent less Alaska North Slope (ANS) crude oil	(0.86)	0.31	(1.17)
Brent less LLS crude oil	1.47	1.72	(0.25)
Brent less Argus Sour Crude Index (ASCI) crude oil	3.56	5.20	(1.64)
Brent less Maya crude oil	6.57	9.22	(2.65)
LLS crude oil	62.71	69.90	(7.19)
LLS less ASCI crude oil	2.09	3.48	(1.39)
LLS less Maya crude oil	5.10	7.50	(2.40)
WTI crude oil	57.03	64.91	(7.88)
Natural gas (dollars per million British Thermal Units (MMBtu))			
	2.47	3.23	(0.76)

Average Market Reference Prices and Differentials - Part 2



Products (dollars per barrel)			
U.S. Gulf Coast:			
Conventional Blendstock of Oxygenate Blending (CBOB) gasoline less Brent	4.37	4.81	(0.44)
Ultra-low-sulfur (ULS) diesel less Brent	14.90	14.02	0.88
Propylene less Brent	(22.31)	(2.86)	(19.45)
CBOB gasoline less LLS	5.84	6.53	(0.69)
ULS diesel less LLS	16.37	15.74	0.63
Propylene less LLS	(20.84)	(1.14)	(19.70)
U.S. Mid-Continent:			
CBOB gasoline less WTI	13.62	13.70	(0.08)
ULS diesel less WTI	22.77	22.82	(0.05)
North Atlantic:			
CBOB gasoline less Brent	7.20	7.59	(0.39)
ULS diesel less Brent	17.22	16.29	0.93
U.S. West Coast:			
CARBOB 87 gasoline less ANS	16.28	13.05	3.23
CARB diesel less ANS	19.30	18.13	1.17
CARBOB 87 gasoline less WTI	24.29	19.45	4.84
CARB diesel less WTI	27.31	24.53	2.78

Average Market Reference Prices and Differentials - Part 3



	Year Ended December 31,		
	2019	2018	Change
Ethanol			
Chicago Board of Trade (CBOT) corn (dollars per bushel)	\$ 3.84	\$ 3.68	\$ 0.16
New York Harbor (NYH) ethanol (dollars per gallon)	1.53	1.48	0.05
Renewable diesel			
New York Mercantile Exchange ULS diesel (dollars per gallon)	1.94	2.09	(0.15)
Biodiesel RIN (dollars per RIN)	0.48	0.53	(0.05)
California Low-Carbon Fuel Standard (dollars per metric ton)	196.82	168.24	28.58
CBOT soybean oil (dollars per pound)	0.29	0.30	(0.01)

Total Company, Corporate, and Other

The following table includes selected financial data for the total company, corporate, and other for 2019 and 2018. The selected financial data is derived from the Financial Highlights by Segment and Total Company tables on pages 27 and 28, unless otherwise noted.

Item 7A: Quantitative and Qualitative Disclosures about Market Risks



WTI CRUDE (MAY)

11.63 -6.64 [-36.34%]

YR TO DATE [-80.95%]



ON THE PHONE

**DOUG
TERRESON**

**EVERCORE ISI
HEAD OF ENERGY**

**BREAKING
NEWS**

OIL PRICES COLLAPSING
TRADING DROPS BELOW \$12

Commodity Price Risk Management: Sensitivity Analysis



	December 31,	
	2019	2018
Gain (loss) in fair value resulting from:		
10% increase in underlying commodity prices	\$ (39)	\$ 2
10% decrease in underlying commodity prices	38	(6)

Interest Rate Risk



The following table provides information about our debt instruments (dollars in millions), the fair values of which are sensitive to changes in interest rates. Principal cash flows and related weighted-average interest rates by expected maturity dates are presented.

December 31, 2019								
	Expected Maturity Dates						Total (b)	Fair Value
	2020 (a)	2021	2022	2023	2024	There-after		
Fixed rate	\$ —	\$ 11	\$ —	\$ —	\$ —	\$ 8,474	\$ 8,485	\$ 10,099
Average interest rate	—%	5.0%	—%	—%	—%	5.2%	5.2%	
Floating rate (c)	\$ 453	\$ 6	\$ 6	\$ 19	\$ —	\$ —	\$ 484	\$ 484
Average interest rate	5.0%	4.5%	4.5%	4.5%	—%	—%	5.0%	

December 31, 2018								
	Expected Maturity Dates						Total (b)	Fair Value
	2019 (a)	2020	2021	2022	2023	There-after		
Fixed rate	\$ —	\$ 850	\$ 10	\$ —	\$ —	\$ 7,474	\$ 8,334	\$ 8,737
Average interest rate	—%	6.1%	5.0%	—%	—%	5.4%	5.5%	
Floating rate (c)	\$ 214	\$ 5	\$ 5	\$ 5	\$ 20	\$ —	\$ 249	\$ 249
Average interest rate	4.6%	4.7%	4.7%	4.7%	4.7%	—%	4.6%	

Foreign Exchange Rate Risk



- Most **revenues are domestic** based therefore **FX risk is low**
- Long \$739 Million USD and \$2.3 Billion U.S Equivalent of Canadian Dollars
 - Contract Matured Feb 15 2020

Compliance Program Price Risk



We are exposed to market risk related to the volatility in the price of credits needed to comply with various governmental and regulatory environmental compliance programs. To manage this risk, we enter into contracts to purchase these credits when prices are deemed favorable. Some of these contracts are derivative instruments; however, we elect the normal purchase exception and do not record these contracts at their fair values. As of December 31, 2019 and 2018, the amount of gain or loss in the fair value of derivative instruments that would have resulted from a 10 percent increase or decrease in the underlying price of the contracts was not material. See Note 20 of Notes to Consolidated Financial Statements for a discussion about these compliance programs.

Key Point:

Environmental compliance costs were immaterial therefore reported in the financial notes

Item 8: Financial Statements & Supplementary Data



Fair Value Derivative Instruments



	Balance Sheet Location	December 31, 2019		December 31, 2018	
		Asset Derivatives	Liability Derivatives	Asset Derivatives	Liability Derivatives
Derivatives designated as hedging instruments					
Commodity contracts	Receivables, net	\$ 9	\$ 20	\$ —	\$ —
Derivatives not designated as hedging instruments					
Commodity contracts	Receivables, net	\$ 608	\$ 648	\$ 2,792	\$ 2,681
Physical purchase contracts	Inventories	—	3	—	5
Foreign currency contracts	Receivables, net	27	—	4	—
Foreign currency contracts	Accrued expenses	—	10	—	1
Total		\$ 635	\$ 661	\$ 2,796	\$ 2,687

Cash Flow Hedging Activities



Notional Contract Volumes by Year of Maturity

2020

2021

Derivatives designated as cash flow hedges

Renewable diesel:

Futures – long	995	—
Futures – short	2,492	—

Derivatives designated as economic hedges

Crude oil and refined petroleum products:

Futures – long	73,348	2
Futures – short	76,045	—
Options – long	1,550	—
Options – short	1,550	—

Corn:

Futures – long	50,120	—
Futures – short	66,575	295
Physical contracts – long	22,055	306

Measuring Impact of Derivatives on Income



Derivatives Not Designated as Hedging Instruments	Location of Gain (Loss) Recognized in Income on Derivatives	Year Ended December 31,		
		2019	2018	2017
Commodity contracts	Revenues	\$ 5	\$ —	\$ —
Commodity contracts	Cost of materials and other	(68)	(165)	(278)
Commodity contracts	Operating expenses (excluding depreciation and amortization expense)	—	7	—
Foreign currency contracts	Cost of materials and other	(21)	56	(40)
Foreign currency contracts	Other income, net	75	(43)	—

Fair Value Accounting



December 31, 2019

	Fair Value Hierarchy			Total Gross Fair Value	Effect of Counter- party Netting	Effect of Cash Collateral Netting	Net Carrying Value on Balance Sheet	Cash Collateral Paid or Received Not Offset
	Level 1	Level 2	Level 3					
Assets								
Commodity derivative contracts	\$ 617	\$ —	\$ —	\$ 617	\$ (612)	\$ —	\$ 5	\$ —
Foreign currency contracts	27	—	—	27	n/a	n/a	27	n/a
Investments of certain benefit plans	65	—	9	74	n/a	n/a	74	n/a
Total	\$ 709	\$ —	\$ 9	\$ 718	\$ (612)	\$ —	\$ 106	
Liabilities								
Commodity derivative contracts	\$ 668	\$ —	\$ —	\$ 668	\$ (612)	\$ (56)	\$ —	\$ (84)
Environmental credit obligations	—	2	—	2	n/a	n/a	2	n/a
Physical purchase contracts	—	3	—	3	n/a	n/a	3	n/a
Foreign currency contracts	10	—	—	10	n/a	n/a	10	n/a
Total	\$ 678	\$ 5	\$ —	\$ 683	\$ (612)	\$ (56)	\$ 15	

Notes in Financial Statements



Other

In addition to the adoption of Topic 842 discussed above, we adopted the following Accounting Standards Update (ASU) on January 1, 2019. Our adoption of this ASU did not affect our financial statements or related disclosures.

ASU	Basis of Adoption
2017-12 Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities	Cumulative effect

3. RECEIVABLES

Receivables consisted of the following (in millions):

	December 31,	
	2019	2018
Receivables from contracts with customers	\$ 5,610	\$ 4,673
Receivables from certain purchase and sale arrangements	2,484	2,311
Commodity derivative and foreign currency contract receivables	116	229
Other receivables	730	166
Total receivables	8,940	7,379
Allowance for doubtful accounts	(36)	(34)
Receivables, net	\$ 8,904	\$ 7,345

Notes in Other Comprehensive Income



Income Tax Effects Related to Components of Other Comprehensive Income (Loss)

The tax effects allocated to each component of other comprehensive income (loss) were as follows (in millions):

	Before-Tax Amount	Tax Expense (Benefit)	Net Amount
Year ended December 31, 2019			
Foreign currency translation adjustment	\$ 349	\$ —	\$ 349
Pension and other postretirement benefits:			
Loss arising during the year related to:			
Net actuarial loss	(245)	(54)	(191)
Prior service cost	(3)	(1)	(2)
Miscellaneous loss	—	4	(4)
Amounts reclassified into income related to:			
Net actuarial loss	38	9	29
Prior service credit	(28)	(6)	(22)
Curtailment and settlement loss	4	1	3
Net loss on pension and other postretirement benefits	(234)	(47)	(187)
Derivative instruments designated and qualifying as cash flow hedges:			
Net loss arising during the year	(6)	(1)	(5)
Net gain reclassified into income	(2)	—	(2)
Net loss on cash flow hedges	(8)	(1)	(7)
Other comprehensive income	\$ 107	\$ (48)	\$ 155

Notes in Financials Recurring FV Measurement



December 31, 2019

	Fair Value Hierarchy			Total Gross Fair Value	Effect of Counter-party Netting	Effect of Cash Collateral Netting	Net Carrying Value on Balance Sheet	Cash Collateral Paid or Received Not Offset
	Level 1	Level 2	Level 3					
Assets								
Commodity derivative contracts	\$ 617	\$ —	\$ —	\$ 617	\$ (612)	\$ —	\$ 5	\$ —
Foreign currency contracts	27	—	—	27	n/a	n/a	27	n/a
Investments of certain benefit plans	65	—	9	74	n/a	n/a	74	n/a
Total	\$ 709	\$ —	\$ 9	\$ 718	\$ (612)	\$ —	\$ 106	
Liabilities								
Commodity derivative contracts	\$ 668	\$ —	\$ —	\$ 668	\$ (612)	\$ (56)	\$ —	\$ (84)
Environmental credit obligations	—	2	—	2	n/a	n/a	2	n/a
Physical purchase contracts	—	3	—	3	n/a	n/a	3	n/a
Foreign currency contracts	10	—	—	10	n/a	n/a	10	n/a
Total	\$ 678	\$ 5	\$ —	\$ 683	\$ (612)	\$ (56)	\$ 15	

Risk Management Recommendations



- Refinance debt by paying down loans to secure a fixed interest rate below 5%
- Increase Hedging assets to remain delta neutral to mitigate impact of commodity derivative liability contracts
- Maintain foreign exchange, futures & options risk management program

Marathon Petroleum Corporation



Market Summary > Marathon Petroleum Corp

NYSE: MPC

✓ Following

36.62 USD **+1.29 (3.65%)** ↑

Closed: Jun. 12, 7:38 p.m. EDT · Disclaimer

After hours 36.71 **+0.090 (0.25%)**

1 day 5 days 1 month 6 months YTD 1 year 5 years **Max**



Open	37.63	Div yield	6.34%
High	37.90	Prev close	35.33
Low	35.33	52-wk high	69.65
Mkt cap	23.81B	52-wk low	15.26
P/E ratio			

Management Team



- **Mr. Hennigan (CEO)** has **22 years of executive experience** in Oil & Gas
- Bachelor of Science degree in chemical engineering . Drexel University.



- executive vice president, Refining of Marathon Petroleum Corporation. senior vice president of MPLX GP LLC.
- bachelor's degree in chemical engineering
- master's degree in business administration

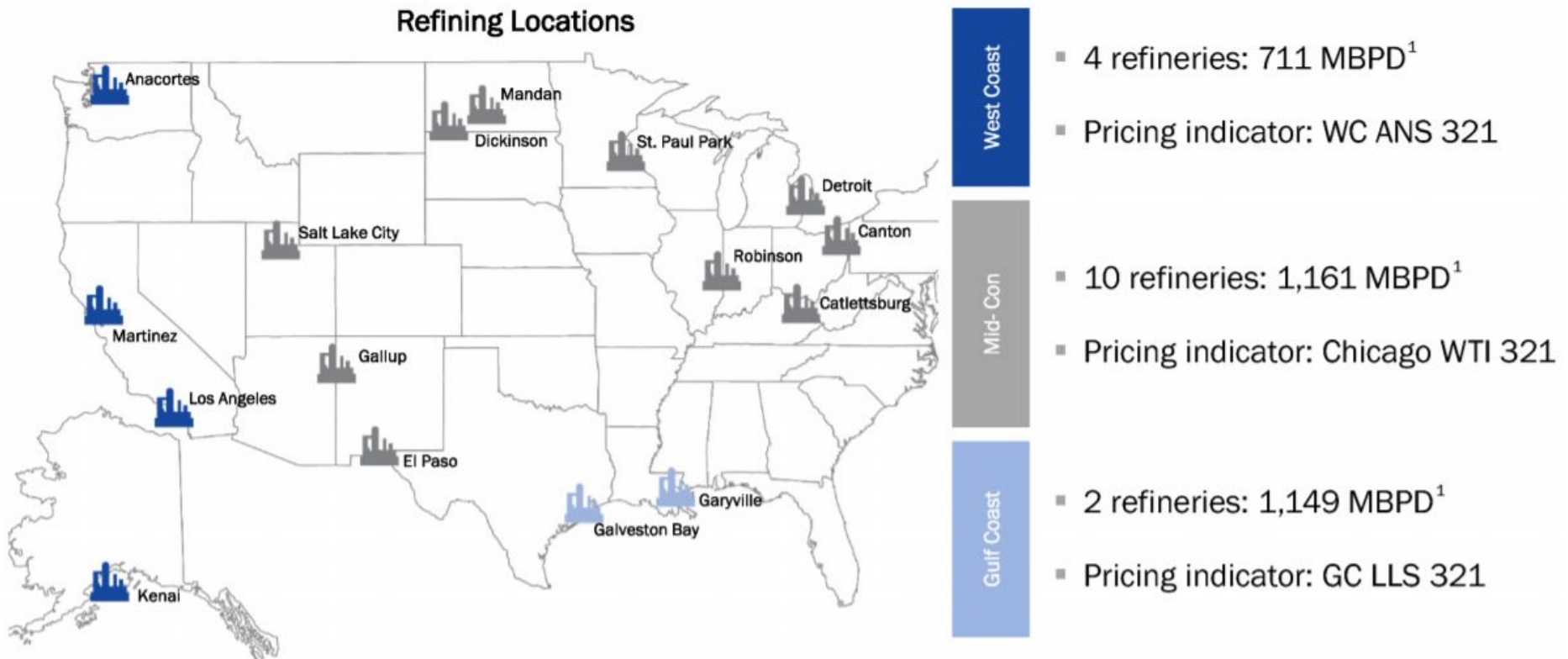


- **Mr. Griffith** is president of Speedway LLC.
- bachelor's degree in economics Michigan State University
Master of Business Administration
University of Michigan



- executive vice president
- chief financial officer
- certified public accountant and a member of the American Institute of Certified Public Accountants

Refinery Locations



¹ Capacities are based on 2018 O&G report and reflect crude unit calendar day rate

Item 1: Business Model



- Integrated Midstream & Downstream operations across the United States enables capturing domestic low margin spreads
- Export refined crude products to international markets
- People, Planet, Profit Orientated
- Segments: Refining, Retail, Midstream



SWOT Analysis



Strength

- Substantial crude input sourcing discount
- Integrated US operations via Andeavor Acquisition
- Substantial physical brand exposure via gas retail locations
- **High capital expenditure into low risk high profit projects**



Opportunity

- \$7B Cash & Cash Equivalent to redistribute and reinvest into emerging opportunities
- Established relationships with Canadian provinces to expand into Canadian markets
- Andeavor acquisition enables MPC to capture profit margin previously not possible
- MPC can take advantage of price differentials between international and domestic prices

Weakness

- Profitability is driven by leverage and not gross margin nor asset turnover
- **Historically higher cost structure compared to industry**
- High operating costs in mid-con & Gulf Coast due to lack of transportation assets

Threat

- Compliance with EPA
- OPEC supply to international markets
- US 2020 Presidential Election

Financial Statements





SUMMARY

- Gains/ Losses in CF Hedge Reported in OCI ->AOCI
- FV Hedge is not used because of master netting agreement with MPLX & Marathon Oil (Upstream Corporation)
- Changes in FV of Derivatives reported in Cash Flow Statement- Operating Activities
- Derivative Assets & Liabilities reported in B/S
- Majority of derivatives are exchange traded contracts, with exceptions including OTC Swaps, OTC Options, OTC Crude/ Natural Gas/ Liquefied Natural Gas Options/ Swaps

Revenues by Segment 2019



<i>(In millions)</i>	<u>Refining & Marketing</u>	<u>Retail</u>	<u>Midstream</u>	<u>Total</u>
Year Ended December 31, 2019				
Revenues:				
Third party ^(a)	\$ 87,056	\$ 33,059	\$ 3,834	\$ 123,949
Intersegment	19,686	8	4,926	24,620
Segment revenues	<u>\$ 106,742</u>	<u>\$ 33,067</u>	<u>\$ 8,760</u>	<u>\$ 148,569</u>
Segment income from operations	<u>\$ 2,367</u>	<u>\$ 1,582</u>	<u>\$ 3,594</u>	<u>\$ 7,543</u>
Supplemental Data				
Depreciation and amortization ^(b)	1,665	528	1,267	3,460
Capital expenditures and investments ^(c)	1,999	607	3,290	5,896

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME



(Millions of dollars)

Net income

Other comprehensive income (loss):

Defined benefit plans:

Actuarial changes, net of tax of (\$40), \$14 and \$17, respectively

Prior service credit, net of tax of (\$17), \$12 and (\$16), respectively

Other, net of tax of (\$1), \$1 and \$0, respectively

Other comprehensive income (loss)

Comprehensive income

Less comprehensive income attributable to:

Redeemable noncontrolling interest

Noncontrolling interests

Comprehensive income attributable to MPC

	2019	2018	2017
Net income	\$ 3,255	\$ 3,606	\$ 3,804
Other comprehensive income (loss):			
Defined benefit plans:			
Actuarial changes, net of tax of (\$40), \$14 and \$17, respectively	(147)	75	29
Prior service credit, net of tax of (\$17), \$12 and (\$16), respectively	(27)	8	(26)
Other, net of tax of (\$1), \$1 and \$0, respectively	(2)	4	—
Other comprehensive income (loss)	(176)	87	3
Comprehensive income	3,079	3,693	3,807
Less comprehensive income attributable to:			
Redeemable noncontrolling interest	81	75	65
Noncontrolling interests	537	751	307
Comprehensive income attributable to MPC	\$ 2,461	\$ 2,867	\$ 3,435

MARATHON PETROLEUM CORPORATION

CONSOLIDATED STATEMENTS OF INCOME



<i>(In millions, except per share data)</i>	2019	2018	2017
Revenues and other income:			
Sales and other operating revenues ^(a)	\$ 123,949	\$ 96,504	\$ 74,733
Income from equity method investments	394	373	306
Net gain on disposal of assets	307	23	10
Other income	163	202	320
Total revenues and other income	124,813	97,102	75,369
Costs and expenses:			
Cost of revenues (excludes items below) ^(a)	110,243	86,066	67,089
Impairment expense	1,197	—	—
Depreciation and amortization	3,638	2,490	2,114
Selling, general and administrative expenses	3,408	2,418	1,694
Other taxes	751	557	454
Total costs and expenses	119,237	91,531	71,351
Income from operations	5,576	5,571	4,018
Net interest and other financial costs	1,247	1,003	674
Income before income taxes	4,329	4,568	3,344
Provision (benefit) for income taxes	1,074	962	(460)
Net income	3,255	3,606	3,804
Less net income attributable to:			
Redeemable noncontrolling interest	81	75	65
Noncontrolling interests	537	751	307
Net income attributable to MPC	\$ 2,637	\$ 2,780	\$ 3,432
Per Share Data (See Note 8)			
Basic:			
Net income attributable to MPC per share	\$ 4.00	\$ 5.36	\$ 6.76
Weighted average shares outstanding	659	518	507
Diluted:			
Net income attributable to MPC per share	\$ 3.97	\$ 5.28	\$ 6.70
Weighted average shares outstanding	664	526	512

^(a) The 2019 and 2018 periods reflect an election to present certain taxes on a net basis concurrent with our adoption of ASU 2014-09, Revenue - Revenue from Contracts with Customers ("ASC 606"). See Note 2 for further information.

