

# THE U.S. Energy DATABOOK

*A summary of national and global energy indicators*



MAY 20, 2019

FEDERAL RESERVE BANK of KANSAS CITY

## SUMMARY OF CURRENT ENERGY CONDITIONS

The number of total active drilling rigs in the United States declined 2.5 percent from a month ago, down 5.6 percent from a year ago. In February 2019, U.S. crude oil production dipped 1.6 percent, and natural gas production fell 8.8 percent. For the week ending May 10th, West Texas Intermediate (WTI) crude oil averaged \$61.81 per barrel and North Sea Brent averaged \$71.08 per barrel, a decrease of 3.6 percent and 0.4 percent in the last month, respectively. The Henry Hub natural gas spot price averaged \$2.60 per million Btu for the week ending May 10th, a decline of 4.4 percent in the last month. U.S. crude oil and petroleum products exports rose 3.8 percent and imports increased 10.5 percent in the last month. Global demand for petroleum was roughly unchanged in the first quarter of 2019, and global petroleum production was also essentially flat in April 2019.

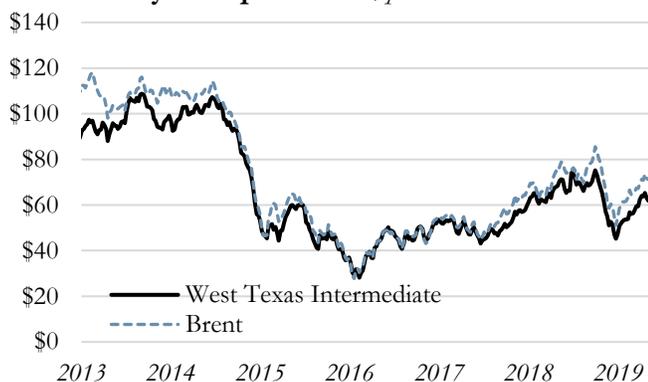
This databook provides current economic indicators to help monitor trends and allow comparison of past information. These indicators include: oil and natural gas prices; global petroleum production and demand; U.S. oil production and petroleum demand; U.S. crude oil stocks; OECD petroleum stocks; U.S. oil imports; U.S. oil exports; oil and gas drilling rig counts; and U.S. natural gas production. These indicators can be found on the following pages.



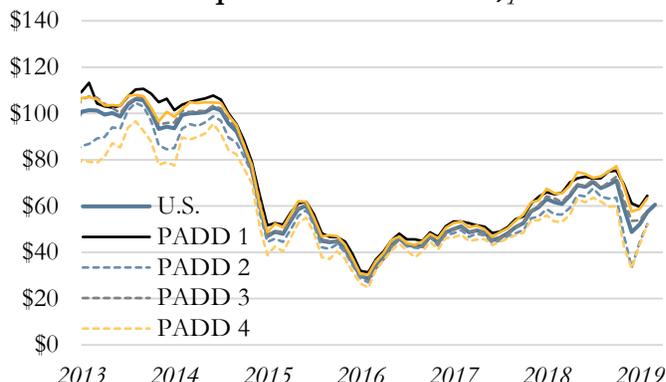
The Federal Reserve Bank of Kansas City's headquarters is located at 1 Memorial Drive in the heart of Kansas City, Missouri. The Federal Reserve Bank of Kansas City serves the Tenth Federal Reserve District, which includes Colorado, Kansas, western Missouri, Nebraska, northern New Mexico, Oklahoma and Wyoming. There are three branches across the Tenth Federal Reserve District located in Denver, Oklahoma City, and Omaha.

Weekly data through May 10, 2019

Weekly Oil Spot Prices, per barrel



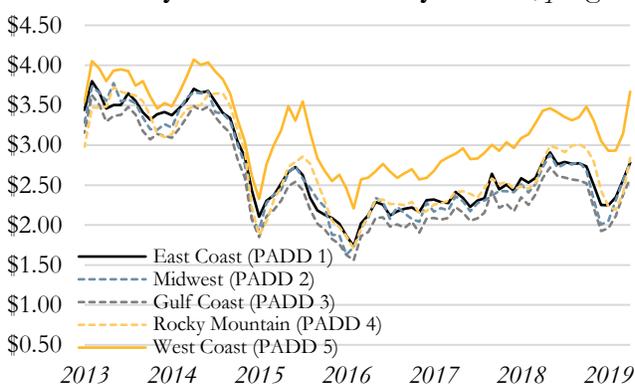
Refiner Acquisition Cost of Oil\*, per barrel



Weekly Natural Gas Spot Prices, per mmbtu



Monthly Gasoline Prices by PADD, per gallon



Weekly Spot Prices, Change from

	Current	1 Week	1 Month	3 months	6 Months	1 Year
Weekly Spot Prices	5/10/19	Ago	Ago	Ago	Ago	Ago
West Texas Intermediate	\$61.81	-\$1.09	-\$2.29	\$8.28	\$0.24	-\$8.75
Brent	\$71.08	-\$0.51	-\$0.25	\$9.37	\$0.74	-\$5.60
Henry Hub	\$2.60	\$0.00	-\$0.12	\$0.01	-\$0.98	-\$0.16

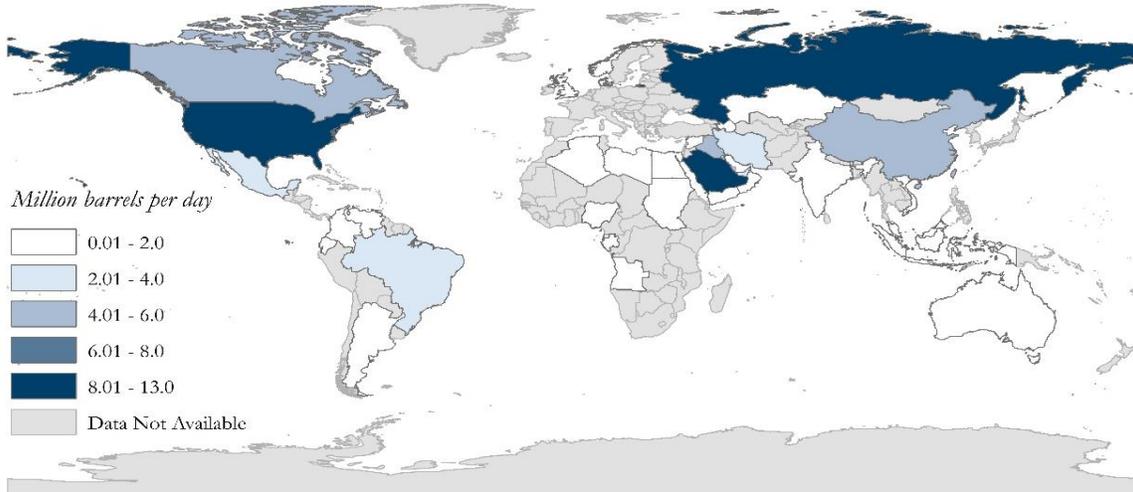
Monthly Gasoline Spot Prices, Change from

	Current	1 Month	3 months	6 Months	1 Year
Geographic Area	Apr-19	Ago	Ago	Ago	Ago
East Coast (PADD 1)	\$2.78	\$0.21	\$0.53	\$0.05	-\$0.01
Midwest (PADD 2)	\$2.77	\$0.20	\$0.71	\$0.09	\$0.04
Gulf Coast (PADD 3)	\$2.58	\$0.20	\$0.62	\$0.06	-\$0.01
Rocky Mountain (PADD 4)	\$2.84	\$0.44	\$0.61	-\$0.12	\$0.04
West Coast (PADD 5)	\$3.67	\$0.53	\$0.74	\$0.19	\$0.24

\*The cost of crude oil, including transportation and other fees paid by the refiner.