MARATHON PETROLEUM CORPORATION

CONSOLIDATED BALANCE SHEETS- ASSETS



(Millions of dollars, except share data)

Assets

Current assets:

	December 31,	
	2019	2018
Cash and cash equivalents	\$ 1,527	\$ 1,687
Receivables, less allowance for doubtful accounts of \$17 and \$9, respectively	7,872	5,853
Inventories	10,243	9,837
Other current assets	528	646
Total current assets	20,170	18,023
Equity method investments	6,898	5,898
Property, plant and equipment, net	45,615	45,058
Goodwill	20,040	20,184
Right of use assets ^(a)	2,459	—
Other noncurrent assets	3,374	3,777
Total assets	\$ 98,556	\$ 92,940

MARATHON PETROLEUM CORPORATION

CONSOLIDATED BALANCE SHEETS- LIABILITIES



Liabilities

Current liabilities:

Accounts payable	\$ 11,623	\$ 9,366
Payroll and benefits payable	1,126	1,152
Accrued taxes	1,186	1,446
Debt due within one year	711	544
Operating lease liabilities ^(a)	604	—
Other current liabilities	897	708
Total current liabilities	16,147	13,216
Long-term debt	28,127	26,980
Deferred income taxes	6,392	4,864
Defined benefit postretirement plan obligations	1,643	1,509
Long-term operating lease liabilities ^(a)	1,875	—
Deferred credits and other liabilities	1,265	1,318
Total liabilities	55,449	47,887
Commitments and contingencies (see Note 26)		
Redeemable noncontrolling interest	968	1,004

MARATHON PETROLEUM CORPORATION

CONSOLIDATED BALANCE SHEETS- EQUITY



Equity

MPC stockholders' equity:

Preferred stock, no shares issued and outstanding (par value \$0.01 per share,
30 million shares authorized)

— —

Common stock:

Issued – 978 million and 975 million shares (par value \$0.01 per share,
2 billion shares authorized)

10 10

Held in treasury, at cost – 329 million and 295 million shares

(15,143) (13,175)

Additional paid-in capital

33,157 33,729

Retained earnings

15,990 14,755

Accumulated other comprehensive loss

(320) (144)

Total MPC stockholders' equity

33,694 35,175

Noncontrolling interests

8,445 8,874

Total equity

42,139 44,049

Total liabilities, redeemable noncontrolling interest and equity

\$ 98,556 \$ 92,940

CONSOLIDATED STATEMENTS OF CASH FLOWS- OPERATING ACTIVITIES



(Millions of dollars)

Operating activities:

	2019	2018	2017
Net income	\$ 3,255	\$ 3,606	\$ 3,804
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of deferred financing costs and debt discount	33	70	64
Impairment expense	1,197	—	—
Depreciation and amortization	3,638	2,490	2,114
Pension and other postretirement benefits, net	(64)	90	47
Deferred income taxes	1,023	47	(1,233)
Net gain on disposal of assets	(307)	(23)	(10)
Income from equity method investments	(394)	(373)	(306)
Distributions from equity method investments	662	519	391
Changes in the fair value of derivative instruments	(8)	(62)	116
Changes in operating assets and liabilities, net of effects of businesses acquired:			
Current receivables	(2,024)	1,589	(1,093)
Inventories	(366)	931	106
Current accounts payable and accrued liabilities	2,502	(2,798)	2,814
Right of use assets and operating lease liabilities, net	14	—	—
All other, net	280	72	(202)
Net cash provided by operating activities	9,441	6,158	6,612

CONSOLIDATED STATEMENTS OF CASH FLOWS-INVESTING ACTIVITIES



Investing activities:

Additions to property, plant and equipment	(5,374)	(3,578)	(2,732)
Acquisitions, net of cash acquired	(129)	(3,822)	(249)
Disposal of assets	127	54	79
Investments – acquisitions, loans and contributions	(1,064)	(409)	(805)
– redemptions, repayments and return of capital	98	16	62
All other, net	81	69	247
Net cash used in investing activities	(6,261)	(7,670)	(3,398)

CONSOLIDATED STATEMENTS OF CASH FLOWS- FINANCING ACTIVITIES



Financing activities:

Commercial paper – issued	—	—	300
– repayments	—	—	(300)
Long-term debt – borrowings	14,274	13,476	2,911
– repayments	(13,073)	(8,032)	(642)
Debt issuance costs	(22)	(86)	(33)
Issuance of common stock	10	24	46
Common stock repurchased	(1,950)	(3,287)	(2,372)
Dividends paid	(1,398)	(954)	(773)
Issuance of MPLX LP common units	—	—	473
Distributions to noncontrolling interests	(1,245)	(903)	(694)
Contributions from noncontrolling interests	97	12	129
Contingent consideration payment	—	—	(89)
All other, net	(69)	(28)	(47)
Net cash provided by (used in) financing activities	(3,376)	222	(1,091)
Net increase (decrease) in cash, cash equivalents and restricted cash	(196)	(1,290)	2,123
Cash, cash equivalents and restricted cash at beginning of period	1,725	3,015	892
Cash, cash equivalents and restricted cash at end of period	<u>\$ 1,529</u>	<u>\$ 1,725</u>	<u>\$ 3,015</u>



Item 1A: Risk Factors

- Global and domestic **supply and demand of crude** oil and finished products;
- Availability of transportation infrastructure, local market conditions and the level of operation of other refineries in our market
- Natural gas and electricity supply **costs** generated by refineries;
- **Political unrest**, threats or actual terrorist incidents, armed conflicts or other global political conditions;
- local **weather** conditions;
- Due to increased road traffic in spring and summer, the demand in our marketing area increases seasonally;
- **Natural disasters**, such as hurricanes and tornadoes;
- Domestic and foreign **government regulations** and taxes;
- Local, regional, national and global economic conditions.

Item 7: Management Discussion & Analysis



Average Market Reference Prices and Differentials (Part 1)



Benchmark spot prices (dollars per gallon)

	2019	2018	2017
Chicago CBOB unleaded regular gasoline	\$ 1.67	\$ 1.86	\$ 1.58
Chicago ultra-low sulfur diesel	1.86	2.07	1.64
USGC CBOB unleaded regular gasoline	1.63	1.83	1.55
USGC ultra-low sulfur diesel	1.88	2.05	1.62
LA CARBOB	1.98	2.06	—
LA CARB diesel	2.01	2.14	—

Market Indicators (dollars per barrel)

LLS	\$ 62.69	\$ 69.93	\$ 54.00
WTI	57.04	64.10	50.85
ANS	65.04	68.46	54.44
Crack Spreads			
USGC LLS 3-2-1	\$ 8.22	\$ 7.91	\$ 8.55
Mid-Continent WTI 3-2-1	14.61	14.02	12.71
West Coast ANS 3-2-1	17.30	11.66	14.02
Blended 3-2-1 ^(a)	12.83	10.62	10.22
Crude Oil Differentials			
Sweet	\$ (2.35)	\$ (3.83)	\$ (1.04)
Sour	(3.15)	(7.60)	(5.02)

Average Market Reference Prices and Differentials (Part 2)



Key Financial and Operating Data	2019	2018	2017
Average fuel sales prices (<i>dollars per gallon</i>)	\$ 2.64	\$ 2.71	\$ 2.34
Merchandise sales (<i>in millions</i>)	\$ 6,305	\$ 5,232	\$ 4,893
Merchandise margin (<i>in millions</i>)(a)(b)	\$ 1,827	\$ 1,486	\$ 1,402
Same store gasoline sales volume (period over period)(c)	(3.3)%	(1.5)%	(1.3)%
Same store merchandise sales (period over period)(c)(d)	5.4 %	4.2 %	1.2 %
Convenience stores at period-end	3,898	3,923	2,744
Direct dealer locations at period-end	1,068	1,065	—

Average Market Reference Prices and Differentials (Part 3)



Benchmark Prices

Natural Gas NYMEX HH (\$ *per MMBtu*)

C2 + NGL Pricing (\$ *per gallon*)^(a)

	<u>2019</u>	<u>2018</u>	<u>2017</u>
\$	2.53	\$ 3.07	\$ 3.02
\$	0.52	\$ 0.78	\$ 0.66

Item 7A: Quantitative and Qualitative Disclosures about Market Risks



Commodity Price Risk Management: Sensitivity Analysis



(In millions)

	2019	2018
Realized gain (loss) on settled derivative positions	\$ 48	\$ (11)
Unrealized loss on open net derivative positions	(144)	(35)
Net loss	<u>\$ (96)</u>	<u>\$ (46)</u>

<i>(In millions)</i>	Change in IFO from a Hypothetical Price Increase of		Change in IFO from a Hypothetical Price Decrease of	
	10%	25%	10%	25%
As of December 31, 2019				
Crude	\$ (39)	\$ (98)	\$ 41	\$ 103
Refined products	22	56	(22)	(56)
Blending Products	(8)	(20)	8	20
Embedded derivatives	(6)	(15)	6	15

(In millions, after-tax)

Blended crack spread sensitivity ^(a) (per \$1.00/barrel change)	\$ 910
Sour differential sensitivity ^(b) (per \$1.00/barrel change)	420
Sweet differential sensitivity ^(c) (per \$1.00/barrel change)	420
Natural gas price sensitivity ^(d) (per \$1.00/MMBtu)	325

Sensitivity Analysis Continued



Key Metric	Potential Impacts	EBITDA Impact from \$1/BBL change
Blended 321 Crack	Higher crack required to support increased refinery production and meet elevated demand for low sulfur fuels	~ \$1,150 MM
- Gasoline Crack	- Refining yield shift to max distillate production and reduced FCC utilization due to low sulfur FCC feedstocks being blended into low sulfur marine fuels	~ \$765 MM
- Distillate Crack	- Increased demand due to blending low sulfur distillate in marine fuels	~ \$385 MM
Heavy Crude Differential	Discount of high sulfur fuel oil reduces refining value of heavy crudes	~ \$570 MM
ULSD – 3% Resid Fuel Oil	Drastic reduction in demand for high sulfur marine fuel oils will drive large discounts	~ \$40 MM

Interest Rate Risk



Sensitivity analysis of the effect of a hypothetical 100-basis-point change in interest rates on long-term debt, including the portion classified as current and excluding finance leases, as of December 31, 2019 is provided in the following table. Fair value of cash and cash equivalents, receivables, accounts payable and accrued interest approximate carrying value and are relatively insensitive to changes in interest rates due to the short-term maturity of the instruments. Accordingly, these instruments are excluded from the table.

<i>(In millions)</i>	Fair Value ^(a)	Change in Fair Value ^(b)	Change in Net Income for the Twelve Months Ended December 31, 2019 ^(c)
Long-term debt			
Fixed-rate	\$ 27,387	\$ 2,548	n/a
Variable-rate	1,000	n/a	20

Foreign Exchange Rate Risk



- Because of the purchase of crude oil denominated in Canadian dollars, the company was affected by exchange rate fluctuations.
- **Marathon did not use derivatives to hedge foreign exchange risk in 2019**

Compliance Program Price Risk



Our environmental expenditures, including non-regulatory expenditures, for each of the last three years were:

(In millions)

	2019	2018	2017
Capital	\$ 555	\$ 380	\$ 343
Compliance: ^(a)			
Operating and maintenance	580	525	413
Remediation ^(b)	78	52	36
Total	<u>\$ 1,213</u>	<u>\$ 957</u>	<u>\$ 792</u>

- Compliance to environmental regulation accounts for 11% of capital expenditure in 2019

Item 8: Financial Statements & Supplementary Data





Fair Value Derivative Instruments

(In millions)

Balance Sheet Location

Commodity derivatives

Other current assets

Other current liabilities^(a)

Deferred credits and other liabilities^(a)

December 31, 2019

Asset

Liability

\$ 63 \$ 106

— 5

— 55

(In millions)

Balance Sheet Location

Commodity derivatives

Other current assets

Other current liabilities^(a)

Deferred credits and other liabilities^(a)

December 31, 2018

Asset

Liability

\$ 400 \$ 283

1 16

— 54

^(a) Includes embedded derivatives.

Cash Flow Hedging Activities



<i>(In millions)</i>	Pension Benefits	Other Benefits	Gain on Cash Flow Hedge	Workers Compensation	Total
Balance as of December 31, 2017	\$ (190)	\$ (48)	\$ 4	\$ 3	\$ (231)
Other comprehensive income (loss) before reclassifications, net of tax of \$23	14	27	(1)	9	49
Amounts reclassified from accumulated other comprehensive loss:					
Amortization – prior service credit ^(a)	(33)	(3)	—	—	(36)
– actuarial loss ^(a)	31	(1)	—	—	30
– settlement loss ^(a)	53	—	—	—	53
Other	—	—	—	(5)	(5)
Tax effect	(7)	2	(1)	2	(4)
Other comprehensive income (loss)	58	25	(2)	6	87
Balance as of December 31, 2018	<u>\$ (132)</u>	<u>\$ (23)</u>	<u>\$ 2</u>	<u>\$ 9</u>	<u>\$ (144)</u>

Cash Flow Hedging Activities



<i>(In millions)</i>	Pension Benefits	Other Benefits	Gain on Cash Flow Hedge	Workers Compensation	Total
Balance as of December 31, 2018	\$ (132)	\$ (23)	\$ 2	\$ 9	\$ (144)
Other comprehensive income (loss) before reclassifications, net of tax of (\$52)	(71)	(92)	—	1	(162)
Amounts reclassified from accumulated other comprehensive loss:					
Amortization – prior service credit ^(a)	(45)	—	—	—	(45)
– actuarial loss ^(a)	22	(1)	—	—	21
– settlement loss ^(a)	9	—	—	—	9
Other	—	—	(1)	(4)	(5)
Tax effect	5	—	—	1	6
Other comprehensive loss	(80)	(93)	(1)	(2)	(176)
Balance as of December 31, 2019	<u>\$ (212)</u>	<u>\$ (116)</u>	<u>\$ 1</u>	<u>\$ 7</u>	<u>\$ (320)</u>

Measuring Impact of Derivatives on Income



<i>(In millions)</i>	December 31, 2019						
	Fair Value Hierarchy			Netting and Collateral ^(a)	Net Carrying Value on Balance Sheet ^(b)	Collateral Pledged Not Offset	
	Level 1	Level 2	Level 3				
Assets:							
Commodity contracts	\$ 57	\$ 6	\$ —	\$ (55)	\$ 8	\$	73
Liabilities:							
Commodity contracts	\$ 95	\$ 11	\$ —	\$ (106)	\$ —	\$	—
Embedded derivatives in commodity contracts	—	—	60	—	60		—

Fair Value Accounting



<i>(In millions)</i>	December 31, 2019			
	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	\$ —	\$ 22	\$ —	\$ 22
Equity:				
Common stocks	125	135	—	260
Mutual funds	188	—	—	188
Pooled funds	—	442	—	442
Fixed income:				
Corporate	160	815	—	975
Government	113	217	—	330
Pooled funds	—	229	—	229
Private equity	—	—	30	30
Real estate	—	—	24	24
Other	58	(46)	19	31
Total investments, at fair value	<u>\$ 644</u>	<u>\$ 1,814</u>	<u>\$ 73</u>	<u>\$ 2,531</u>

Financial Notes FV Measurements Recurring Derivatives



		December 31, 2019					
		Fair Value Hierarchy			Netting and Collateral ^(a)	Net Carrying Value on Balance Sheet ^(b)	Collateral Pledged Not Offset
<i>(In millions)</i>		Level 1	Level 2	Level 3			
Assets:							
Commodity contracts		\$ 57	\$ 6	\$ —	\$ (55)	\$ 8	\$ 73
Liabilities:							
Commodity contracts		\$ 95	\$ 11	\$ —	\$ (106)	\$ —	\$ —
Embedded derivatives in commodity							
contracts		—	—	60	—	60	—

Financial Notes Derivative Assets on B/S



(In millions)

Balance Sheet Location

Commodity derivatives

Other current assets

Other current liabilities^(a)

Deferred credits and other liabilities^(a)

December 31, 2019			
<u>Asset</u>		<u>Liability</u>	
\$	63	\$	106
	—		5
	—		55

Financial Notes Commodity Derivative Contracts

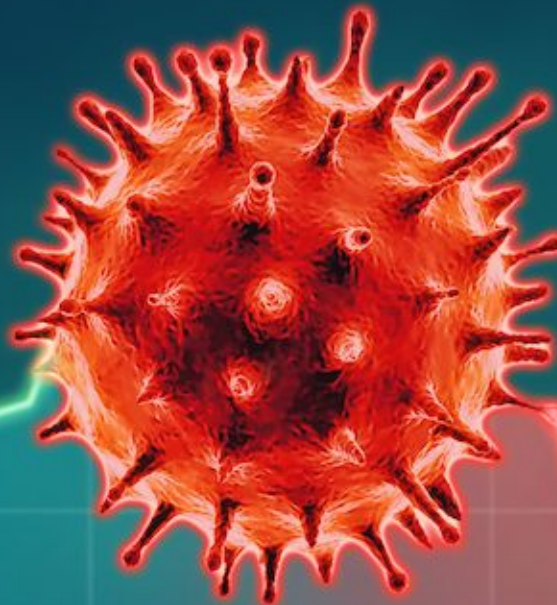


The table below summarizes open commodity derivative contracts for crude oil, refined products and blending products as of December 31, 2019.

<u>(Units in thousands of barrels)</u>	Percentage of contracts that expire next quarter	Position	
		Long	Short
Exchange-traded ^(a)			
Crude oil	85.7%	26,287	27,237
Refined products	94.7%	15,298	12,519
Blending products	99.5%	1,976	3,770

^(a) Included in exchange-traded are spread contracts in thousands of barrels: Crude oil - 5,130 long and 330 short; Refined products - 950 long and 450 short

Risk Management Recommendations



- MPC revenues are very sensitive to negative price shocks, should increase hedging activities
- Consider refinancing debt and entering in lower fixed interest rate forward/ swaps
- Consider entering forward/ future currency contracts in international export plan
- MPC should maintain and rollover nearby contracts to manage liquidity



Market Summary > HollyFrontier Corp

NYSE: HFC

+ Follow

31.38 USD **+1.12 (3.70%)** ↑

Closed: Jun. 12, 4:11 p.m. EDT · Disclaimer

After hours 31.79 **+0.41 (1.31%)**



HOLLYFRONTIER

1 day 5 days 1 month 6 months YTD 1 year 5 years **Max**



Open 31.10

High 31.75

Low 30.14

Mkt cap 5.08B

P/E ratio 25.52

Div yield 4.46%

Prev close 30.26

52-wk high 58.88

52-wk low 18.48

Management Team



- CEO & President **Michael C. Jennings** has **11 years of executive experience** at HollyFrontier.
- MBA from The University of Chicago and an undergraduate degree from Dartmouth College

- Senior Vice President **Thomas G. Creery** has 14 years of experience at HollyFrontier
- occupied the position of Vice President-Crude Supply at Holly Corp.



- Executive VP & CFO **Richard L. Voliva III** has 6 years of experience at HollyFrontier.
- BBA Harvard University, CFA Charterholder

- Senior Vice President **James M. Stump** has 21 years of experience at Hollyfrontier
- Previously held the position of Vice President-Refining Operations at Frontier Refining & Marketing, Inc.
- received an undergraduate degree from Colorado School of Mines

Refineries Locations



Item 1: Business Model



- Maximize **operating efficiencies** through acquisitions of new assets, and improvements to existing assets
- Expand **specialty products** (HollyFrontier Corporation, 2019)
- HollyFrontier owns and operates refineries located in Kansas, Oklahoma, New Mexico, Wyoming and Utah and markets its refined products principally in the Southwest U.S., the Rocky Mountains extending into the Pacific Northwest and in other neighboring Plains states.
- **Processing heavier, less expensive types of crude oil** to produce a high percentage of gasoline, diesel fuel and other high value refined products.
- Subsidiaries of HollyFrontier Corporation own and operate five complex refineries with an annual average crude oil capacity of approximately 457,000 barrels per day.
- 3 Business Segments
 - Refining
 - Lubricants and Specialty Products
 - HEP

SWOT Analysis



Strength

- 100% ownership in logistics assets and 57% interest in Holly Energy Partners LP
- **Sourcing 100% of crude input at discounted WTI prices**
- ~~Sonoborn Acquisition provides access to~~ manufacturing facilities in North America and European white oils, petroleum and waxes
- Close proximity to local markets minimize transportation costs

Opportunity

- International Maritime Organization compliance
 - Advantage of wider heavy crude differentials and distillate crack spread
- Second highest exposure to Canadian heavy crude
- 1.154B Cash & Cash Equivalent to distribute dividends or reinvest to improve inland transportation assets

Weakness

- Declining accounts receivable turnover
- Below industry asset turnover
- High leverage hinders emerging opportunities for high growth investments

Threat

- Narrowing crude differential and weakened lubricant margins
- Foreign operations subject to exchange rate risk

Financial Statements



Net cash used in investing	283	276	843
	4,186	14,355	12,380
Financing			
Short-term debt maturities of 9 months or less	0	(1,000)	0
Common stock issued	208	660	544
Common stock repurchased	(1,042)	(5,052)	(2,976)
Common stock cash dividends paid	(1,683)	(1,363)	(3,024)
Net cash used in financing	(2,513)	(6,751)	(5,382)
Investing			
Additions to property and equipment	(498)	(491)	(934)
Acquisition of companies, net of cash acquired, and purchases of intangible and other assets	(8,627)	(69)	(9,502)
Purchases of investments	(10,047)	(5,896)	(21,346)
Maturities of investments	6,061	1,836	8,886
Sales of investments	7,835	2,603	15,371
Securities sold	(292)	447	(358)
Net cash used in investing	(5,568)	(1,570)	(7,883)
Equivalents, end of			
	\$ 10,610	\$ 4,023	\$ 10,610
			\$ 4,023

SUMMARY

- Hollyfrontier Corporation (HFC) uses FV and CF Hedges to account for derivatives with offsetting adjustments (gains/losses) recorded directly to income.
- Cash Flow hedges are measured at FV & Gains/ Losses recorded in OCI
- HFC uses swaps as cash flow hedges against price risk of natural gas and to lock in a basis spread differential on crude purchases
- FV Hedge Gain/losses recognized in I/S the same period
- HFC uses commodity price swaps, forward, futures, foreign exchange forwards & swaps

Revenue by Geography



	Years Ended December 31,		
	2019	2018	2017
	(In thousands)		
Refined product revenues by market			
United States			
Mid-Continent	\$ 8,424,191	\$ 8,427,200	\$ 7,099,754
Southwest	3,621,273	3,772,278	2,952,224
Rocky Mountains	2,208,541	2,476,044	2,055,221
Northeast	578,932	339,407	259,840
Canada	721,169	732,321	673,842
Europe, Asia and Latin America	288,906	201,497	174,393
Total refined product revenues	\$ 15,843,012	\$ 15,948,747	\$ 13,215,274

Revenues by Segment



	Years Ended December 31,		
	2019	2018	2017
	(In thousands)		
Revenues by type			
Refined product revenues			
Transportation fuels ⁽¹⁾	\$ 12,952,899	\$ 13,326,654	\$ 11,056,038
Specialty lubricant products ⁽²⁾	1,864,450	1,636,859	1,415,842
Asphalt, fuel oil and other products ⁽³⁾	1,025,663	985,234	743,394
Total refined product revenues	15,843,012	15,948,747	13,215,274
Excess crude oil revenues ⁽⁴⁾	1,470,148	1,597,321	891,756
Transportation and logistic services	121,027	108,412	77,225
Other revenues ⁽⁵⁾	52,391	60,186	67,044
Total sales and other revenues	\$ 17,486,578	\$ 17,714,666	\$ 14,251,299

2019 Annual Revenue



	Refining	Lubricants and Specialty Products	HEP	Corporate, Other and Eliminations	Consolidated Total
	(In thousands)				
Year Ended December 31, 2019					
Sales and other revenues:					
Revenues from external customers	\$ 15,284,110	\$ 2,081,221	\$ 121,027	\$ 220	\$ 17,486,578
Intersegment revenues	312,678	11,307	411,750	(735,735)	—
	\$ 15,596,788	\$ 2,092,528	\$ 532,777	\$ (735,515)	\$ 17,486,578
Cost of products sold (exclusive of lower of cost or market inventory valuation adjustment)	\$ 12,980,506	\$ 1,580,036	\$ —	\$ (642,158)	\$ 13,918,384
Lower of cost or market inventory valuation adjustment	\$ (119,775)	\$ —	\$ —	\$ —	\$ (119,775)
Operating expenses	\$ 1,095,488	\$ 231,523	\$ 161,996	\$ (94,955)	\$ 1,394,052
Selling, general and administrative expenses	\$ 120,518	\$ 168,595	\$ 10,251	\$ 54,872	\$ 354,236
Depreciation and amortization	\$ 309,932	\$ 88,781	\$ 96,706	\$ 14,506	\$ 509,925
Goodwill impairment	\$ —	\$ 152,712	\$ —	\$ —	\$ 152,712
Income (loss) from operations	\$ 1,210,119	\$ (129,119)	\$ 263,824	\$ (67,780)	\$ 1,277,044
Earnings of equity method investments	\$ —	\$ —	\$ 5,180	\$ —	\$ 5,180
Capital expenditures	\$ 199,002	\$ 40,997	\$ 30,112	\$ 23,652	\$ 293,763
Total assets	\$ 7,189,094	\$ 2,223,418	\$ 2,205,437	\$ 546,892	\$ 12,164,841

2019 Consolidating Statement of Income 1



	Years Ended December 31,		
	2019	2018	2017
Sales and other revenues	\$ 17,486,578	\$ 17,714,666	\$ 14,251,299
Operating costs and expenses:			
Cost of products sold (exclusive of depreciation and amortization):			
Cost of products sold (exclusive of lower of cost or market inventory valuation adjustment)	13,918,384	13,940,782	11,467,873
Lower of cost or market inventory valuation adjustment	(119,775)	136,305	(108,685)
	13,798,609	14,077,087	11,359,188
Operating expenses (exclusive of depreciation and amortization)	1,394,052	1,285,838	1,296,669
Selling, general and administrative expenses (exclusive of depreciation and amortization)	354,236	290,424	265,721
Depreciation and amortization	509,925	437,324	409,937
Goodwill and long-lived asset impairment	152,712	—	19,247
Total operating costs and expenses	16,209,534	16,090,673	13,350,762
Income from operations	1,277,044	1,623,993	900,537

2019 Consolidating Statement of Income 2



Other income (expense):			
Earnings of equity method investments	5,180	5,825	12,510
Interest income	22,139	16,892	3,736
Interest expense	(143,321)	(131,363)	(117,597)
Loss on early extinguishment of debt	—	—	(12,225)
Gain on foreign currency transactions	5,449	6,197	16,921
Gain on foreign currency swap contracts	—	—	24,545
Remeasurement gain on HEP pipeline interest acquisitions	—	—	36,254
Other, net	5,013	2,923	4,182
	(105,540)	(99,526)	(31,674)
Income before income taxes	1,171,504	1,524,467	868,863

2019 Consolidating Statement of Income 3



Income tax expense (benefit):

Current	220,486	270,274	125,143
Deferred	78,666	76,969	(137,522)
	<u>299,152</u>	<u>347,243</u>	<u>(12,379)</u>
Net income	872,352	1,177,224	881,242
Less net income attributable to noncontrolling interest	99,964	79,264	75,847
Net income attributable to HollyFrontier stockholders	\$ 772,388	\$ 1,097,960	\$ 805,395
Earnings per share attributable to HollyFrontier stockholders:			
Basic	<u>\$ 4.64</u>	<u>\$ 6.25</u>	<u>\$ 4.54</u>
Diluted	<u>\$ 4.61</u>	<u>\$ 6.19</u>	<u>\$ 4.52</u>
Average number of common shares outstanding:			
Basic	166,287	175,009	176,174
Diluted	167,385	176,661	177,196

2019 Balance Sheet - Assets



	December 31,	
	2019	2018
ASSETS		
Current assets:		
Cash and cash equivalents <i>(HEP: \$13,287 and \$3,045, respectively)</i>	\$ 885,162	\$ 1,154,752
Accounts receivable: Product and transportation <i>(HEP: \$18,732 and \$12,332, respectively)</i>	834,771	635,623
Crude oil resales	44,914	36,078
	879,685	671,701
Inventories: Crude oil and refined products	1,282,789	1,166,404
Materials, supplies and other <i>(HEP: \$833 and \$858, respectively)</i>	191,413	187,975
	1,474,202	1,354,379
Income taxes receivable	5,478	34,040
Prepayments and other <i>(HEP: \$6,795 and \$3,452, respectively)</i>	61,662	81,507
Total current assets	3,306,189	3,296,379
Properties, plants and equipment, at cost <i>(HEP: \$2,047,674 and \$2,058,388, respectively)</i>	7,237,297	6,780,980
Less accumulated depreciation <i>(HEP: \$(552,786) and \$(489,217), respectively)</i>	(2,414,585)	(2,098,446)
	4,822,712	4,682,534
Operating lease right-of-use assets <i>(HEP: \$2,652)</i>	467,109	—
Other assets: Turnaround costs	521,278	339,861
Goodwill <i>(HEP: \$312,873 and \$314,229, respectively)</i>	2,373,907	2,246,435
Intangibles and other <i>(HEP: \$319,569 and \$176,291, respectively)</i>	673,646	429,392
	3,568,831	3,015,688
Total assets	\$ 12,164,841	\$ 10,994,601

2019 Balance Sheet - Liabilities & Shareholder Equity



LIABILITIES AND EQUITY

Current liabilities:

Accounts payable (HEP: \$18,050 and \$16,723, respectively)	\$ 1,215,555	\$ 872,627
Income taxes payable	27,965	17,636
Operating lease liabilities (HEP \$3,608)	104,415	—
Accrued liabilities (HEP: \$30,418 and \$27,240, respectively)	337,993	277,892
Total current liabilities	1,685,928	1,168,155
Long-term debt (HEP: \$1,462,031 and \$1,418,900, respectively)	2,455,640	2,411,540
Noncurrent operating lease liabilities (HEP \$72,000)	364,420	—
Deferred income taxes (HEP: \$424 and \$488, respectively)	889,270	722,576
Other long-term liabilities (HEP: \$59,021 and \$63,534, respectively)	260,157	233,271

Equity:

HollyFrontier stockholders' equity:

Preferred stock, \$1.00 par value – 5,000,000 shares authorized; none issued	—	—
Common stock \$.01 par value – 320,000,000 shares authorized; 256,042,554 and 256,036,788 shares issued as of December 31, 2019 and December 31, 2018	2,560	2,560
Additional capital	4,204,547	4,196,125
Retained earnings	4,744,120	4,196,902
Accumulated other comprehensive income	14,774	13,623
Common stock held in treasury, at cost – 94,196,029 and 83,915,297 shares as of December 31, 2019 and December 31, 2018, respectively	(2,987,808)	(2,490,639)
Total HollyFrontier stockholders' equity	5,978,193	5,918,571
Noncontrolling interest	531,233	540,488
Total equity	6,509,426	6,459,059
Total liabilities and equity	\$ 12,164,841	\$ 10,994,601

2019 Cash Flow Statement - Operations



	Years Ended December 31,		
	2019	2018	2017
Cash flows from operating activities:			
Net income	\$ 872,352	\$ 1,177,224	\$ 881,242
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	509,925	437,324	409,937
Goodwill and long-lived asset impairment	152,712	—	19,247
Lower of cost or market inventory valuation adjustment	(119,775)	136,305	(108,685)
Earnings of equity method investments, inclusive of distributions	(213)	(149)	1,450
Loss on early extinguishment of debt attributable to unamortized discount	—	—	2,475
Remeasurement gain on HEP pipeline interest acquisitions	—	—	(36,254)
Loss on sale of assets	50	2,171	508
Deferred income taxes	78,666	76,969	(137,522)
Equity-based compensation expense	42,269	42,172	42,337
Change in fair value – derivative instruments	36,888	(31,515)	(4,265)
(Increase) decrease in current assets:			
Accounts receivable	(150,437)	35,793	(115,322)
Inventories	91,599	136,551	(162,297)
Income taxes receivable	32,368	7,752	50,601
Prepayments and other	3,633	(10,340)	(6,753)
Increase (decrease) in current liabilities:			
Accounts payable	312,794	(326,030)	188,975
Income taxes payable	9,048	15,281	(18,525)
Accrued liabilities	13,748	53,281	57,227
Turnaround expenditures	(318,415)	(217,228)	(135,104)
Other, net	(18,601)	18,855	22,118
Net cash provided by operating activities	1,548,611	1,554,416	951,390

2019 Cash Flow Statement - Investing



Cash flows from investing activities:			
Additions to properties, plants and equipment	(263,651)	(256,888)	(227,449)
Additions to properties, plants and equipment – HEP	(30,112)	(54,141)	(44,810)
Acquisitions, net of cash acquired	(662,665)	(54,179)	(870,627)
Purchase of pipeline interests, net of cash acquired - HEP	—	—	(245,446)
Investment in joint venture	(17,886)	—	—
Proceeds from sale of assets	194	3,100	1,377
Purchases of marketable securities	—	—	(41,565)
Sales and maturities of marketable securities	—	—	465,716
Other, net	1,206	1,588	3,134
Net cash used for investing activities	(972,914)	(360,520)	(959,670)

2019 Cash Flow Statement - Financing



Cash flows from financing activities:			
Borrowings under credit agreements	365,500	337,000	995,000
Repayments under credit agreements	(323,000)	(426,000)	(536,000)
Proceeds from issuance of senior notes – HEP	—	—	101,750
Redemption of senior notes - HEP	—	—	(309,750)
Proceeds of financing arrangements	—	32,547	—
Proceeds from issuance of common units - HEP	—	114,759	52,110
Purchase of treasury stock	(533,083)	(363,437)	(15,926)
Dividends	(225,170)	(233,544)	(235,508)
Distributions to noncontrolling interest	(132,268)	(125,653)	(110,351)
Contribution from noncontrolling interest	3,210	—	—
Payments on finance leases	(1,551)	—	—
Other, net	(1,893)	—	(13,955)
Net cash used for financing activities	(848,255)	(664,328)	(72,630)

Cash Flow Statement End of Period



Effect of exchange rate on cash flow	2,968	(5,573)	1,088
Cash and cash equivalents:			
Increase (decrease) for the period	(269,590)	523,995	(79,822)
Beginning of period	1,154,752	630,757	710,579
End of period	<u>\$ 885,162</u>	<u>\$ 1,154,752</u>	<u>\$ 630,757</u>
Supplemental disclosure of cash flow information:			
Cash paid during the period for:			
Interest	\$ (133,809)	\$ (130,106)	\$ (124,375)
Income taxes, net	\$ (178,967)	\$ (252,644)	\$ (93,272)

Item 1A: Risk Factors



- The **prices** of crude oil and refined and finished lubricant products are volatile
- The demands for crude oil and refined and finished lubricant products are largely driven by the conditions of local and worldwide economies as well as by **weather** patterns and the **taxation** of these products relative to other energy sources.
- Customs may shift to more fuel-efficient vehicles or alternative fuel vehicles (such as ethanol or wider adoption of gas/electric hybrid vehicles).
- As a result of **technological** advances by manufacturers, legislation may mandate or encourage higher fuel economy or the use of alternative fuel.
- Operations are subject to a series of **regulatory, political, litigation, and financial risks** associated with the refining of petroleum products and emission of GHGs.

Item 7: Management Discussion & Analysis



Average Market Reference Prices and Differentials



	Years Ended December 31,		
	2019	2018	2017
Consolidated			
Crude charge (BPD) ⁽¹⁾	427,600	431,570	438,800
Refinery throughput (BPD) ⁽²⁾	458,600	463,340	472,010
Sales of produced refined products (BPD) ⁽³⁾	449,190	452,630	452,270
Refinery utilization ⁽⁴⁾	93.6%	94.4%	96.0%
Average per produced barrel ⁽⁵⁾			
Refinery gross margin	\$ 15.96	\$ 17.71	\$ 11.56
Refinery operating expenses ⁽⁶⁾	6.68	6.39	6.11
Net operating margin	\$ 9.28	\$ 11.32	\$ 5.45
Refinery operating expenses per throughput barrel ⁽⁷⁾	\$ 6.54	\$ 6.24	\$ 5.86
Lubricants and Specialty Products			
Throughput (BPD)	20,251	19,590	21,710
Sales of produced barrels sold (BPD)	34,827	30,510	32,910

Average Market Reference Prices and Differentials Part 2



	Expected Cash Spending Range	
	(In millions)	
HollyFrontier Capital Expenditures		
Refining	\$ 270.0	\$ 300.0
Renewable Diesel Unit	130.0	150.0
Lubricants and Specialty Products	40.0	60.0
Turnarounds and catalyst	125.0	150.0
Total HollyFrontier	565.0	660.0
HEP		
Maintenance	8.0	12.0
Expansion and joint venture investment	45.0	50.0
Refining unit turnarounds	5.0	7.0
Total HEP	58.0	69.0
Total	\$ 623.0	\$ 729.0

Item 7A: Quantitative and Qualitative Disclosures about Market Risks



Commodity Price Risk Management: Sensitivity Analysis



Commodity-based Derivative Contracts	Estimated Change in Fair Value at December 31,	
	2019	2018
	(In thousands)	
Hypothetical 10% change in underlying commodity prices	\$ 7,420	\$ 1,485

Interest Rate Risk



Interest Rate Risk Management

The market risk inherent in our fixed-rate debt is the potential change arising from increases or decreases in interest rates as discussed below.

For the fixed rate HollyFrontier Senior Notes and HEP Senior Notes, changes in interest rates will generally affect fair value of the debt, but not earnings or cash flows. The outstanding principal, estimated fair value and estimated change in fair value (assuming a hypothetical 10% change in the yield-to-maturity rates) for this debt as of December 31, 2019 is presented below:

	Outstanding Principal	Estimated Fair Value	Estimated Change in Fair Value
	(In thousands)		
HollyFrontier Senior Notes	\$ 1,000,000	\$ 1,127,610	\$ 22,552
HEP Senior Notes	\$ 500,000	\$ 522,045	\$ 10,892

- Hollyfrontier is exposed to market risk related to the volatility in foreign currency exchange rates. It periodically enters into derivative contracts in the form of **foreign exchange forward and foreign exchange swap contracts** to mitigate the exposure associated with fluctuations on intercompany notes with our foreign subsidiaries that are not denominated in the U.S. dollar.
- Using notional contract volumes related to all outstanding derivative contracts used to mitigate foreign currency risk:
 - Long Natural gas price swaps, Crude oil price swaps (basis spread) and Forward gasoline and diesel contracts.
 - Short NYMEX futures (WTI)

Item 8: Financial Statements & Supplementary Data



Fair Value Derivative Instruments



	Total Outstanding Notional	Notional Contract Volumes by Year of Maturity		Unit of Measure
		2020	2021	
<i>Derivatives designated as hedging instruments:</i>				
Natural gas price swaps - long	3,600,000	1,800,000	1,800,000	MMBTU
Crude oil price swaps (basis spread) - long	4,758,000	4,758,000	—	Barrels
<i>Derivatives not designated as hedging instruments:</i>				
NYMEX futures (WTI) - short	1,365,000	1,365,000	—	Barrels
Crude oil price swaps (basis spread) - long	1,464,000	1,464,000	—	Barrels
Forward gasoline and diesel contracts - long	1,251,200	1,251,200	—	Barrels
Foreign currency forward contracts	434,340,348	434,340,348	—	U. S. dollar
Forward commodity contracts (platinum)	41,147	—	41,147	Troy ounces

Cash Flow Hedging Activities



Derivatives Designated as Cash Flow Hedging Instruments	Net Unrealized Gain (Loss) Recognized in OCI			Gain (Loss) Reclassified into Earnings			
	Years Ended December 31,			Income Statement Location	Years Ended December 31,		
	2019	2018	2017		2019	2018	2017
(In thousands)							
Commodity contracts	\$ (5,349)	\$ 11,221	\$ 14,538	Sales and other revenues	\$ (1,799)	\$ (5,093)	\$ 7,836
				Cost of products sold	22,876	—	(299)
				Operating expenses	(1,364)	(962)	(19,244)
Interest rate contracts ⁽¹⁾	—	—	(91)	Interest expense	—	—	179
Total	\$ (5,349)	\$ 11,221	\$ 14,447		\$ 19,713	\$ (6,055)	\$ (11,528)

Measuring Impact of Derivatives on Income



Derivatives Not Designated as Hedging Instruments	Gain (Loss) Recognized in Earnings			
	Income Statement Location	Three Months Ended March 31,		
		2020	2019	
		(In thousands)		
Commodity contracts	Cost of products sold	\$ 25,089	\$ (7,417)	
	Interest expense	9,812	(2,016)	
Foreign currency contracts	Gain (loss) on foreign currency transactions	33,475	(7,606)	
	Total	\$ 68,376	\$ (17,039)	

Fair Value Accounting



Financial Instrument	Carrying Amount	Fair Value by Input Level		
		Level 1	Level 2	Level 3
(In thousands)				
December 31, 2019				
Assets:				
Commodity price swaps	\$ 13,455	\$ —	\$ 13,455	\$ —
Commodity forward contracts	4,133	—	4,133	—
Total assets	\$ 17,588	\$ —	\$ 17,588	\$ —
Liabilities:				
NYMEX futures contracts	\$ 2,578	\$ 2,578	\$ —	\$ —
Foreign currency forward contracts	6,722	—	6,722	—
Commodity price swaps	1,230	—	1,230	—
Commodity forward contracts	3,685	—	3,685	—
Total liabilities	\$ 14,215	\$ 2,578	\$ 11,637	\$ —

Financial Notes Derivative Instruments & Hedging Activities



The following table presents the pre-tax effect on other comprehensive income (“OCI”) and earnings due to fair value adjustments and maturities of hedging instruments under hedge accounting:

Derivatives Designated as Cash Flow Hedging Instruments	Net Unrealized Gain (Loss) Recognized in OCI			Gain (Loss) Reclassified into Earnings			
	Years Ended December 31,			Income Statement Location	Years Ended December 31,		
	2019	2018	2017		2019	2018	2017
(In thousands)							
Commodity contracts	\$ (5,349)	\$ 11,221	\$ 14,538	Sales and other revenues	\$ (1,799)	\$ (5,093)	\$ 7,836
				Cost of products sold	22,876	—	(299)
				Operating expenses	(1,364)	(962)	(19,244)
Interest rate contracts ⁽¹⁾	—	—	(91)	Interest expense	—	—	179
Total	\$ (5,349)	\$ 11,221	\$ 14,447		\$ 19,713	\$ (6,055)	\$ (11,528)

(1) HEP used interest rate swap contracts to manage its exposure to interest rate risk, which matured in July 2017.