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

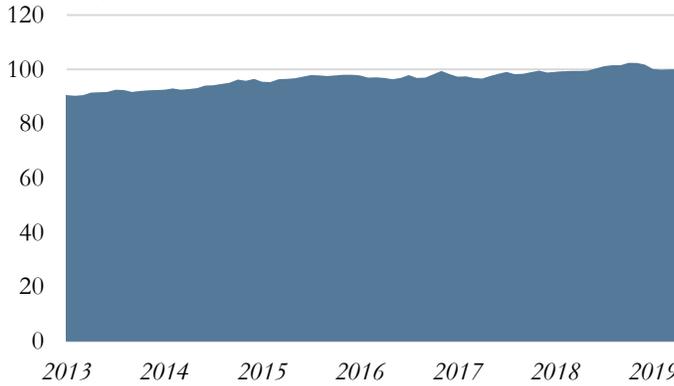
April 2019 Global Petroleum Production



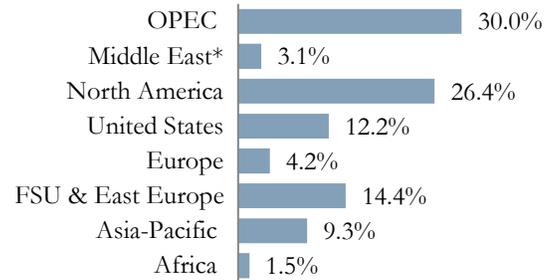
Source: Energy Information Administration/Haver Analytics

April 2019

Monthly Global Petroleum Production, million barrels per day

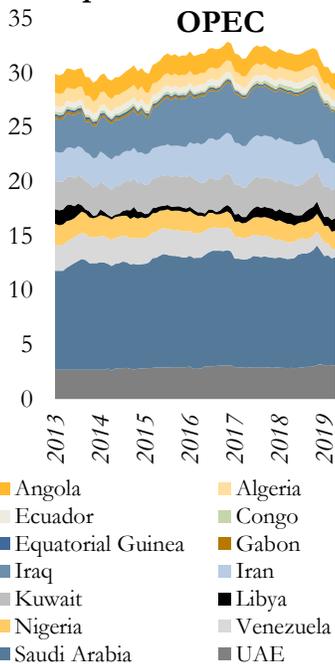


Regional Share of Production

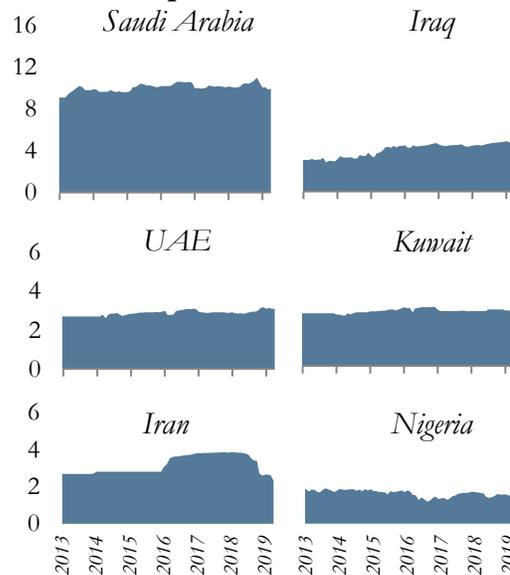


\*Excludes OPEC

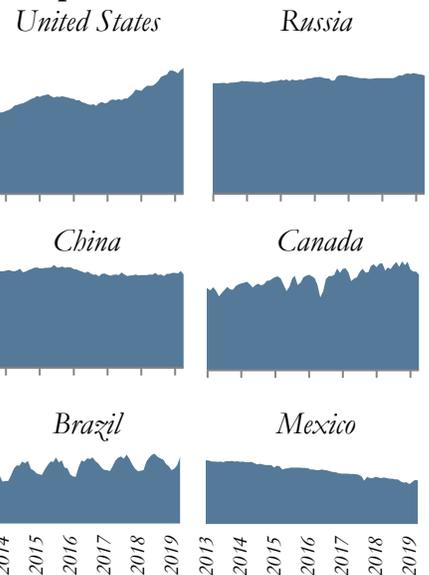
Top Crude Oil Producers, million barrels per day