Financial Notes FV Economic Hedges



Derivatives Not Designated as Hedging Instruments	Gain (Loss) Recognized in Earnings			
	Income Statement Location	Years Ended December 31,		
		2019	2018	2017
		(In thousands)		
Commodity contracts	Cost of products sold	\$ (8,475)	\$ 16,655	\$ (12,327)
	Operating expenses	—	—	(6,697)
	Interest expense	(6,427)	(198)	—
Foreign currency contracts	Gain on foreign currency transactions	(17,430)	41,834	—
	Gain on foreign currency swap contracts ⁽¹⁾	—	—	24,545
	Total	\$ (32,332)	\$ 58,291	\$ 5,521

Financial Notes Hedging Instruments



	Total Outstanding Notional	Notional Contract Volumes by Year of Maturity		Unit of Measure
		2020	2021	
<i>Derivatives designated as hedging instruments:</i>				
Natural gas price swaps - long	3,600,000	1,800,000	1,800,000	MMBTU
Crude oil price swaps (basis spread) - long	4,758,000	4,758,000	—	Barrels
<i>Derivatives not designated as hedging instruments:</i>				
NYMEX futures (WTI) - short	1,365,000	1,365,000	—	Barrels
Crude oil price swaps (basis spread) - long	1,464,000	1,464,000	—	Barrels
Forward gasoline and diesel contracts - long	1,251,200	1,251,200	—	Barrels
Foreign currency forward contracts	434,340,348	434,340,348	—	U. S. dollar
Forward commodity contracts (platinum)	41,147	—	41,147	Troy ounces

Financial Notes Cash Flow Hedging Instruments



	Derivatives in Net Asset Position			Derivatives in Net Liability Position		
	Gross Assets	Gross Liabilities Offset in Balance Sheet	Net Assets Recognized in Balance Sheet	Gross Liabilities	Gross Assets Offset in Balance Sheet	Net Liabilities Recognized in Balance Sheet
(In thousands)						
December 31, 2019						
<i>Derivatives designated as cash flow hedging instruments:</i>						
Commodity price swap contracts	\$ 7,526	\$ (1,784)	\$ 5,742	\$ 1,230	\$ —	\$ 1,230
	<u>\$ 7,526</u>	<u>\$ (1,784)</u>	<u>\$ 5,742</u>	<u>\$ 1,230</u>	<u>\$ —</u>	<u>\$ 1,230</u>
<i>Derivatives not designated as cash flow hedging instruments:</i>						
NYMEX futures contracts	\$ —	\$ —	\$ —	\$ 2,578	\$ —	\$ 2,578
Commodity price swap contracts	7,713	—	7,713	—	—	—
Commodity forward contracts	4,133	—	4,133	3,685	—	3,685
Foreign currency forward contracts	—	—	—	6,722	—	6,722
	<u>\$ 11,846</u>	<u>\$ —</u>	<u>\$ 11,846</u>	<u>\$ 12,985</u>	<u>\$ —</u>	<u>\$ 12,985</u>
Total net balance			<u>\$ 17,588</u>			<u>\$ 14,215</u>
Balance sheet classification:	Prepayment and other		\$ 17,588	Accrued liabilities		\$ 12,985
			—	Other long-term liabilities		1,230
			<u>\$ 17,588</u>			<u>\$ 14,215</u>

Financial Notes Cash Flow Hedging Instruments Part 2



	Derivatives in Net Asset Position			Derivatives in Net Liability Position		
	Gross Assets	Gross Liabilities Offset in Balance Sheet	Net Assets Recognized in Balance Sheet	Gross Liabilities	Gross Assets Offset in Balance Sheet	Net Liabilities Recognized in Balance Sheet
	(In thousands)					
December 31, 2018						
Derivatives designated as cash flow hedging instruments:						
Commodity price swap contracts	\$ 11,790	\$ (973)	\$ 10,817	\$ 1,755	\$ (799)	\$ 956
	<u>\$ 11,790</u>	<u>\$ (973)</u>	<u>\$ 10,817</u>	<u>\$ 1,755</u>	<u>\$ (799)</u>	<u>\$ 956</u>
Derivatives not designated as cash flow hedging instruments:						
NYMEX futures contracts	\$ 2,473	\$ —	\$ 2,473	\$ —	\$ —	\$ —
Commodity forward contracts	1,034	—	1,034	1,137	—	1,137
Foreign currency forward contracts	25,956	—	25,956	—	—	—
	<u>\$ 29,463</u>	<u>\$ —</u>	<u>\$ 29,463</u>	<u>\$ 1,137</u>	<u>\$ —</u>	<u>\$ 1,137</u>
Total net balance			<u>\$ 40,280</u>			<u>\$ 2,093</u>
	Prepayments and other		\$ 37,982	Accrued liabilities		\$ 1,137
	Intangibles and other		2,298	Other long-term liabilities		956
Balance sheet classification:			<u>\$ 40,280</u>			<u>\$ 2,093</u>

Financial Notes OCI Derivatives



NOTE 17: Other Comprehensive Income (Loss)

The components and allocated tax effects of other comprehensive income are as follows:

	Before-Tax	Tax Expense (Benefit)	After-Tax
	(In thousands)		
Year Ended December 31, 2019			
Net change in foreign currency translation adjustment	\$ 13,337	\$ 2,848	\$ 10,489
Net unrealized loss on hedging instruments	(5,349)	(1,365)	(3,984)
Net change in pension and other post-retirement benefit obligations	(7,207)	(1,853)	(5,354)
Other comprehensive income attributable to HollyFrontier stockholders	<u>\$ 781</u>	<u>\$ (370)</u>	<u>\$ 1,151</u>

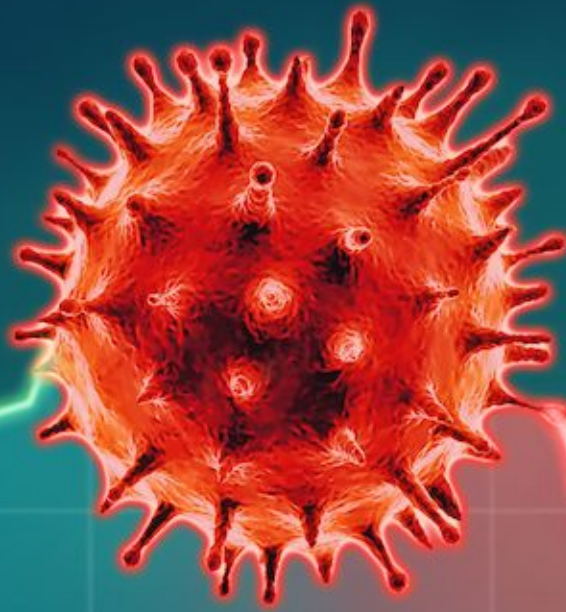
Financial Notes AOCI Balance



The following table presents the income statement line item effects for reclassifications out of accumulated other comprehensive income (“AOCI”):

AOCI Component	Gain (Loss) Reclassified From AOCI			Income Statement Line Item
	Years Ended December 31,			
	2019	2018	2017	
	(In thousands)			
Hedging instruments:				
Commodity price swaps	\$ (1,799)	\$ (5,093)	\$ 7,836	Sales and other revenues
	22,876	—	(299)	Cost of products sold
	(1,364)	(962)	(19,244)	Operating expenses
Interest rate swaps	—	—	179	Interest expense
	19,713	(6,055)	(11,528)	
	5,027	(1,544)	(4,490)	Income tax benefit
	14,686	(4,511)	(7,038)	Net of tax
	—	—	(74)	Noncontrolling interest
	14,686	(4,511)	(7,112)	Net of tax and noncontrolling interest

Risk Management Recommendations



- Increase hedging assets to reduce the adverse effects caused by price differentials between domestic and foreign crude oils.
- Increase forward contracts to mitigate commodity price and foreign currency risk.
- Mitigate interest rate risk by hedging fixed-income investments with interest rate swaps, options, or other interest rate derivatives.

PBF Energy Corporation



Market Summary > PBF Energy Inc

NYSE: PBF

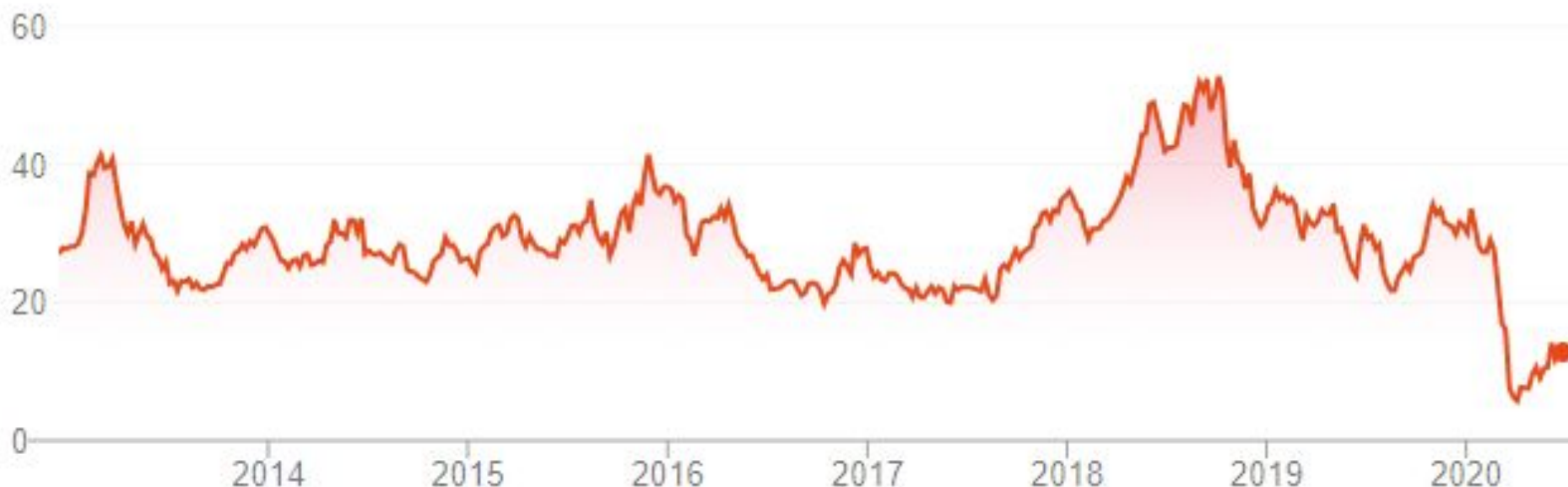
12.88 USD **-0.010 (0.078%)** ↓

Closed: Jun. 19, 7:06 p.m. EDT · Disclaimer

After hours 12.80 **-0.080 (0.62%)**



1 day 5 days 1 month 6 months YTD 1 year 5 years **Max**



Open	13.30	Div yield	9.32%
High	13.50	Prev close	12.89
Low	12.75	52-wk high	34.91
Mkt cap	1.55B	52-wk low	5.19
P/E ratio			

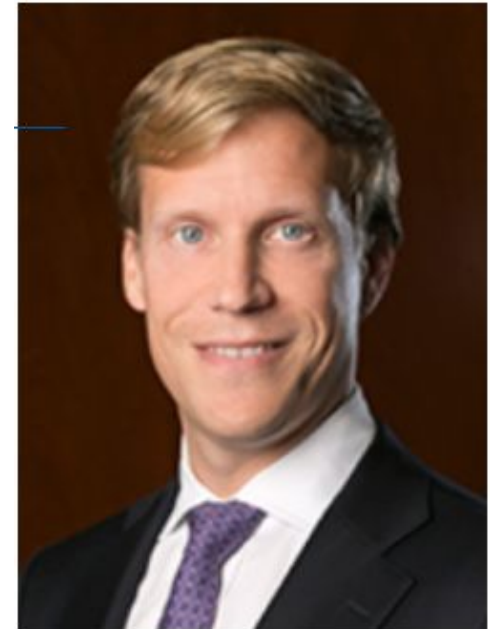
Management Team



- CEO **Thomas J. Nimbley** has 10 years of executive experience at PBF Energy
- Former Executive VP



- CFO **Matthew C. Lucey** has 12 years of executive experience at PBF Energy



- CFO **Erik Young** has 20 years of experience at Valero Energy
- He was responsible for both corporate development activities and capital markets initiatives



Item 1: Business Model

- One of the largest independent petroleum refiners and **suppliers of unbranded transportation fuels, heating oil, petrochemical feedstocks, lubricants** and other petroleum products in the United States
- Have a combined processing capacity, known as throughput, of approximately 900,000 bpd
- Sell products throughout the Northeast, Midwest, Gulf Coast and West Coast of the United States, as well as in other regions of the **United States, Canada and Mexico** and ship products to other international destinations
- Pursue acquisitions of crude oil refineries and downstream assets in North America
- Own and operate five domestic oil refineries and related assets as of December 31, 2019
- PBF Energy is a holding company whose primary asset is a controlling equity interest in PBF LLC. It is the sole managing member of PBF LLC and operate and control all of the business and affairs of PBF LLC.
- Have a combined processing capacity, known as throughput, of approximately 900,000 bpd
- 2 Business Segments
 - ○ Refining
 - ○ Logistics

Refineries Locations



Refinery Locations & Throughput Capacity

Refinery	Region	Nelson Complexity Index	Throughput Capacity (in barrels per day)	PADD	Crude Processed ⁽¹⁾	Source ⁽¹⁾
Delaware City	East Coast	11.3	190,000	1	light sweet through heavy sour	water, rail
Paulsboro	East Coast	13.2	180,000	1	light sweet through heavy sour	water
Toledo	Mid-Continent	9.2	170,000	2	light sweet	pipeline, truck, rail
Chalmette	Gulf Coast	12.7	189,000	3	light sweet through heavy sour	water, pipeline
Torrance	West Coast	14.9	155,000	5	medium and heavy	pipeline, water, truck

SWOT Analysis

Strength

- Diversified Assets allocation provides access to crude input across the east and west coast of US
- 884,000 bpd production capability
- Successful execution of major turnaround for Torrance Refinery
 - Enables 155,000 bpd production
 - Highest gasoline yield of 70% compared to industry

Opportunity

- Opportunity to acquire upstream company to attain crude oil in Permian shale region
 - Access enables supply flexibility to LA refinery

Weakness

- PBF Energy has maintained a financial leverage level that is the highest in the industry in the long run
- Refinery and transportation assets lacks integration which can provide PBF advantages via synergies
- Reliance on third party suppliers for pipelines may substantially affect

Threat

- Torrance Refinery operations is producing chemicals (modified hydrofluoric acids) that endangers the environment
- Chemical leaks have occurred since 2017 where 400,000 residents live within miles from refinery location
- Banning chemical releases will cost PBF Energy \$900mm

Financial Statements



SUMMARY

- PBF Energy reports FV Hedges under Operating Activities in Cash Flow Statement
- FV Hedge Gain/losses recognized in I/S the same period
- CF Hedges designated as FV Hedge under Operating Activities in Cash Flow Statement
- Changes in FV of Derivative Assets/ Liabilities recorded in current I/S



Revenue by Geography

<i>(in millions)</i>	Year Ended December 31, 2019	Year Ended December 31, 2018	Year Ended December 31, 2017
United States income	\$ 450.0	\$ 134.3	\$ 749.7
Foreign income (loss)	(26.3)	27.5	(18.5)
Total income before income taxes attributable to PBF Energy Inc. stockholders	\$ 423.7	\$ 161.8	\$ 731.2



Revenues by Segment

(in millions)	Year Ended December 31,		
	2019	2018	2017
Refining Segment:			
Gasoline and distillates	\$ 21,278.4	\$ 23,032.6	\$ 18,316.1
Asphalt and blackoils	1,426.4	1,592.9	1,162.3
Feedstocks and other	806.9	1,372.3	1,215.7
Chemicals	682.3	842.8	770.5
Lubricants	274.9	321.5	305.1
Total Revenues	\$ 24,468.9	\$ 27,162.1	\$ 21,769.7
Logistics Segment:			
Logistics	340.2	283.4	257.6
Total revenue prior to eliminations	\$ 24,809.1	\$ 27,445.5	\$ 22,027.3
Elimination of intercompany revenue	(300.9)	(259.4)	(240.7)
Total Revenues	\$ 24,508.2	\$ 27,186.1	\$ 21,786.6

2019 Annual Revenue



PBF Energy (in millions)

Year Ended December 31, 2019

	Refining		Logistics		Corporate		Eliminations	Consolidated Total
Revenues	\$	24,468.9	\$	340.2	\$	—	\$ (300.9)	\$ 24,508.2
Depreciation and amortization expense		386.7		38.6		10.8	—	436.1
Income (loss) from operations ⁽¹⁾⁽²⁾		767.9		159.3		(270.3)	(7.9)	649.0
Interest expense, net		1.3		51.1		107.2	—	159.6
Capital expenditures		708.9		31.7		8.3	—	748.9

2019 Consolidating Statement of Income Part 1



	Year Ended December 31,		
	2019	2018	2017
Revenues	\$ 24,508.2	\$ 27,186.1	\$ 21,786.6
Cost and expenses:			
Cost of products and other	21,387.5	24,503.4	18,863.6
Operating expenses (excluding depreciation and amortization expense as reflected below)	1,782.3	1,721.0	1,684.4
Depreciation and amortization expense	425.3	359.1	278.0
Cost of sales	23,595.1	26,583.5	20,826.0
General and administrative expenses (excluding depreciation and amortization expense as reflected below)	284.0	277.0	214.5
Depreciation and amortization expense	10.8	10.6	13.0
Change in contingent consideration	(0.8)	—	—
(Gain) loss on sale of assets	(29.9)	(43.1)	1.5
Total cost and expenses	23,859.2	26,828.0	21,055.0
Income from operations	649.0	358.1	731.6

2019 Consolidating Statement of Income Part 2



Other income (expense):

Interest expense, net	(159.6)	(169.9)	(154.4)
Change in Tax Receivable Agreement liability	—	13.9	250.9
Change in fair value of catalyst obligations	(9.7)	5.6	(2.2)
Debt extinguishment costs	—	—	(25.5)
Other non-service components of net periodic benefit cost	(0.2)	1.1	(1.4)
Income before income taxes	479.5	208.8	799.0
Income tax expense	104.3	33.5	315.6
Net income	375.2	175.3	483.4
Less: net income attributable to noncontrolling interests	55.8	47.0	67.8
Net income attributable to PBF Energy Inc. stockholders	\$ 319.4	\$ 128.3	\$ 415.6

Weighted-average shares of Class A common stock outstanding

Basic	119,887,646	115,190,262	109,779,407
Diluted	121,853,299	118,773,606	113,898,845
Net income available to Class A common stock per share:			
Basic	\$ 2.66	\$ 1.11	\$ 3.78
Diluted	\$ 2.64	\$ 1.10	\$ 3.73

2019 Consolidating Statement of Income Part 3



	Year Ended December 31,		
	2019	2018	2017
Net income	\$ 375.2	\$ 175.3	\$ 483.4
Other comprehensive income (loss):			
Unrealized gain (loss) on available for sale securities	0.4	(0.1)	—
Net gain (loss) on pension and other post-retirement benefits	13.8	3.1	(1.0)
Total other comprehensive income (loss)	14.2	3.0	(1.0)
Comprehensive income	389.4	178.3	482.4
Less: comprehensive income attributable to noncontrolling interests	55.9	47.0	67.8
Comprehensive income attributable to PBF Energy Inc. stockholders	\$ 333.5	\$ 131.3	\$ 414.6



2019 Balance Sheet - Assets

	December 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents (PBFX: \$35.0 and \$19.9, respectively)	\$ 814.9	\$ 597.3
Accounts receivable	835.0	718.2
Inventories	2,122.2	1,865.8
Prepaid and other current assets	51.6	55.6
Total current assets	3,823.7	3,236.9
Property, plant and equipment, net (PBFX: \$854.6 and \$862.1, respectively)	4,023.2	3,820.9
Deferred tax assets	—	48.5
Operating lease right of use assets	306.4	—
Deferred charges and other assets, net	979.1	899.1
Total assets	\$ 9,132.4	\$ 8,005.4

2019 Balance Sheet - Liabilities & Shareholder Equity 1



LIABILITIES AND EQUITY			
Current liabilities:			
Accounts payable	\$	601.4	\$ 488.4
Accrued expenses		1,815.6	1,623.6
Deferred revenue		20.1	20.1
Current operating lease liabilities		72.1	—
Current debt		—	2.4
Total current liabilities		2,509.2	2,134.5
Long-term debt (PBFX: \$802.1 and \$673.3, respectively)		2,064.9	1,931.3
Payable to related parties pursuant to Tax Receivable Agreement		373.5	373.5
Deferred tax liabilities		96.9	40.4
Long-term operating lease liabilities		233.1	—
Other long-term liabilities		269.3	277.2
Total liabilities		5,546.9	4,756.9

2019 Balance Sheet - Liabilities & Shareholder Equity 2



Commitments and contingencies (Note 13)

Equity:

PBF Energy Inc. equity

Class A common stock, \$0.001 par value, 1,000,000,000 shares authorized, 119,804,971 shares outstanding at December 31, 2019, 119,874,191 shares outstanding at December 31, 2018	0.1	0.1
Class B common stock, \$0.001 par value, 1,000,000 shares authorized, 20 shares outstanding at December 31, 2019, 20 shares outstanding at December 31, 2018	—	—
Preferred stock, \$0.001 par value, 100,000,000 shares authorized, no shares outstanding at December 31, 2019 and 2018	—	—
Treasury stock, at cost, 6,424,787 shares outstanding at December 31, 2019 and 6,274,261 shares outstanding at December 31, 2018	(165.7)	(160.8)
Additional paid in capital	2,812.3	2,633.8
Retained earnings	401.2	225.8
Accumulated other comprehensive loss	(8.3)	(22.4)
Total PBF Energy Inc. equity	3,039.6	2,676.5
Noncontrolling interest	545.9	572.0
Total equity	3,585.5	3,248.5
Total liabilities and equity	\$ 9,132.4	\$ 8,005.4

2019 Cash Flow Statement - Operations



	Year Ended December 31,		
	2019	2018	2017
Cash flows from operating activities:			
Net income	\$ 375.2	\$ 175.3	\$ 483.4
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	447.5	378.6	299.9
Stock-based compensation	37.3	26.0	26.8
Change in fair value of catalyst obligations	9.7	(5.6)	2.2
Deferred income taxes	103.7	32.7	313.8
Change in Tax Receivable Agreement liability	—	(13.9)	(250.9)
Non-cash change in inventory repurchase obligations	25.4	(31.8)	13.8
Non-cash lower of cost or market inventory adjustment	(250.2)	351.3	(295.5)
Debt extinguishment costs	—	—	25.5
Pension and other post-retirement benefit costs	44.8	47.4	42.2
Change in fair value of contingent consideration	(0.8)	—	—
(Gain) loss on sale of assets	(29.9)	(43.1)	1.5
Changes in operating assets and liabilities:			
Accounts receivable	(116.1)	234.3	(332.4)
Inventories	(6.3)	(3.3)	(54.7)
Prepaid and other current assets	2.7	10.1	73.5
Accounts payable	137.5	(111.6)	34.6
Accrued expenses	208.1	(227.1)	359.5
Deferred revenue	0.1	11.2	(4.4)
Payable to related parties pursuant to Tax Receivable Agreement	—	—	—
Other assets and liabilities	(55.2)	7.5	(53.1)
Net cash provided by operating activities	\$ 933.5	\$ 838.0	\$ 685.7



2019 Cash Flow Statement - Investing

Cash flows from investing activities:

Expenditures for property, plant and equipment	(404.9)	(317.5)	(306.7)
Expenditures for deferred turnaround costs	(299.3)	(266.0)	(379.1)
Expenditures for other assets	(44.7)	(17.0)	(31.2)
Acquisition of Knoxville Terminal by PBFX	—	(58.4)	—
Acquisition of East Coast Storage Assets by PBFX	—	(75.0)	—
Acquisition of Toledo Products Terminal by PBFX	—	—	(10.1)
Proceeds from sale of assets	36.3	48.3	—
Purchase of marketable securities	—	—	(75.0)
Maturities of marketable securities	—	—	115.1
Net cash used in investing activities	\$ (712.6)	\$ (685.6)	\$ (687.0)



2019 Cash Flow Statement - Financing

	Year Ended December 31,		
	2019	2018	2017
Cash flows from financing activities:			
Net proceeds from issuance of PBF Energy Class A common stock	\$ —	\$ 287.3	\$ —
Net proceeds from issuance of PBFX common units	132.5	34.9	—
Dividend payments	(143.5)	(139.0)	(131.7)
Distributions to PBFX public unitholders	(62.5)	(48.2)	(43.5)
Distributions to PBF Energy Company LLC members other than PBF Energy	(3.2)	(2.1)	(4.5)
Distribution to T&M and Collins shareholders	—	—	(1.8)
Proceeds from 2025 Senior Notes	—	—	725.0
Cash paid to extinguish 2020 Senior Secured Notes	—	—	(690.2)
Proceeds from revolver borrowings	1,350.0	—	490.0
Repayments of revolver borrowings	(1,350.0)	(350.0)	(490.0)
Repayments of PBF Rail Term Loan	(7.0)	(6.8)	(6.6)
Proceeds from PBFX revolver borrowings	228.0	170.0	20.0
Repayments of PBFX revolver borrowings	(101.0)	(43.7)	(179.5)
Repayments of PBFX Term Loan borrowings	—	—	(39.7)
Proceeds from PBFX 2023 Senior Notes	—	—	178.5
Repayments of note payable	—	(5.6)	(1.2)
Deferred payment for the East Coast Storage Assets Acquisition	(32.0)	—	—
Settlements of catalyst obligations	(6.5)	(9.1)	10.8
Taxes paid for net settlement of equity-based compensation	(4.8)	(5.4)	—
Proceeds from stock options exercised	—	14.0	10.5
Purchases of treasury stock	(4.9)	(8.2)	(1.0)
Deferred financing costs and other	1.6	(16.2)	(17.1)
Net cash used in financing activities	\$ (3.3)	\$ (128.1)	\$ (172.0)
Net increase (decrease) in cash and cash equivalents	217.6	24.3	(173.3)
Cash and equivalents, beginning of period	597.3	573.0	746.3
Cash and equivalents, end of period	<u>\$ 814.9</u>	<u>\$ 597.3</u>	<u>\$ 573.0</u>

Risk Management



Item 1A: Risk Factors Part 1

- The **price volatility** of crude oil, other feedstocks, blendstocks, refined products and fuel and utility services
- A significant interruption or casualty loss at any refineries and related assets
- A shortage of skilled labor or disruptions in the labor force
- The reliance on pipelines and railroads for transportation of crude oil and refined products and **interruptions of supply and distribution**
- Inadequate internally generated cash flows and other sources of liquidity for capital needs
- **The commodity derivative activities could result in period-to-period earnings volatility**
- A cyber-attack on or other failure of technology infrastructure

Item 1A: Risk Factors Part 2

- **Potential losses of The hedging activities**
- **Competition** from companies who produce their own supply of feedstocks, have extensive retail outlets, make alternative fuels or have greater resources
- Acquisitions that may be undertaken in the future
- **Political instability**, military strikes, sustained military campaigns, terrorist activity, changes in foreign policy, or other catastrophic events
- Economic turmoil in the global financial system or an economic slowdown or recession in the future
- Environmental clean-up or remediation costs
- Renewable fuels mandates may reduce demand for the refined fuels
- The strict federal and/or state regulations and changes in laws



Item 1A: Risk Factors Part 3

- **Indebtedness** of the company or subsidiaries
- Restrictive covenants in the debt instruments
- The future credit ratings
- The **market price** of PBF Energy Class A common stock may be volatile
- Failure to continue to declare dividends or make dividend payments

Item 7: Management Discussion & Analysis





Average Market Reference Prices and Differentials

	Year Ended December 31,			
	2019	2018	2017	
	(dollars per barrel, except as noted)			
Dated Brent crude oil	\$ 64.34	\$ 71.34	\$ 54.18	
West Texas Intermediate (WTI) crude oil	\$ 57.03	\$ 65.20	\$ 50.79	
Light Louisiana Sweet (LLS) crude oil	\$ 62.67	\$ 70.23	\$ 54.02	
Alaska North Slope (ANS) crude oil	\$ 65.00	\$ 71.54	\$ 54.43	
Crack Spreads				
Dated Brent (NYH) 2-1-1	\$ 12.68	\$ 13.17	\$ 14.74	
WTI (Chicago) 4-3-1	\$ 15.25	\$ 14.84	\$ 15.88	
LLS (Gulf Coast) 2-1-1	\$ 12.43	\$ 12.30	\$ 13.57	
ANS (West Coast) 4-3-1	\$ 18.46	\$ 15.48	\$ 17.43	
Crude Oil Differentials				
Dated Brent (foreign) less WTI	\$ 7.31	\$ 6.14	\$ 3.39	
Dated Brent less Maya (heavy, sour)	\$ 6.76	\$ 8.70	\$ 7.16	
Dated Brent less WTS (sour)	\$ 8.09	\$ 13.90	\$ 4.37	
Dated Brent less ASCI (sour)	\$ 3.73	\$ 4.64	\$ 3.66	
WTI less WCS (heavy, sour)	\$ 13.61	\$ 26.93	\$ 12.24	
WTI less Bakken (light, sweet)	\$ 0.66	\$ 2.86	\$ (0.26)	
WTI less Sincruide (light, sweet)	\$ 0.18	\$ 6.84	\$ (1.74)	
WTI less LLS (light, sweet)	\$ (5.64)	\$ (5.03)	\$ (3.23)	
WTI less ANS (light, sweet)	\$ (7.97)	\$ (6.34)	\$ (3.63)	
Natural gas (dollars per MMBTU)	\$ 2.53	\$ 3.07	\$ 3.02	

Contractual Obligations and Commitments

	Payments due by period				
	Total	Less than 1 year	1-3 Years	3-5 Years	More than 5 years
PBF Energy:					
Long-term debt ^(a)	\$ 2,095.1	\$ 21.4	\$ 40.7	\$ 1,308.0	\$ 725.0
Interest payments on debt facilities ^(a)	607.5	138.3	276.5	166.4	26.3
Leases and other rental-related commitments ^(b)	641.3	193.9	128.1	71.1	248.2
Purchase obligations: ^(c)					
Crude and Feedstock Supply and Inventory Intermediation Agreements	6,494.9	3,331.7	3,149.1	14.1	—
Other Supply and Capacity Agreements	544.1	138.5	109.3	97.1	199.2
Construction obligations	37.2	37.2	—	—	—
Environmental obligations ^(d)	141.2	12.8	35.3	17.2	75.9
Pension and post-retirement obligations ^(e)	274.9	15.8	33.4	27.0	198.7
Tax Receivable Agreement obligation ^(f)	373.5	—	75.6	107.8	190.1
East Coast Storage Assets Contingent Consideration ^(g)	30.6	10.7	19.9	—	—
Total contractual cash obligations for PBF Energy	\$ 11,240.3	\$ 3,900.3	\$ 3,867.9	\$ 1,808.7	\$ 1,663.4

Item 7A: Quantitative and Qualitative Disclosures about Market Risks



Commodity Price Risk Management: Sensitivity Analysis



Major operating cost is natural gas. **Every \$1 per MMBTU change in Natural Gas Price will increase or decrease natural gas cost by \$68 to \$74 million.**

No Sensitivity percentage provided by PBF Energy



Interest Rate Risk

The maximum commitment under our Revolving Credit Facility is \$3.4 billion. Borrowings under the Revolving Credit Facility bear interest either at the Alternative Base Rate plus the Applicable Margin or at Adjusted LIBOR plus the Applicable Margin, all as defined in the Revolving Credit Agreement. If this facility was fully drawn, a 1.0% change in the interest rate would increase or decrease our interest expense by approximately \$21.9 million annually.

The PBFX Revolving Credit Facility, with a maximum commitment of \$500.0 million, bears interest either at the Alternative Base Rate plus the Applicable Margin or at Adjusted LIBOR plus the Applicable Margin, all as defined in the PBFX Revolving Credit Agreement. If this facility was fully drawn, a 1.0% change in the interest rate would increase or decrease our interest expense by approximately \$4.3 million annually.

In addition, the PBF Rail Term Loan, which bears interest at a variable rate, had an outstanding principal balance of \$14.5 million at December 31, 2019. A 1.0% change in the interest rate would increase or decrease our interest expense by approximately \$0.1 million annually, assuming the current outstanding principal balance on the PBF Rail Term Loan remained outstanding.

We also have interest rate exposure in connection with our Inventory Intermediation Agreements under which we pay a time value of money charge based on LIBOR.

Key Point: Every 1% change in interest rate influence PBF's Statement of Income (interest expense) +/- 21.9 million

Compliance Program Price Risk

The market risks related to the volatility in the price of credits needed to comply with various governmental and **regulatory** compliance programs, which includes RINs, required to comply with RFS.

To mitigate the impact of this risk on our results of operations and cash flows we may purchase RINs or other environmental credits when the price of these instruments is deemed favorable.

The risks associated with complying with federal and state legislative and regulatory measures to address greenhouse gas and other emissions.

Compliance with such **emission standards** may require the purchase of emission credits or similar instruments.

Certain of these compliance contracts or instruments qualify as derivative instruments.



The risk of losses resulting from nonpayment or nonperformance by our counterparties.

To reduce the risk, PBF may monitor the creditworthiness of customers and establish **credit limits** in accordance with their credit policy.



Concentration Risk

For the years ended December 31, 2019 and 2018, **no single customer accounted for 10% or more of PBF's Total Trade Account Receivable.**

Item 8: Financial Statements & Supplementary Data



Fair Value Derivative Instruments Part 1

As of December 31, 2019											
(in millions)	Fair Value Hierarchy						Total Gross Fair Value	Effect of Counter-party Netting	Net Carrying Value on Balance Sheet		
	Level 1		Level 2		Level 3						
Assets:											
Money market funds	\$	111.8	\$	—	\$	—	\$	111.8	N/A	\$	111.8
Commodity contracts		32.5		1.5		—		34.0	(33.8)		0.2
Liabilities:											
Commodity contracts		32.8		1.0		—		33.8	(33.8)		—
Catalyst obligations		—		47.6		—		47.6	—		47.6
Derivatives included with inventory intermediation agreement obligations		—		1.3		—		1.3	—		1.3

Fair Value Derivative Instruments Part 2

Description	Balance Sheet Location	Fair Value Asset/(Liability)
<i>(in millions)</i>		
Derivatives designated as hedging instruments:		
December 31, 2019:		
Derivatives included with the inventory intermediation agreement obligations	Accrued expenses	\$ (1.3)
December 31, 2018:		
Derivatives included with the inventory intermediation agreement obligations	Accrued expenses	\$ 24.1
Derivatives not designated as hedging instruments:		
December 31, 2019:		
Commodity contracts	Accounts receivable	\$ 0.2
December 31, 2018:		
Commodity contracts	Accounts receivable	\$ 7.2



Measuring Impact of Derivatives on Income Part 1

Description	Location of Gain or (Loss) Recognized in Income on Derivatives	Gain or (Loss) Recognized in Income on Derivatives <i>(in millions)</i>
Derivatives designated as hedging instruments:		
For the year ended December 31, 2019:		
Derivatives included with the inventory intermediation agreement obligations	Cost of products and other	\$ (25.4)
For the year ended December 31, 2018:		
Derivatives included with the inventory intermediation agreement obligations	Cost of products and other	\$ 31.8
For the year ended December 31, 2017:		
Derivatives included with the inventory intermediation agreement obligations	Cost of products and other	\$ (13.8)
Derivatives not designated as hedging instruments:		
For the year ended December 31, 2019:		
Commodity contracts	Cost of products and other	\$ 36.5
For the year ended December 31, 2018:		
Commodity contracts	Cost of products and other	\$ (123.8)
For the year ended December 31, 2017:		
Commodity contracts	Cost of products and other	\$ (85.4)

Measuring Impact of Derivatives on Income Part 2

Hedged items designated in fair value hedges:

For the year ended December 31, 2019:

Crude oil, intermediate and refined product inventory	Cost of products and other	\$	25.4
---	----------------------------	----	------

For the year ended December 31, 2018:

Intermediate and refined product inventory	Cost of products and other	\$	(31.8)
--	----------------------------	----	--------

For the year ended December 31, 2017:

Intermediate and refined product inventory	Cost of products and other	\$	13.8
--	----------------------------	----	------

Risk Management Recommendations



- PBF Derivatives Assets & Liabilities are the same in size & should maintain delta neutrality during volatile market conditions
- PBF could finance hedging activities by reducing money market funds
- PBF is very sensitive to changes in natural gas price, should consider natural gas hedging activities

End of Presentation

Thanks you for Listening

Appendix Slides

Key Definitions

- EPA: Environmental Protection Agency
 - Regulate air, land and water to protect the environment and human health
- RFS: Renewable Fuel Standard
 - Regulate emissions of greenhouse gasses
- Crude Quality
 - Heavy : Sour Crude requires significant refining, cheapest
 - Medium: mix of light and sour crude
 - Light: requires the least refining, most expensive



Business Segments

Upstream

- Companies involved in the exploration and production of oil and gas
- Firms search the world for reservoirs and drill to extract the material
- Also known as “Exploration and Production” (E&P) companies
- Segment is characterized by high risk, high investment capital, and extended duration

Midstream

- Companies responsible for transportation of extracted raw materials from wells to refineries to process the oil and gas
- Characterized by shipping, trucking, pipelines, and storing of raw materials
- High regulation, low capital risk
- Dependent on the success of upstream firms

Downstream

- Refining and the sale of the finished products
- Companies are responsible for removing impurities and converting the oil and gas to products for general use
- Gasoline, jet fuel, heating oil, and asphalt

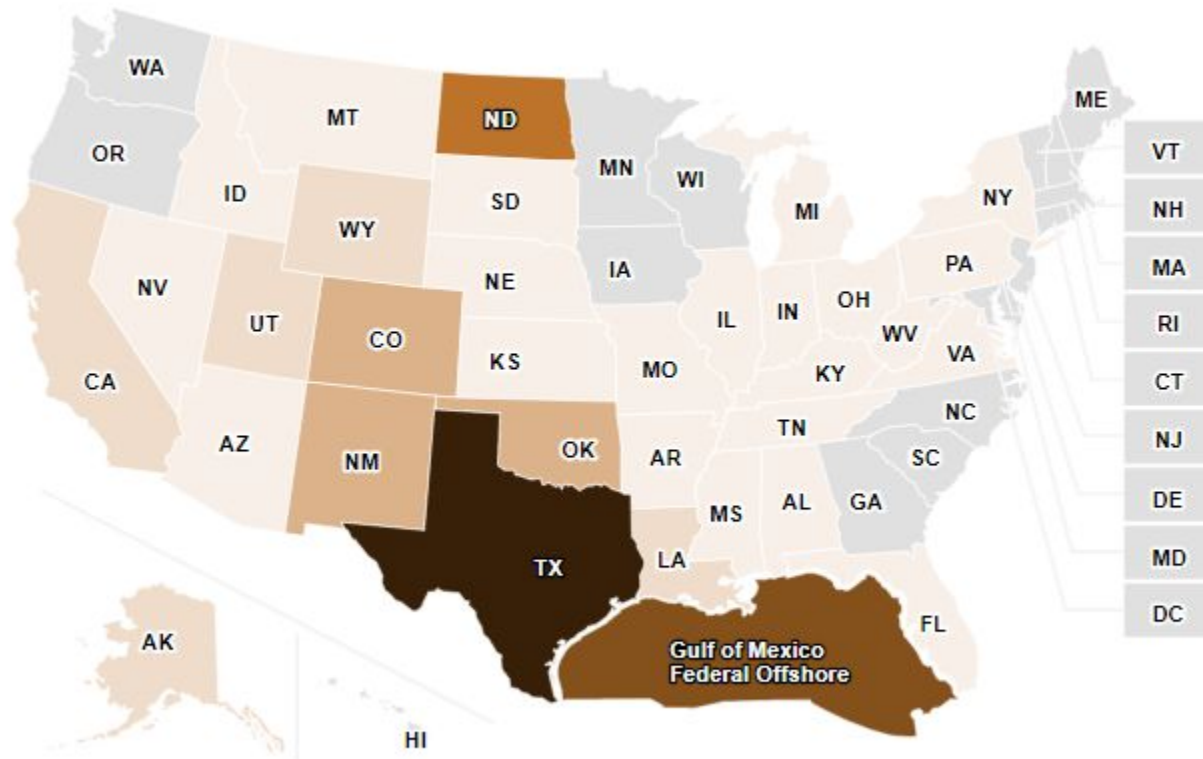
U.S. Industry Structure

Overview

- #1 producer and consumer of petroleum
- Leading producer, importer, and exporter of refined petroleum products
- Produces more natural gas than any other country
- Top three liquefied natural gas exports