Top OPEC Producers



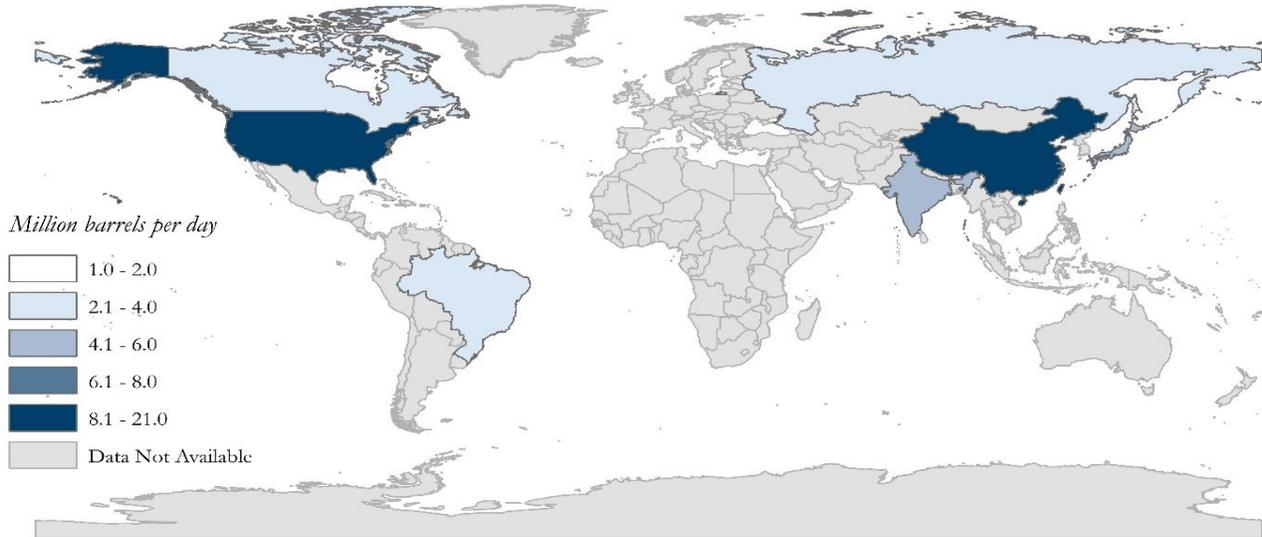
Top Non-OPEC Producers



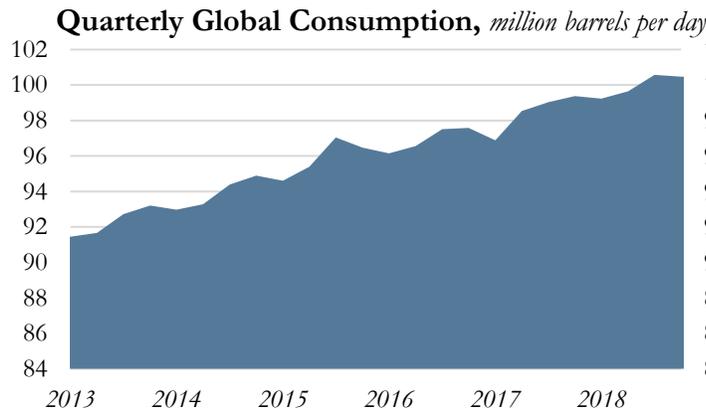
Note: OPEC country production values are for crude oil and non-OPEC country data is for petroleum production.