U.S. crude oil production by state in 2019

1,000 barrels per day



= 0
 < 100
 100 - 500
 500 - 1000
 1000 - 1500
 1500 - 2000
 > 2000

41%

Texas

11%

North Dakota

8%

New Mexico

5%

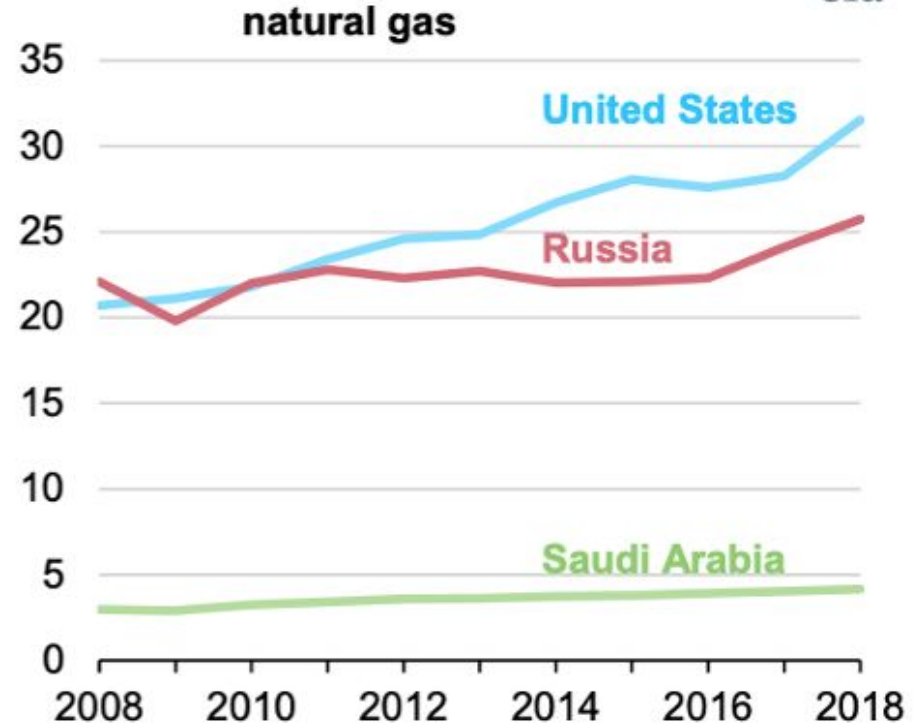
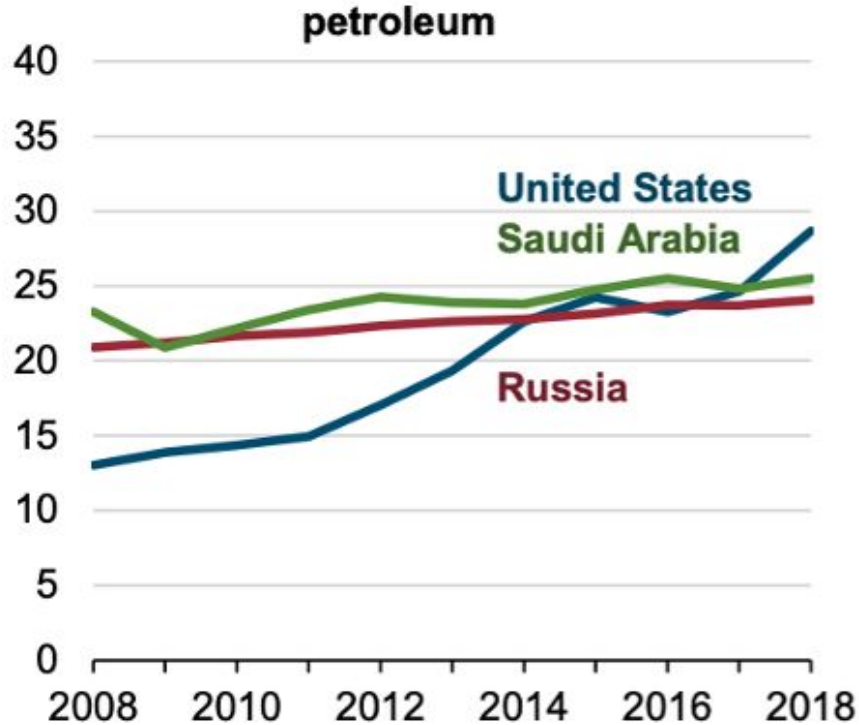
Oklahoma

4%

Colorado

U.S. Industry Structure

Estimated petroleum and natural gas production in selected countries
quadrillion British thermal units



U.S. Industry Structure

Overview

- Employs about 880,000 workers
- Contributes \$1.5 trillion towards U.S. GDP
- Production levels in 2019
 - Natural Gas Production - <100,000 million cubic feet per day
 - Crude Oil Production - <12,000,000 barrels per day
- Net importer → Net Exporter



U.S. Industry Structure

Monthly U.S. total petroleum trade (crude oil and petroleum products)

million barrels per day (b/d)



Top U.S Oil & Gas Refineries

1. Phillips 66
2. Valero Energy
3. Marathon Petroleum
4. Empresas Copec SA
5. HollyFrontier Corp
6. World Fuel Services Corp
7. PBF Energy
8. Cosa Ltd.

(based on S&P Platts Ranking)

Historical Oil Prices



Industry Risk and Challenges

Political Risk

- Regulations limit where, when and how extraction is done
- Arise when working on deposits abroad
- Unstable dictatorship, sudden nationalization

Price Risk

- The higher the geological barriers to easy extraction, the more price risk
- Unprofitable due to price dip

Supply and Demand

- Economic factors such as financial crises can dry up capital
- Increased demand for renewable energy

Brands



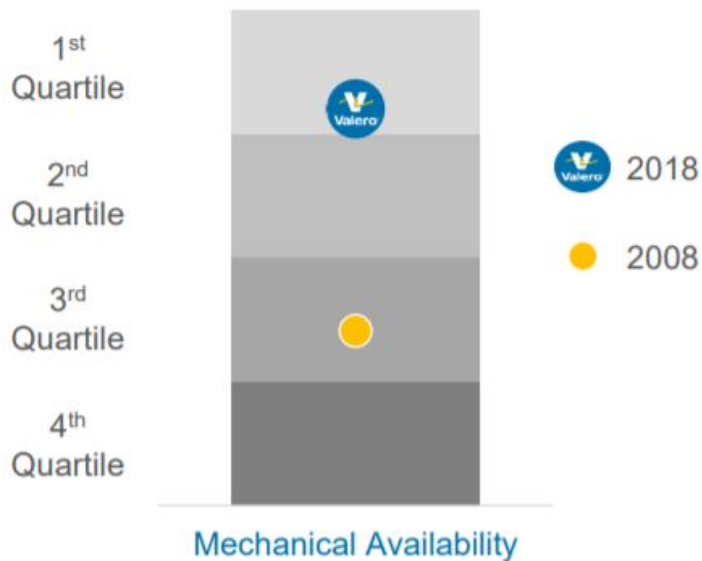
Diamond Shamrock
All You Need



Lowest Cost Producer of Refined Products



Improvement in Mechanical Availability Versus Industry Benchmarks



Refining Cash Operating Expenses Per Barrel of Throughput (Excludes Turnaround and D&A Expenses)



Valero Logistics Assets



Pipelines⁽¹⁾

- Approximately 3,100 miles of active pipelines
- Central Texas Pipeline started up in September 2019
- Sunrise Pipeline expansion in Permian started up in November 2018



Racks, Terminals and Storage⁽¹⁾

- Approximately 130 million barrels of active shell capacity for crude oil and products
- Over 200 truck rack bays
- Pasadena terminal completed in the first quarter of 2020



Rail

- Approximately 5,200 railcars
- Expected to serve long-term needs of ethanol, asphalt, aromatics, and other products




Marine⁽¹⁾

- Over 50 docks
- Two Panamax class vessels (joint venture)

US Refineries Locations




15 petroleum refineries

 **3.1 million** barrels per day throughput capacity



Fuels marketed through bulk and wholesale network


~6,000 employees

Manufacturing high quality, low emission **transportation fuels, petrochemical feedstocks,** and other specialty products

Valero's Refineries




2,800 miles of active pipelines


Over 121 million barrels of storage


Over 50 docks



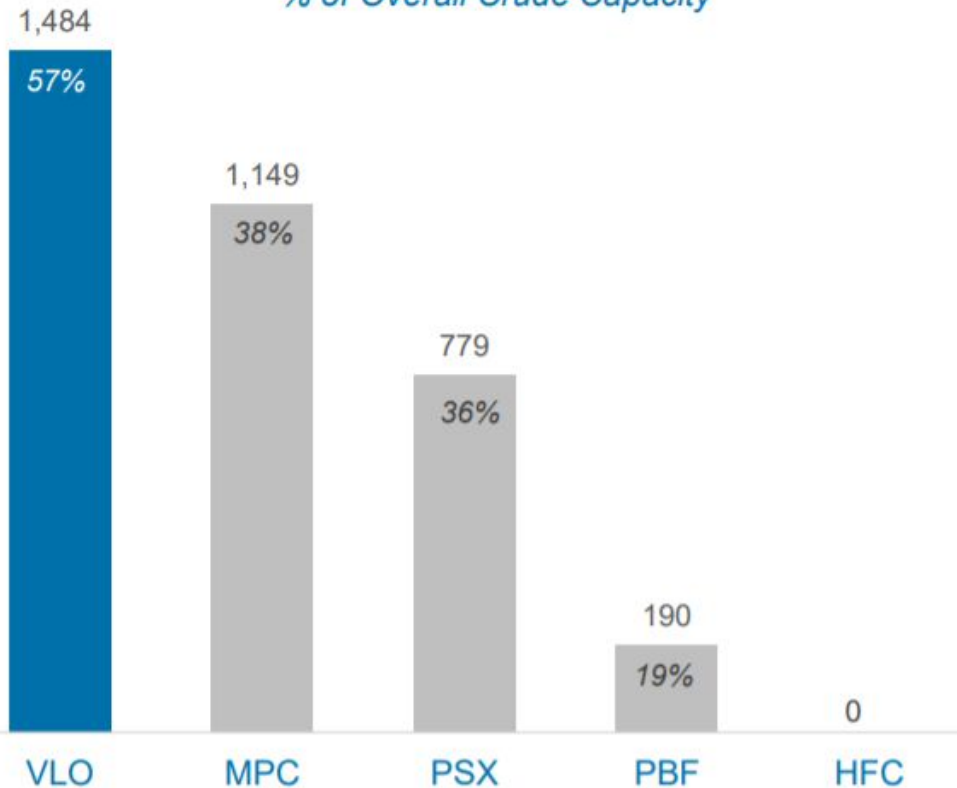
Refineries Locations



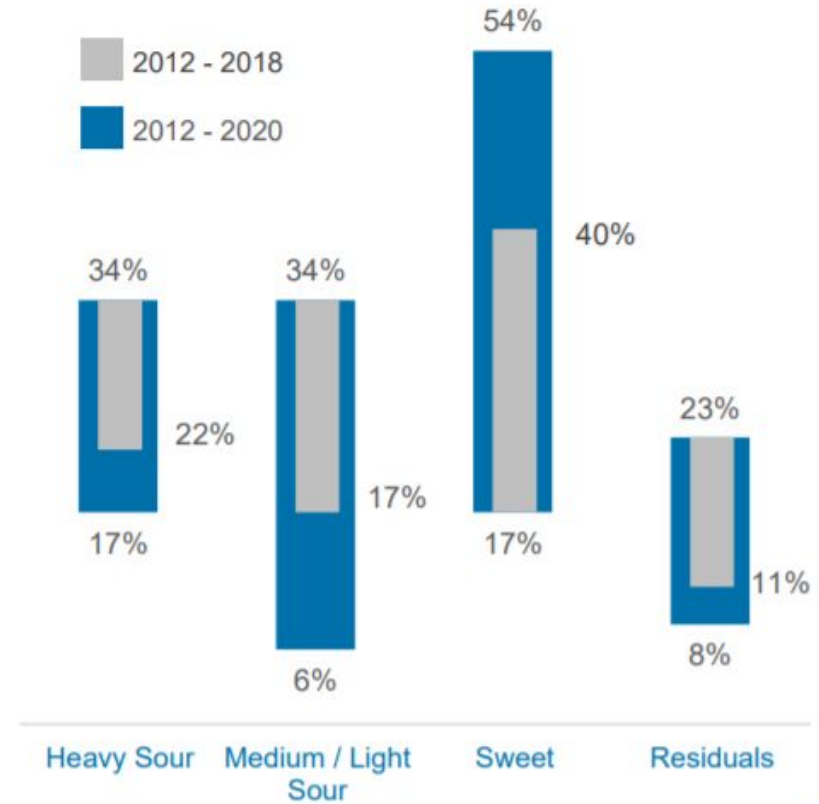
Gulf Coast Refinery Performance



Gulf Coast Refining Capacity⁽¹⁾
Thousand Barrels per Day (MBPD)
% of Overall Crude Capacity

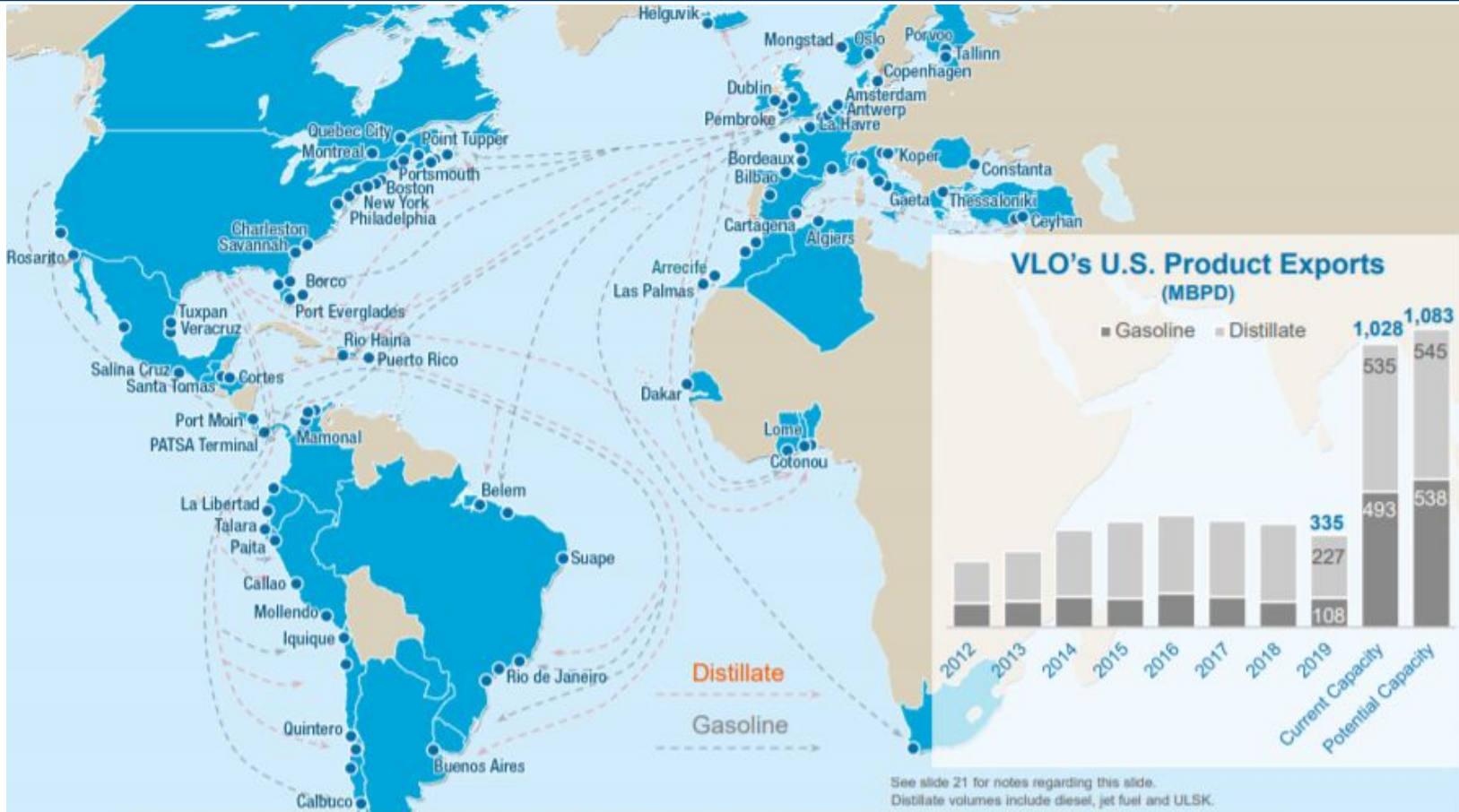


Valero Gulf Coast Feedstock Ranges⁽²⁾



Valero's refineries have operational flexibility to process a wide range of feedstocks and access to a deep pool of skilled labor in the U.S. Gulf Coast.

Export Capabilities



12

Product shortages in Latin America, Eastern Canada, Europe, and Africa expected to drive import demand growth.



Refinery Locations & Throughput Capacity



Refinery	Location	Throughput Capacity (a) (BPD)
U.S.		
Benicia	California	170,000
Wilmington	California	135,000
Meraux	Louisiana	135,000
St. Charles	Louisiana	340,000
Ardmore	Oklahoma	90,000
Memphis	Tennessee	195,000
Corpus Christi (b)	Texas	370,000
Houston	Texas	255,000
McKee	Texas	200,000
Port Arthur	Texas	395,000
Texas City	Texas	260,000
Three Rivers	Texas	100,000
Canada		
Quebec City	Quebec, Canada	235,000
U.K.		
Pembroke	Wales, U.K.	270,000
Total		3,150,000

- (a) “Throughput capacity” represents estimated capacity for processing crude oil, inter-mediate, and other feedstocks. Total estimated crude oil capacity is approximately 2.6 million BPD.
- (b) Represents the combined capacities of two refineries – the Corpus Christi East and Corpus Christi West Refineries.

Ethanol Operations

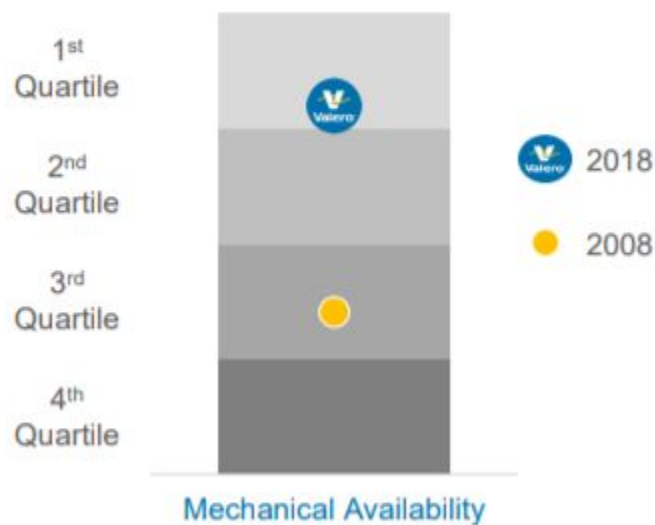


State	City	Ethanol Production Capacity	Production of DDGs	Corn Processed
Indiana	Bluffton	115	302,000	40
	Linden	135	355,000	47
	Mount Vernon	100	263,000	35
Iowa	Albert City	135	355,000	47
	Charles City	140	368,000	49
	Fort Dodge	140	368,000	49
	Hartley	140	368,000	49
	Lakota	110	289,000	38
Michigan	Riga	55	145,000	19
Minnesota	Welcome	140	368,000	49
Nebraska	Albion	135	355,000	47
Ohio	Bloomington	135	355,000	47
South Dakota	Aurora	140	368,000	49
Wisconsin	Jefferson	110	352,000	41
Total		1,730	4,611,000	606

Valero Energy is the Lowest Cost Producer of Refined Products



Improvement in Mechanical Availability Versus Industry Benchmarks



See slide 21 for notes regarding this slide.

Refining Cash Operating Expenses Per Barrel of Throughput
(Excludes Turnaround and D&A Expenses)



⁽¹⁾ 2020 refining cash operating expenses per barrel of throughput through March 31. Peer group includes PSX, MPC, HFC, and PBF.

Valero Energy Break-even Point



Products	Light Sweet ⁽¹⁾ Yields	Medium Sour ⁽²⁾ Yields	Heavy Sour ⁽²⁾ Yields	Light Sweet @ \$99/bbl Prices	Light Sweet @ \$51/bbl Prices
Refinery gases	3%	2%	1%	\$49	\$31
Gasoline ⁽³⁾	32%	24%	15%	\$108	\$60
Distillate ⁽⁴⁾	30%	26%	21%	\$117	\$69
Heavy fuel oil ⁽⁵⁾	35%	48%	63%	\$79	\$41

⁽¹⁾ Reference crude

⁽²⁾ Alternate crudes

⁽³⁾ Gasoline crack: \$9/bbl

⁽⁴⁾ Distillate crack: \$18/bbl

⁽⁵⁾ Heavy fuel oil: 80% of reference crude value

Break Even Value (BEV) = Alternate Crude Total Product Value – Reference Crude Total Product Value

Crude	Light Sweet @ \$99/bbl BEV	Light Sweet @ \$51/bbl BEV	BEV @ \$99/bbl % of Light Sweet	BEV @ \$51/bbl % of Light Sweet
Medium sour	-\$3.55	-\$2.58	96%	95%
Heavy sour	-\$7.76	-\$5.65	92%	89%

BEV for alternate crude as a percentage of reference crude value is relatively insensitive to flat price environment

Combined Total Refining System Charges and Yields



Charges

sour crude oil	23%
sweet crude oil	54%
residual fuel oil	7%
other feedstocks	5%
blendstocks	11%

Yields

gasolines and blendstocks	48%
distillates	38%
other products (primarily includes petrochemicals, gas oils, No. 6 fuel oil, petroleum coke, sulfur and asphalt)	14%



Feedstock Supply

Our crude oil feedstocks are purchased through a combination of term and spot contracts. Our term supply agreements are at market-related prices and are purchased directly or indirectly from various national oil companies as well as international and U.S. oil companies. The contracts generally permit the parties to amend the contracts (or terminate them), effective as of the next scheduled renewal date, by giving the other party proper notice within a prescribed period of time (e.g., 60 days, 6 months) before expiration of the current term. The majority of the crude oil purchased under our term contracts is purchased at the producer's official stated price (i.e., the "market" price established by the seller for all purchasers) and not at a negotiated price specific to us.