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

First Quarter 2019 Global Petroleum Consumption

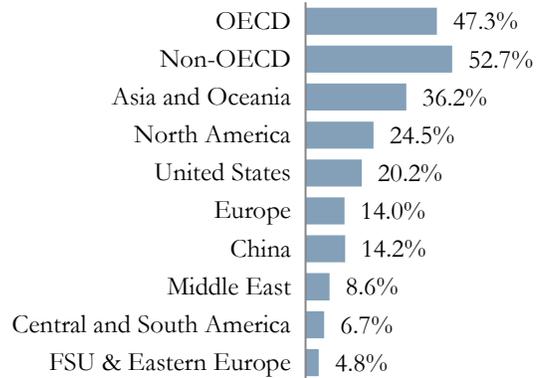


Source: Energy Information Administration/Haver Analytics

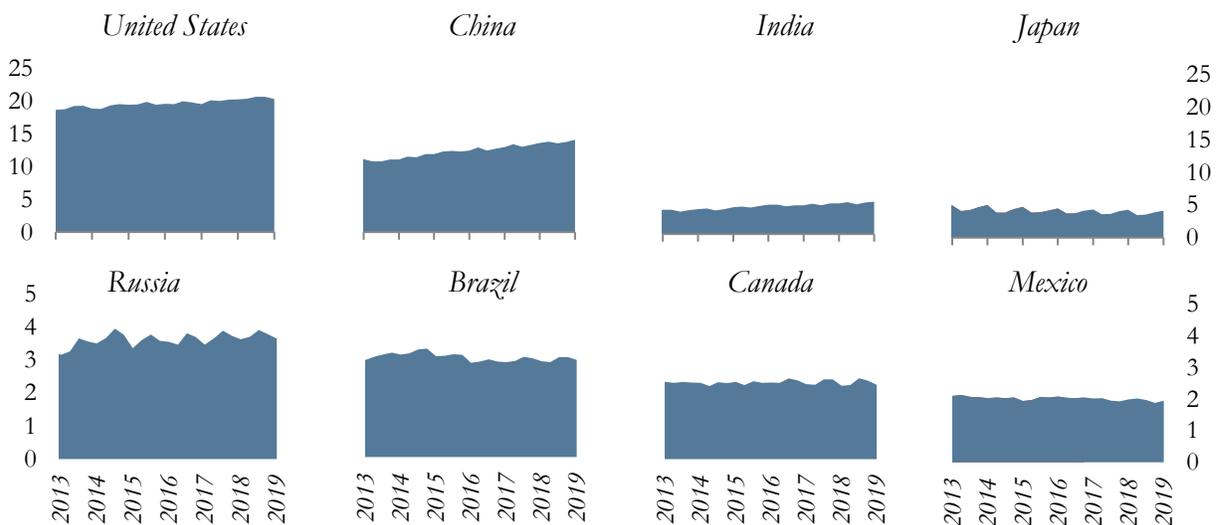


First Quarter 2019

Regional Share of Consumption



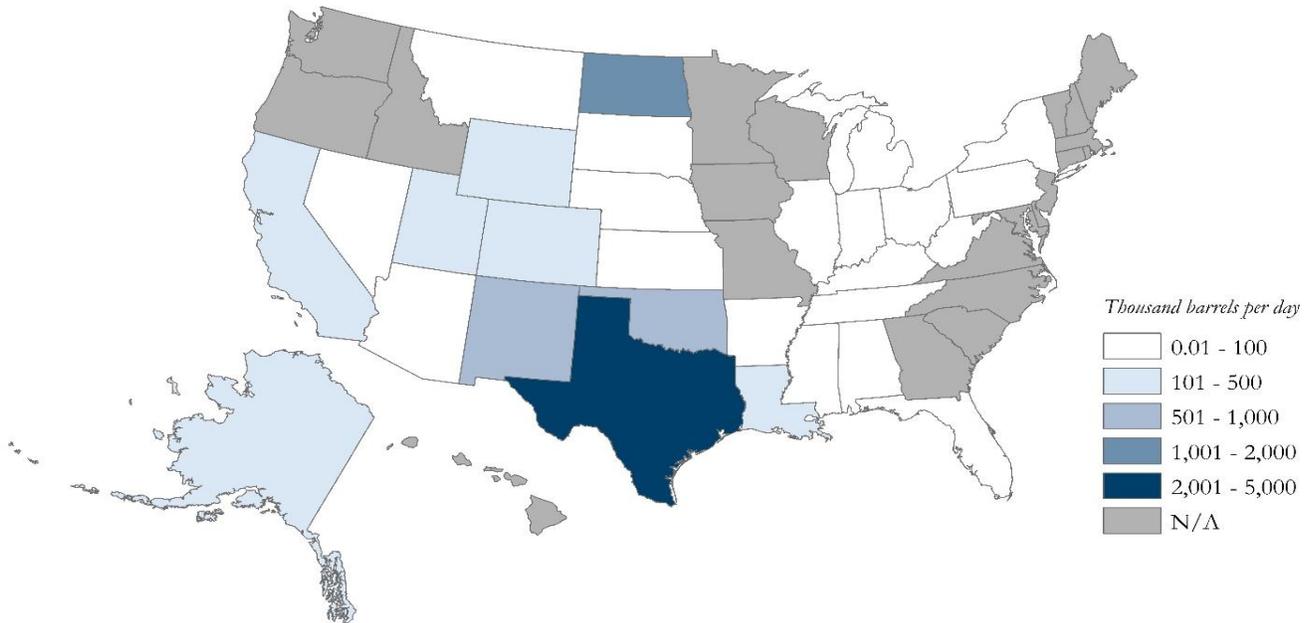
Top Petroleum Consumers, million barrels per day



Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

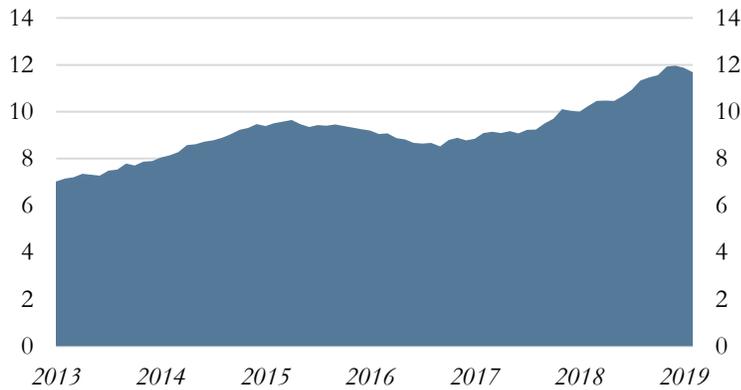


February 2019 U.S. Crude Oil Production

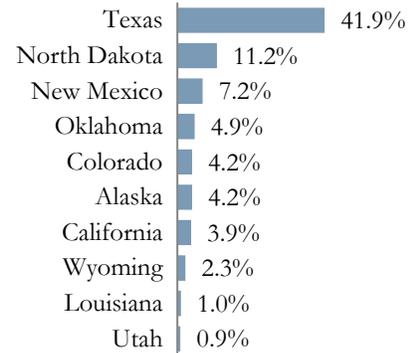


Source: Baker Hughes/Haver Analytics

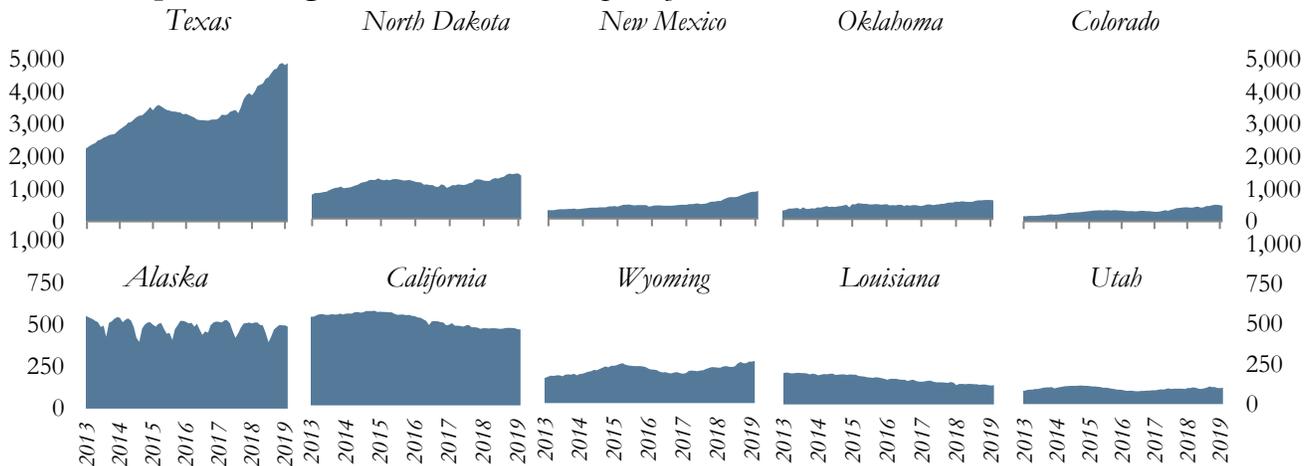
Monthly U.S. Production, million barrels per day