Financial Ratios



For the Fiscal Period Ending		12 months Dec-31-2015	12 months Dec-31-2016	12 months Dec-31-2017	12 months Dec-31-2018	12 months Dec-31-2019	12 months Mar-31-2020
Profitability							
Return on Assets %	↓	8.8%	5.0%	4.7%	5.5%	4.6%	1.6%
Return on Capital %	↓	14.1%	7.9%	7.5%	8.7%	7.4%	2.4%
Return on Equity %	↓	19.3%	11.5%	19.0%	14.7%	12.3%	4.2%
Return on Common Equity %	↓	19.4%	11.3%	19.4%	14.3%	11.1%	2.1%
Margin Analysis							
Gross Margin %	↓	10.2%	8.0%	6.6%	6.1%	6.1%	4.4%
SG&A Margin %	↓	0.9%	1.0%	0.9%	0.8%	0.9%	0.9%
EBITDA Margin %	↓	9.4%	7.0%	5.6%	5.2%	5.2%	3.5%
EBITA Margin %	↓	7.8%	5.2%	4.1%	4.0%	3.7%	1.2%
EBIT Margin %	↓	7.8%	5.2%	4.1%	4.0%	3.7%	1.2%
Earnings from Cont Ops Margin %	↓	5.0%	3.4%	4.7%	3.0%	2.7%	0.9%
Net Income Margin %	↓	4.9%	3.3%	4.6%	2.8%	2.4%	0.4%
Asset Turnover							
Total Asset Turnover	↓	1.8x	1.6x	1.8x	2.2x	2.0x	2.0x
Fixed Asset Turnover	↓	3.1x	2.6x	3.3x	4.0x	3.5x	3.3x
Accounts Receivable Turnover	↓	17.2x	14.4x	14.3x	16.3x	13.7x	14.7x
Inventory Turnover	↓	11.7x	11.1x	13.7x	16.2x	14.2x	18.8x
Short Term Liquidity							
Current Ratio	↓	2.0x	2.0x	1.7x	1.6x	1.4x	1.3x
Quick Ratio	↓	1.2x	1.3x	1.2x	1.0x	0.9x	0.8x
Long Term Solvency							
Total Debt/Equity	↓	34.5%	38.4%	38.7%	40.1%	48.6%	64.7%
Total Debt/Capital	↓	25.7%	27.7%	27.9%	28.6%	32.7%	39.3%
LT Debt/Equity	↓	34.0%	37.8%	38.2%	39.0%	45.0%	58.4%
LT Debt/Capital	↓	25.2%	27.3%	27.5%	27.9%	30.3%	35.5%
Total Liabilities/Total Assets	↓	51.8%	54.8%	54.3%	54.7%	58.2%	58.8%
EBIT / Interest Expenses	↓	12.6x	7.1x	6.8x	8.0x	7.1x	2.3x
EBITDA / Interest Expenses	↓	15.2x	9.6x	9.2x	10.5x	9.8x	6.4x

2019 Annual Revenue

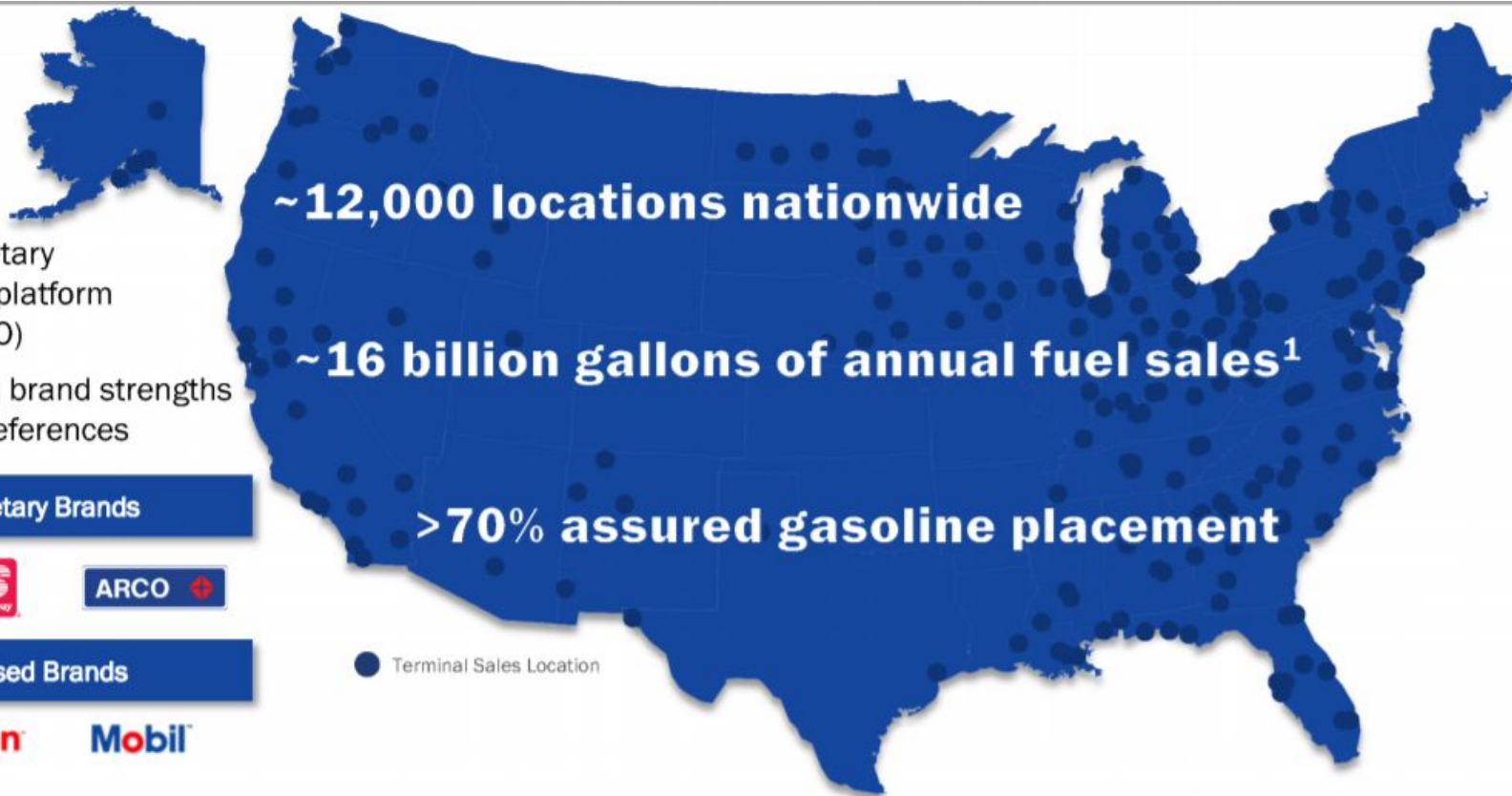


	Refining	Ethanol	Renewable Diesel	Corporate and Eliminations	Total
Year ended December 31, 2019					
Revenues:					
Revenues from external customers	\$ 103,746	\$ 3,606	\$ 970	\$ 2	\$ 108,324
Intersegment revenues	18	231	247	(496)	—
Total revenues	103,764	3,837	1,217	(494)	108,324
Cost of sales:					
Cost of materials and other	93,371	3,239	360	(494)	96,476
Operating expenses (excluding depreciation and amortization expense reflected below)	4,289	504	75	—	4,868
Depreciation and amortization expense	2,062	90	50	—	2,202
Total cost of sales	99,722	3,833	485	(494)	103,546
Other operating expenses	20	1	—	—	21
General and administrative expenses (excluding depreciation and amortization expense reflected below)	—	—	—	868	868
Depreciation and amortization expense	—	—	—	53	53
Operating income by segment	\$ 4,022	\$ 3	\$ 732	\$ (921)	\$ 3,836
Total expenditures for long-lived assets (a)	\$ 2,581	\$ 47	\$ 160	\$ 58	\$ 2,846

Brands



Marketing Locations



- Enhanced proprietary Brand marketing platform (Marathon + ARCO)
- Leverage regional brand strengths and consumer preferences

Core Proprietary Brands



ARCO



Core Licensed Brands



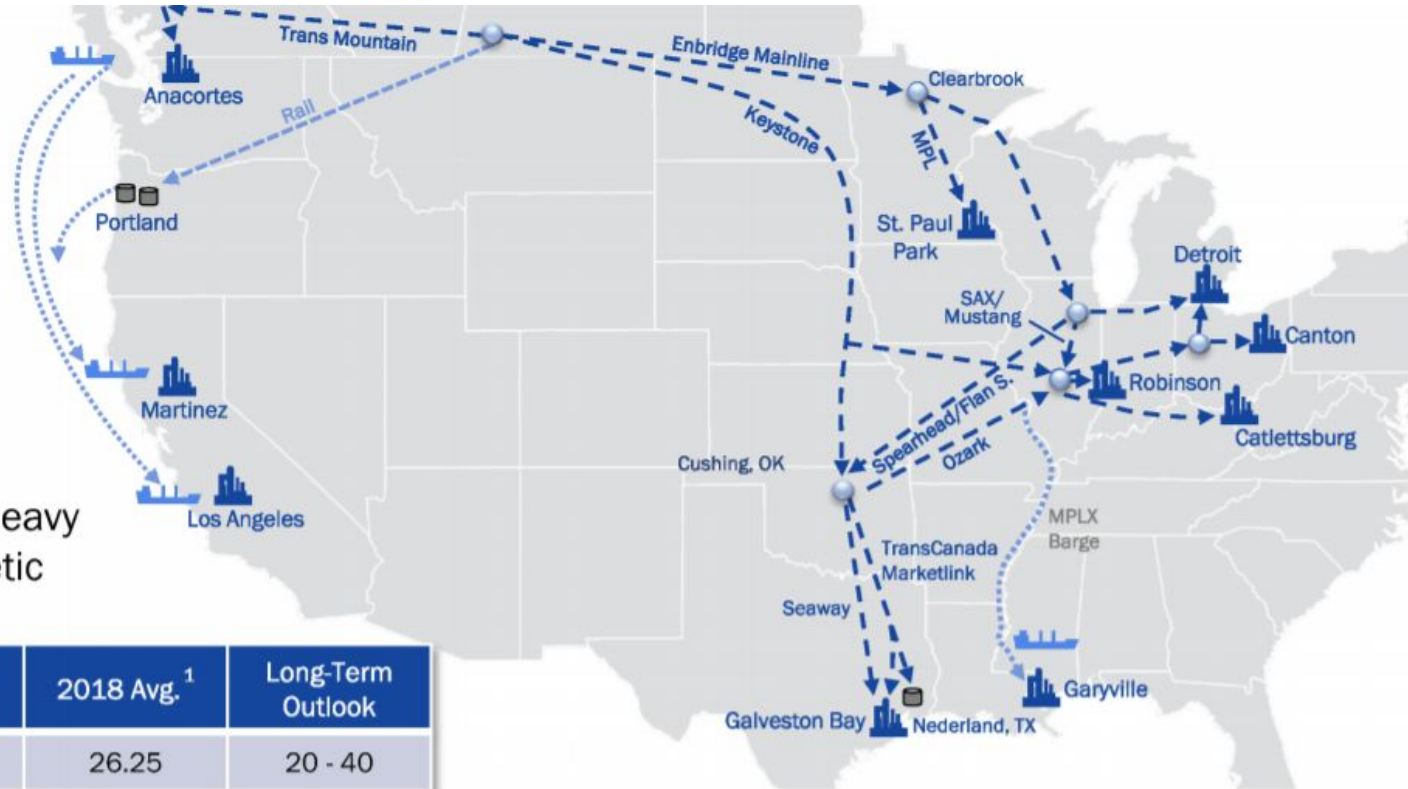
Exxon

Mobil

Integrated Operations



- Broader system increases access to Canadian crudes enhancing margin capture
- Over 500 MBPD of Canadian crude purchases
- Approximately 67% heavy and 33% light-synthetic



	2014-'17 ¹	2018 Avg. ¹	Long-Term Outlook
WTI-WCS	14.75	26.25	20 - 40

Note: Differentials (\$/BBL) rounded to nearest \$0.25; pipelines are shown pictorially only to show flow paths ¹ Bloomberg

Capturing Domestic & International Crude Demand



- Nationwide footprint enables connectivity to all U.S. markets
- Broader, integrated system increases capability to capture value from market dislocations
- Multiple pathways cost-effectively balance supply/demand



*Connectivity + export optionality =
maximum refinery utilization*

Crude Supply Locations



- Larger footprint expands access to advantaged supply:

- ① *Canadian*
- ② *Bakken*
- ③ *Permian*

- New logistics assets lower crude acquisition costs
- Crude processing flexibility enhances capture of advantaged feedstocks



Business Segments



Midstream



Growing Earnings Profile

High-Returning Project Focus

Integration Enhances Value

Strategic Alignment with Refining

Retail & Marketing



Balances Earnings Profile

Flexible Product Placement Platform:
Retail, Wholesale, and Brand

Leading Technology and
Loyalty Programs

Refining



Low-Cost, High Utilization

Return-Enhancing Projects

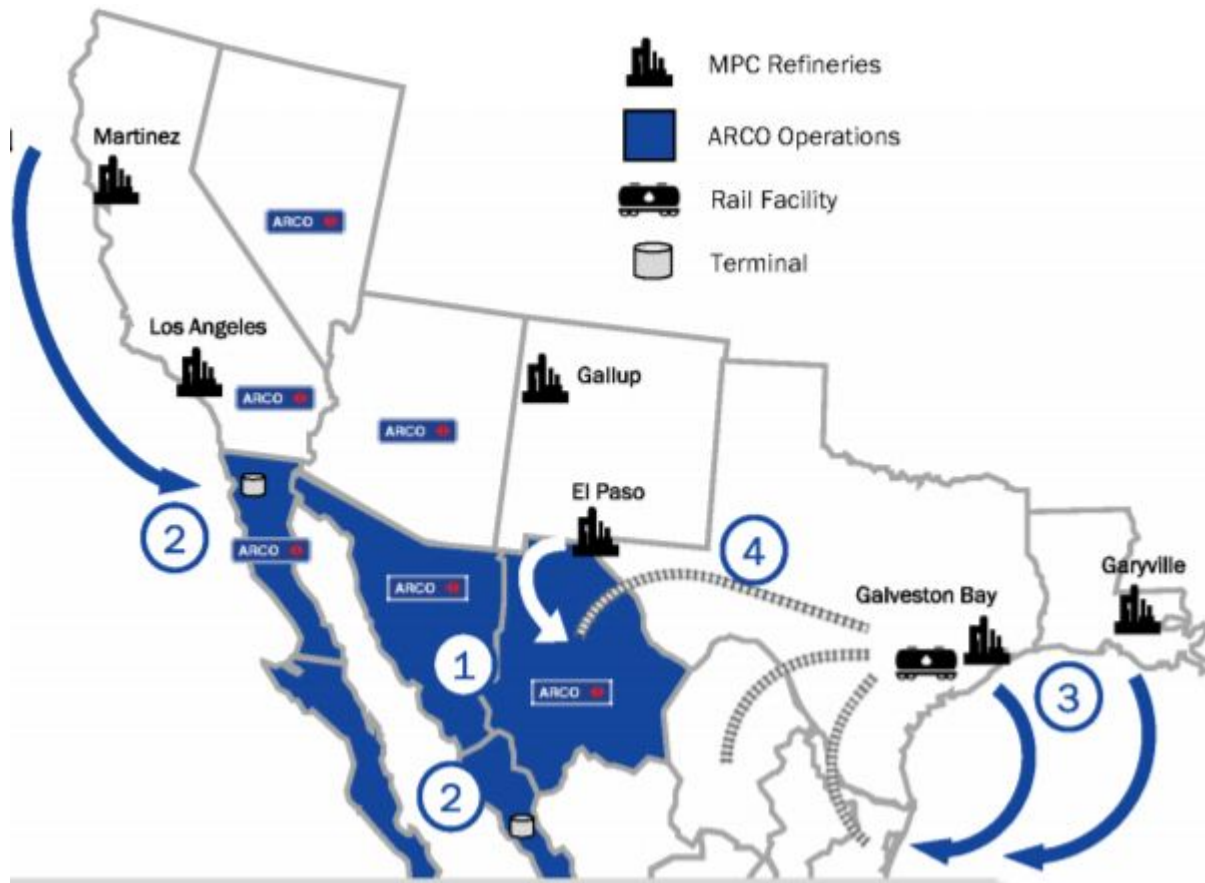
Leader in Safety and Environmental
Stewardship

MPLX Acquisition of ANDX



On July 30, 2019, MPLX completed the acquisition of Andeavor Logistics LP ("ANDX"), and ANDX survived as a wholly-owned subsidiary of MPLX. When the merger takes effect, each public unit held by ANDX's public unit holders is converted to a certain amount of MPLX in accordance with different policies. The transaction simplifies our two sponsored mlp MPLX and ANDX into a single listing. The entity, created a leading, large-scale, diversified mid-stream company, based on fee-based cash flow. The combined entity has a wider geographic distribution, which is expected to enhance its long-term growth opportunities and sustainable cash flow status of the business.

Andeavour Growth Opportunity



Five Strategic Pillars



- Superior Execution
- Integrated Value Chain
- Growth Through Innovation
- String Financial Discipline
- Sustainability

Financial Ratios



Chart Selected Items						
For the Fiscal Period Ending		12 months	12 months	12 months	12 months	LTM
Profitability		Dec-31-2015	Dec-31-2016	Dec-31-2017	Dec-31-2018	12 months
						Mar-31-2020
Return on Assets %	⬇	7.9%	3.5%	4.5%	4.6%	2.0%
Return on Capital %	⬇	11.7%	4.9%	6.3%	6.0%	2.5%
Return on Equity %	⬇	18.5%	5.9%	17.7%	10.8%	(19.0%)
Return on Common Equity %	⬇	23.8%	8.8%	24.9%	11.3%	(22.7%)
Margin Analysis						
Gross Margin %	⬇	12.0%	10.9%	10.7%	10.2%	8.1%
SG&A Margin %	⬇	2.4%	2.9%	2.6%	2.3%	2.7%
EBITDA Margin %	⬇	9.6%	8.0%	8.2%	7.9%	5.4%
EBITA Margin %	⬇	7.3%	4.5%	5.1%	5.5%	2.4%
EBIT Margin %	⬇	7.2%	4.4%	5.0%	5.4%	2.4%
Earnings from Cont Ops Margin %	⬇	4.5%	2.2%	5.7%	3.7%	(6.0%)
Net Income Margin %	⬇	4.4%	2.1%	5.1%	2.9%	(5.5%)
Net Inc. Avail. for Common Margin %	⬇	4.4%	2.1%	5.1%	2.9%	(5.5%)
Normalized Net Income Margin %	⬇	4.6%	2.5%	2.9%	3.7%	1.3%
Levered Free Cash Flow Margin %	⬇	2.6%	0.0%	4.5%	(1.5%)	0.0%
Unlevered Free Cash Flow Margin %	⬇	2.9%	0.7%	5.2%	(0.8%)	0.8%
Asset Turnover						
Total Asset Turnover	⬇	1.7x	1.3x	1.4x	1.4x	1.3x
Fixed Asset Turnover	⬇	3.1x	2.2x	2.6x	2.7x	2.5x
Accounts Receivable Turnover	⬇	18.4x	17.1x	16.1x	21.9x	29.9x
Inventory Turnover	⬇	10.4x	9.1x	10.7x	11.3x	12.9x
Short Term Liquidity						
Current Ratio	⬇	1.5x	1.5x	1.3x	1.4x	1.2x
Quick Ratio	⬇	0.6x	0.6x	0.7x	0.6x	0.5x
Cash from Ops. to Curr. Liab.	⬇	0.6x	0.6x	0.6x	0.5x	0.5x
Avg Days Sales Outstanding	⬇	19.8	21.4	22.6	16.7	12.2
Avg Days Inventory Outstanding	⬇	35.0	39.9	34.2	32.4	28.4
Avg Days Payable Outstanding	⬇	37.0	37.6	42.5	35.5	31.3
Avg Cash Conversion Cycle	⬇	17.8	23.7	14.4	13.6	9.2
Long Term Solvency						
Total Debt/Equity	⬇	60.6%	52.3%	62.2%	62.5%	109.5%
Total Debt/Capital	⬇	37.7%	33.3%	37.2%	37.9%	51.5%
LT Debt/Equity	⬇	60.5%	52.2%	59.2%	61.2%	102.0%
LT Debt/Capital	⬇	37.6%	33.2%	35.4%	37.2%	48.0%
Total Liabilities/Total Assets	⬇	54.4%	54.5%	57.5%	52.6%	63.8%
EBIT / Interest Expenses	⬇	13.3x	4.0x	4.7x	4.9x	1.9x
EBITDA / Interest Expenses	⬇	17.6x	7.2x	7.7x	7.3x	4.4x
(EBITDA-CAPEX) / Interest Expenses	⬇	11.9x	2.5x	3.8x	3.9x	0.9x
Total Debt/EBITDA	⬇	1.9x	2.4x	2.4x	3.6x	5.2x
Net Debt/EBITDA	⬇	1.8x	2.2x	1.8x	3.4x	5.0x
Total Debt/(EBITDA-CAPEX)	⬇	2.9x	6.6x	4.7x	6.7x	25.5x
Net Debt/(EBITDA-CAPEX)	⬇	2.6x	6.1x	3.6x	6.3x	24.2x

Revenues by Segment -2018



<i>(In millions)</i>	<u>Refining & Marketing</u>	<u>Retail</u>	<u>Midstream</u>	<u>Total</u>
Year Ended December 31, 2018				
Revenues:				
Third party ^(a)	\$ 69,685	\$ 23,546	\$ 3,273	\$ 96,504
Intersegment	12,914	6	3,387	16,307
Segment revenues	<u>\$ 82,599</u>	<u>\$ 23,552</u>	<u>\$ 6,660</u>	<u>\$ 112,811</u>
Segment income from operations	<u>\$ 2,481</u>	<u>\$ 1,028</u>	<u>\$ 2,752</u>	<u>\$ 6,261</u>
Supplemental Data				
Depreciation and amortization ^(b)	1,174	353	885	2,412
Capital expenditures and investments ^(c)	1,057	460	2,630	4,147

Revenues by Segment -2017



<i>(In millions)</i>	<u>Refining & Marketing</u>	<u>Retail</u>	<u>Midstream</u>	<u>Total</u>
Year Ended December 31, 2017				
Revenues:				
Third party ^(a)	\$ 53,382	\$ 19,029	\$ 2,322	\$ 74,733
Intersegment ^(d)	11,309	4	1,443	12,756
Segment revenues	<u>\$ 64,691</u>	<u>\$ 19,033</u>	<u>\$ 3,765</u>	<u>\$ 87,489</u>
Segment income from operations	<u>\$ 2,321</u>	<u>\$ 729</u>	<u>\$ 1,339</u>	<u>\$ 4,389</u>
Supplemental Data				
Depreciation and amortization ^(b)	1,082	275	699	2,056
Capital expenditures and investments ^(c)	832	381	1,755	2,968

2019 Annual Revenue



(In millions)

Year Ended December 31, 2019

	<u>Refining & Marketing</u>	<u>Retail</u>	<u>Midstream</u>	<u>Total</u>
Refined products	\$ 82,169	\$ 26,681	\$ 809	\$ 109,659
Merchandise	4	6,281	—	6,285
Crude oil	4,402	—	—	4,402
Midstream services and other	481	97	3,025	3,603
Sales and other operating revenues	<u>\$ 87,056</u>	<u>\$ 33,059</u>	<u>\$ 3,834</u>	<u>\$ 123,949</u>

Brands & Partnerships



Positioned for Value Creation Across all Segments



REFINING

- Inland merchant refiner
- 5 refineries in the Mid Continent, Southwest and Rockies regions
- Flexible refining system with fleet wide discount to WTI
- Premium niche product markets versus Gulf Coast
- Organic initiatives to drive growth and enhance returns
- Disciplined capital structure & allocation



MIDSTREAM

- Operate crude and product pipelines, loading racks, terminals and tanks in and around HFC's refining assets
- HFC owns 57% of the LP Interest in HEP and the non-economic GP interest
- Eliminated IDRs in 2017 to simplify structure
- Over 70% of revenues tied to long term contracts and minimum volume commitments



SPECIALTY LUBRICANTS

- Integrated specialty lubricants producer with 34,000 barrels per day of production capacity
- Sells finished lubricants & specialty products in over 80 countries under the Petro-Canada Lubricants, Sonneborn, Red Giant Oil & HollyFrontier product lines
- Production facilities in Mississauga, Ontario; Tulsa, Oklahoma; Petrolia, Pennsylvania; & the Netherlands
- HollyFrontier Lubricants & Specialty Products is one of the largest North American white oil & group III base oil producer

Hollyfrontier Principally produces high-value light products



Headquartered in Dallas, Texas



Through its subsidiaries,
operates five complex refineries



457,000
/day

457,000 barrels per day of
crude oil processing capacity



34,000
/day

34,000 barrels per day of
lubricant production capacity

Hollyfrontier Plan to Expand the Renewables Segment



HollyFrontier Capital Expenditures (millions)		Range	
Refining	\$	202	\$ 221
Renewables		150	180
Lubricants & Specialties Products		30	45
Turnarounds & Catalyst		85	110
Total HollyFrontier		467	556
Total HEP		58	69
Total	\$	525	\$ 625

Renewable Capital (millions)	2019	2020	2021	2022	Total
Consolidated Project Spend	\$10	\$150-\$180	\$450-\$500	\$40-\$60	\$650-\$750

Our refinery operations serve the Mid-Continent, Southwest and Rocky Mountain regions of the United States. We own and operate five complex refineries having a combined crude oil processing capacity of 457,000 barrels per stream day. Each of our refineries has the complexity to convert discounted, heavy and sour crude oils into a high percentage of gasoline, diesel and other high-value refined products.

Refinery By-products



Adhesives



Agriculture



Construction



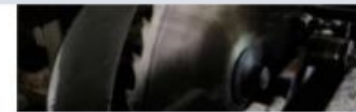
Automotive



Packaging



Food & Beverage



Forestry & Saw Mill



Energy



Manufacturing



Health & Beauty



Heavy Duty
Transportation



Mining



Pharmaceutical



Plastic Processors



Railroad



Waste Operations

Marketing Partners



HF Lubricants & Specialty Products

Diverse Suite of Products Supplied to Major Industrial and Consumer Brands

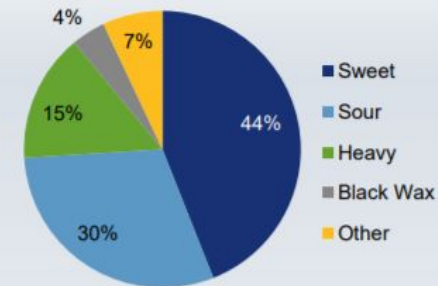
Brands				
Product Type	<ul style="list-style-type: none"> Finished Lubricants & Greases Specialty Products Waxes White Oils Base Oils 	<ul style="list-style-type: none"> Finished Lubricants & Greases Waxes White Oils Petrolatums Specialty Products 	<ul style="list-style-type: none"> Finished Products & Greases 	<ul style="list-style-type: none"> Specialty Products Waxes Base Oils
Customer Base	<ul style="list-style-type: none"> Consumer Discretionary Energy Healthcare Industrials Materials Utilities 	<ul style="list-style-type: none"> Communications Consumer Discretionary Consumer Staples Energy Healthcare Industrials 	<ul style="list-style-type: none"> Consumer Staples Industrials Materials 	<ul style="list-style-type: none"> Consumer Staples Industrials Materials
Applications	<p>Heavy Duty Engine Oils</p>  <p>Hydraulic Lubrication Fluids</p>  <p>Lubricants & Protective Greases</p> 	<p>Petroleum Jellies</p>  <p>Food Waxes</p>  <p>Cosmetics</p> 	<p>Locomotive Engine Oils</p>  <p>Gear Oils</p>  <p>Agriculture Solvents</p> 	<p>Tire Protectants</p>  <p>Candle Waxes</p>  <p>Asphalt Modifiers</p> 

Competitive Advantages



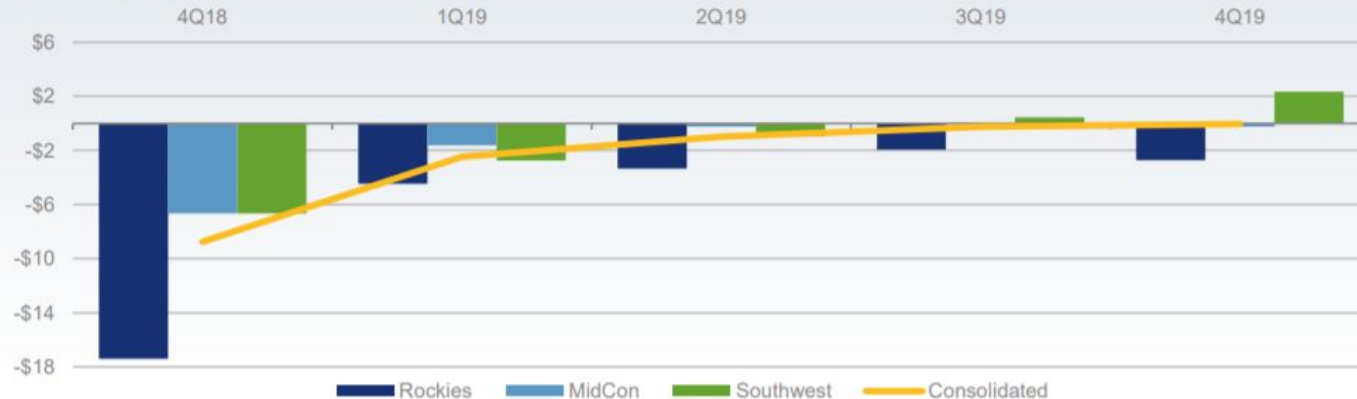
- Beneficiary of inland coastal crude discount across entire refining system
- 100% of HFC's purchased crude barrels are "WTI" price based
- Refinery location and configuration enables a fleet-wide crude slate discounted to WTI
- Approximately 80,000 - 100,000 barrels per day Canadian, primarily Heavy sour crude
- Approximately 140,000 – 160,000 barrels per day of Permian crude

2019 Average Crude Slate



Laid in Crude Advantage under WTI¹

Discount to WTI \$/bbl



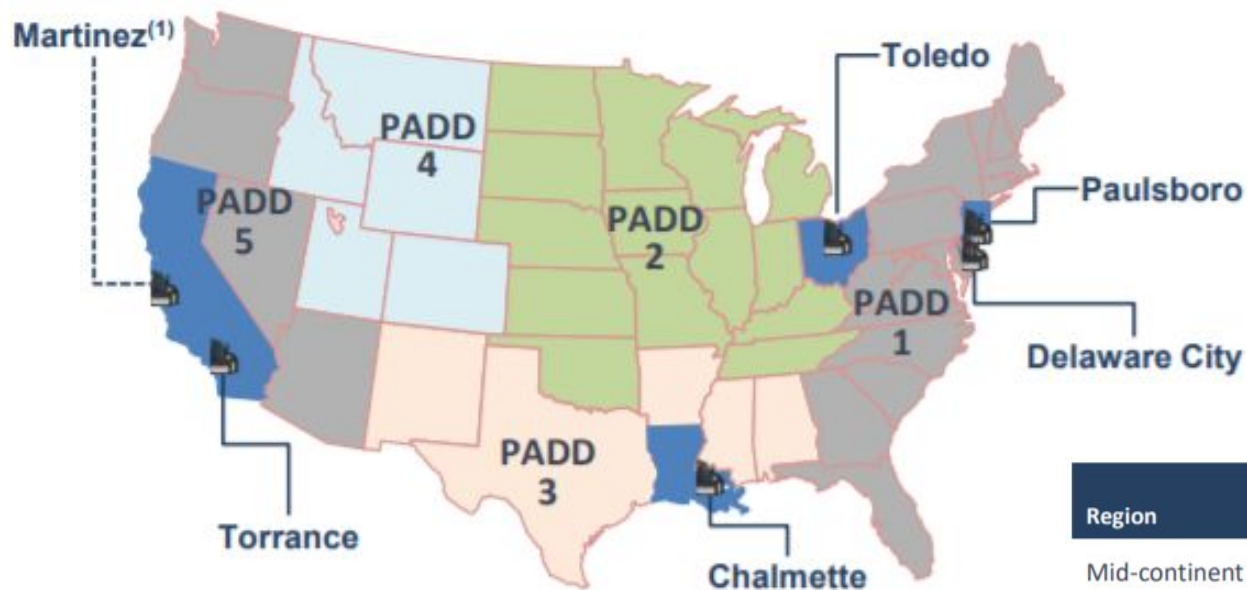
1) Data from quarterly earnings calls

Financial Ratios



For the Fiscal Period Ending	12 months Dec-31-2015 ▼	12 months Dec-31-2016 ▼	12 months Dec-31-2017 ▼	12 months Dec-31-2018 ▼	12 months Dec-31-2019 ▼	12 months Mar-31-2020 ▼
Profitability						
Return on Assets %	↓ 8.8%	4.0%	5.9%	9.4%	7.9%	3.5%
Return on Capital %	↓ 11.1%	4.9%	7.5%	11.8%	9.9%	4.4%
Return on Equity %	↓ 13.5%	(3.4%)	15.7%	19.1%	13.5%	4.8%
Return on Common Equity %	↓ 13.7%	(5.3%)	15.9%	19.4%	13.0%	3.7%
Margin Analysis						
Gross Margin %	↓ 12.9%	9.9%	11.2%	13.3%	13.1%	8.9%
SG&A Margin %	↓ 0.9%	1.0%	1.7%	1.6%	1.9%	2.0%
EBITDA Margin %	↓ 11.2%	7.8%	8.7%	11.1%	10.4%	6.1%
EBITA Margin %	↓ 9.4%	5.4%	6.7%	9.3%	8.5%	4.0%
EBIT Margin %	↓ 9.4%	5.4%	6.7%	9.2%	8.3%	3.8%
Earnings from Cont. Ops Margin %	↓ 6.1%	(1.8%)	6.2%	6.6%	5.0%	1.8%
Net Income Margin %	↓ 5.6%	(2.5%)	5.7%	6.2%	4.4%	1.3%
Net Income Avail. for Common Margin %	↓ 5.6%	(2.5%)	5.6%	6.2%	4.4%	1.3%
Normalized Net Income Margin %	↓ 5.2%	2.3%	3.4%	4.9%	4.2%	1.5%
Levered Free Cash Flow Margin %	↓ 4.4%	(0.4%)	2.2%	6.4%	6.7%	8.5%
Unlevered Free Cash Flow Margin %	↓ 4.6%	0.1%	2.8%	6.9%	7.2%	8.9%
Asset Turnover						
Total Asset Turnover	↓ 1.5x	1.2x	1.4x	1.6x	1.5x	1.5x
Fixed Asset Turnover	↓ 3.4x	2.6x	3.3x	3.8x	3.5x	3.3x
Accounts Receivable Turnover	↓ 28.1x	25.4x	23.8x	25.4x	22.5x	21.1x
Inventory Turnover	↓ 12.3x	9.6x	9.2x	10.3x	10.7x	11.9x
Short Term Liquidity						
Current Ratio	↓ 1.7x	2.6x	2.2x	2.8x	2.0x	1.9x
Quick Ratio	↓ 0.7x	1.6x	1.0x	1.6x	1.1x	1.1x
Cash from Ops. to Curr. Liab.	↓ 1.1x	0.6x	0.7x	1.3x	0.9x	1.2x
Avg. Days Sales Out.	↓ 13.0	14.4	15.4	14.3	16.2	17.3
Avg. Days Inventory Out.	↓ 29.7	38.1	39.9	35.5	34.0	30.9
Avg. Days Payable Out.	↓ 29.4	30.9	29.9	25.3	24.9	24.8
Avg. Cash Conversion Cycle	↓ 13.3	21.7	25.3	24.5	25.3	23.4
Long Term Solvency						
Total Debt/Equity	↓ 17.9%	42.2%	42.4%	37.3%	45.6%	48.5%
Total Debt/Capital	↓ 15.2%	29.7%	29.8%	27.2%	31.3%	32.7%
LT Debt/Equity	↓ 17.9%	42.2%	42.4%	37.3%	43.4%	46.3%
LT Debt/Capital	↓ 15.2%	29.7%	29.8%	27.2%	29.8%	31.2%
Total Liabilities/Total Assets	↓ 30.7%	43.8%	44.8%	41.3%	46.5%	45.5%
EBIT / Interest Exp.	↓ 28.6x	7.9x	8.1x	12.4x	10.2x	5.0x
EBITDA / Interest Exp.	↓ 34.1x	11.4x	10.6x	14.9x	13.6x	8.9x
(EBITDA-CAPEX) / Interest Exp.	↓ 18.6x	4.7x	8.3x	12.5x	11.5x	6.5x
Total Debt/EBITDA	↓ 0.7x	2.7x	2.0x	1.2x	1.5x	2.6x
Net Debt/EBITDA	↓ 0.6x	1.3x	1.5x	0.6x	1.1x	1.8x
Total Debt/(EBITDA-CAPEX)	↓ 1.3x	6.6x	2.6x	1.5x	1.8x	3.5x
Net Debt/(EBITDA-CAPEX)	↓ 1.0x	3.2x	1.9x	0.8x	1.3x	2.4x
Altman Z Score	↓ 4.63	2.70	2.95	4.29	3.42	3.27

Refinery Capacities



Region	Throughput Capacity (bpd)	Nelson Complexity
Mid-continent	170,000	9.2
East Coast	370,000	12.2
Gulf Coast	189,000	12.7
West Coast ⁽¹⁾	312,000	15.5
Total⁽¹⁾	1,041,000	12.8

Financial Ratios



Income Statement		Balance Sheet	Cash Flow	Multiples	Ratios	Supplemental	Industry Specific	Pension/OPEB	Segments
Restatement:	Latest			Period Type:		Annual			Enable Freeze Panes
Order:	Latest on Right			Decimals:		Capital IQ (Default)			Go
<div><div><div></div><div>'10</div><div>'11</div><div>'12</div><div>'13</div><div>'14</div><div>'15</div><div>'16</div><div>'17</div><div>'18</div><div>'19</div><div>'20</div><div></div></div><div>View All</div></div>									
<div><div></div>Chart Selected Items</div>									
For the Fiscal Period Ending				12 months	12 months	12 months	12 months	12 months	LTM
Profitability				Dec-31-2015	Dec-31-2016	Dec-31-2017	Dec-31-2018	Dec-31-2019	12 months Mar-31-2020
Return on Assets %				4.0%	4.8%	5.8%	2.8%	4.5%	(8.0%)
Return on Capital %				6.6%	7.7%	9.3%	4.5%	6.9%	(11.8%)
Return on Equity %				10.3%	9.7%	17.7%	5.7%	11.0%	(31.3%)
Return on Common Equity %				10.2%	9.3%	19.1%	5.1%	11.2%	(39.8%)
Margin Analysis									
Gross Margin %				4.8%	5.0%	5.0%	3.0%	4.4%	(1.7%)
SG&A Margin %				1.3%	0.9%	1.0%	1.0%	1.2%	1.3%
EBITDA Margin %				3.5%	4.1%	4.0%	1.9%	3.2%	(2.9%)
EBITA Margin %				2.8%	3.3%	3.4%	1.4%	2.5%	(4.7%)
EBIT Margin %				2.8%	3.3%	3.4%	1.4%	2.5%	(4.7%)
Earnings from Cont Ops Margin %				1.5%	1.4%	2.2%	0.6%	1.5%	(3.8%)
Net Income Margin %				1.1%	1.1%	1.9%	0.5%	1.3%	(4.0%)
Net Inc. Avail. for Common Margin %				1.1%	1.1%	1.9%	0.5%	1.3%	(4.0%)
Normalized Net Income Margin %				1.1%	1.2%	2.1%	0.5%	1.2%	(4.2%)
Levered Free Cash Flow Margin %				(1.1%)	1.1%	0.7%	1.4%	1.2%	2.9%
Unlevered Free Cash Flow Margin %				(0.6%)	1.7%	1.1%	1.9%	1.6%	3.3%
Asset Turnover									
Total Asset Turnover				2.3x	2.3x	2.8x	3.4x	2.9x	2.7x
Fixed Asset Turnover				6.1x	5.6x	6.4x	7.4x	6.0x	5.2x
Accounts Receivable Turnover				26.1x	29.6x	27.7x	32.5x	31.6x	37.6x
Inventory Turnover				11.0x	10.0x	10.2x	12.9x	11.7x	14.1x
Short Term Liquidity									
Current Ratio				2.0x	1.7x	1.6x	1.5x	1.5x	1.1x
Quick Ratio				0.9x	0.7x	0.6x	0.6x	0.7x	0.6x
Cash from Ops. to Curr. Liab.				0.4x	0.3x	0.3x	0.4x	0.4x	0.4x
Avg Days Sales Outstanding				14.0	12.3	13.2	11.2	11.6	9.7
Avg Days Inventory Outstanding				33.3	36.6	36.0	28.2	31.1	26.0
Avg Days Payable Outstanding				9.5	9.8	9.7	7.5	8.4	7.7
Avg Cash Conversion Cycle				37.8	39.1	39.5	32.0	34.2	27.9
Long Term Solvency									
Total Debt/Equity				87.8%	83.6%	75.5%	59.5%	66.8%	159.7%
Total Debt/Capital				46.8%	45.5%	43.0%	37.3%	40.0%	61.5%
LT Debt/Equity				87.8%	82.0%	74.9%	59.5%	64.6%	156.0%
LT Debt/Capital				46.8%	44.7%	42.7%	37.3%	38.7%	60.1%
Total Liabilities/Total Assets				65.7%	66.3%	64.2%	59.4%	60.7%	72.9%
EBIT / Interest Expenses				3.3x	3.3x	4.5x	2.0x	3.5x	NM
EBITDA / Interest Expenses				4.2x	4.1x	5.4x	3.0x	4.5x	NM
(EBITDA-CAPEX) / Interest Expenses				1.0x	2.2x	3.5x	0.4x	2.2x	NM
Total Debt/EBITDA				4.0x	3.3x	2.5x	3.7x	3.0x	NM
Net Debt/EBITDA				1.9x	2.1x	1.8x	2.5x	2.0x	NM
Total Debt/(EBITDA-CAPEX)				17.4x	6.2x	3.9x	24.6x	6.1x	NM
Net Debt/(EBITDA-CAPEX)				8.5x	3.9x	2.9x	17.0x	4.0x	NM