February 2019 Share of Production



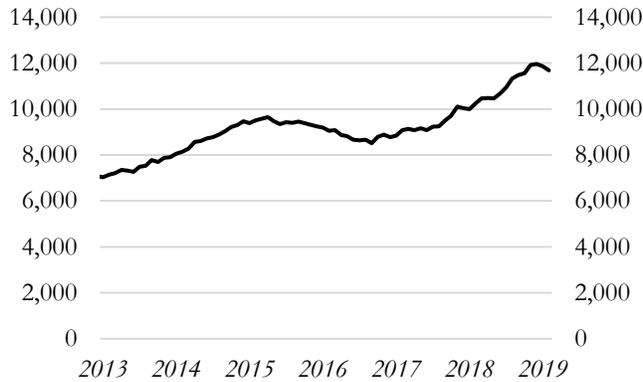
Top Producing States, thousand barrels per day



Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

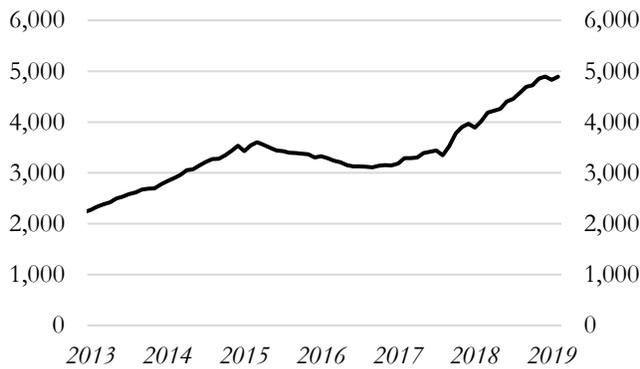
Data through February 2019

**United States** *Thousand barrels per day*



<b>United States</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Feb-19	11,683	
Month Ago	11,870	-1.6%
3 Months Ago	11,926	-2.0%
6 Months Ago	11,325	3.2%
1 Year Ago	10,248	14.0%

**Texas**



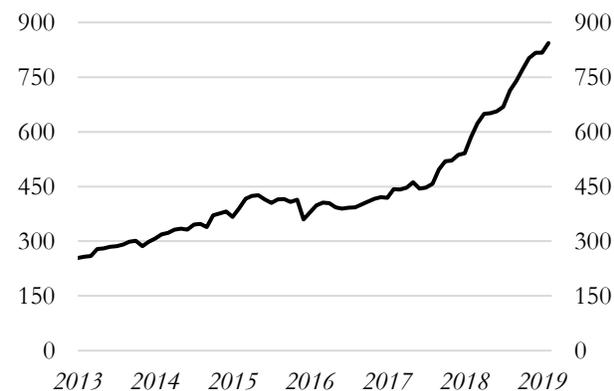
<b>Texas</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Feb-19	4,890	
Month Ago	4,829	1.3%
3 Months Ago	4,856	0.7%
6 Months Ago	4,574	6.9%
1 Year Ago	4,015	21.8%
Share of U.S. Production		41.9%

**North Dakota**



<b>North Dakota</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Feb-19	1,312	
Month Ago	1,376	-4.6%
3 Months Ago	1,354	-3.1%
6 Months Ago	1,275	2.9%
1 Year Ago	1,151	14.0%
Share of U.S. Production		11.2%

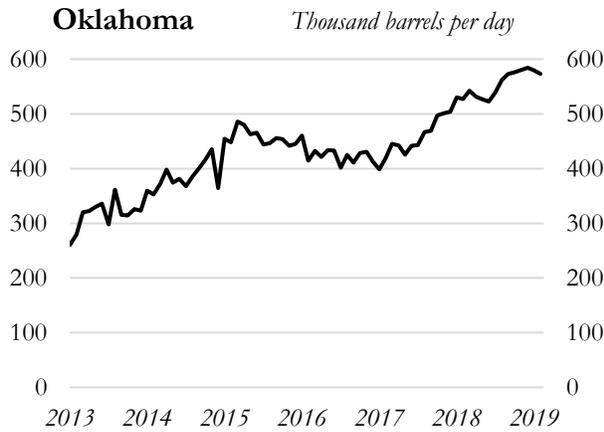
**New Mexico**



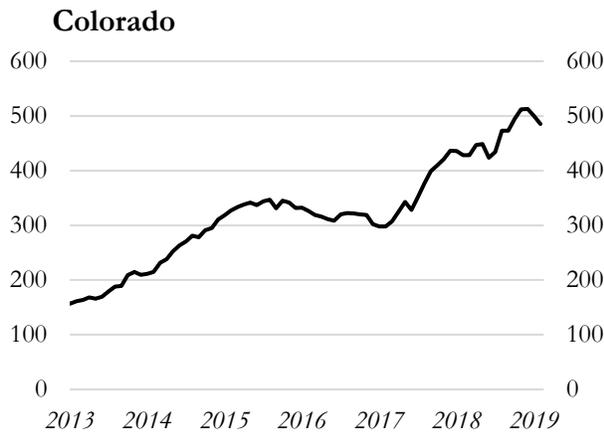
<b>New Mexico</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Feb-19	843	
Month Ago	817	3.2%
3 Months Ago	802	5.2%
6 Months Ago	713	18.3%
1 Year Ago	586	44.0%
Share of U.S. Production		7.2%

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

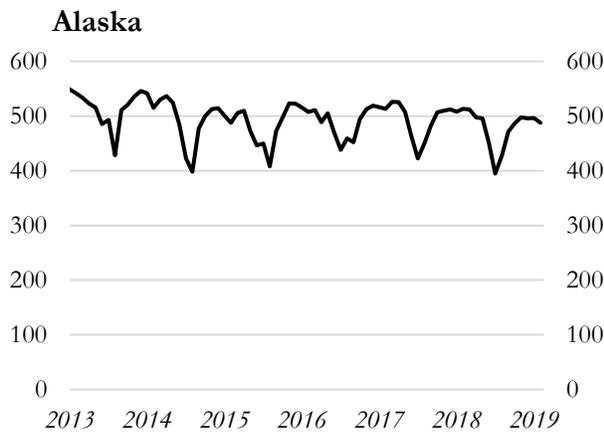
Data through February 2019



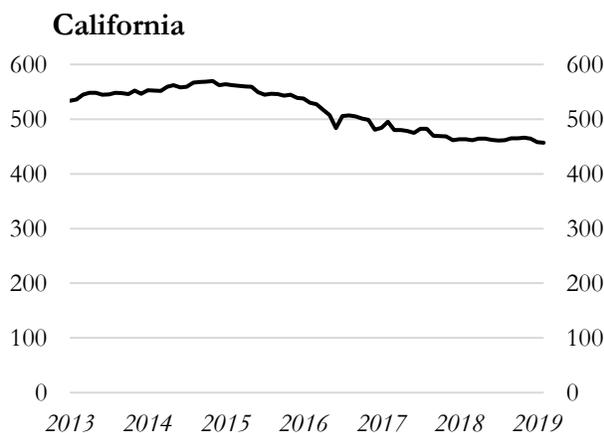
	Oklahoma	Change from
	Thousand barrels per day	
Feb-19	573	
Month Ago	580	-1.1%
3 Months Ago	580	-1.2%
6 Months Ago	562	1.9%
1 Year Ago	527	8.6%
Share of U.S. Production		4.9%



	Colorado	Change from
	Thousand barrels per day	
Feb-19	485	
Month Ago	500	-2.9%
3 Months Ago	512	-5.2%
6 Months Ago	473	2.7%
1 Year Ago	428	13.3%
Share of U.S. Production		4.2%



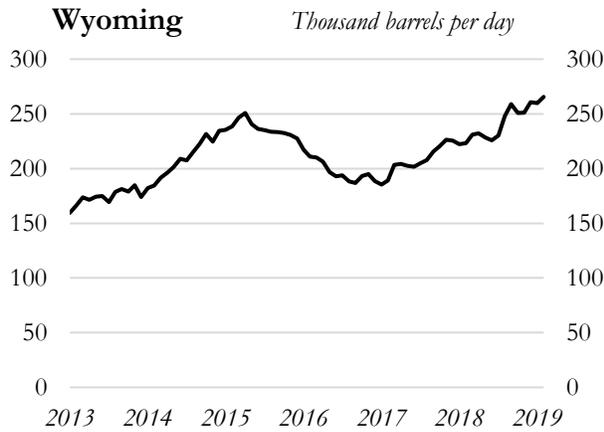
	Alaska	Change from
	Thousand barrels per day	
Feb-19	488	
Month Ago	496	-1.7%
3 Months Ago	497	-1.9%
6 Months Ago	428	14.0%
1 Year Ago	513	-5.0%
Share of U.S. Production		4.2%



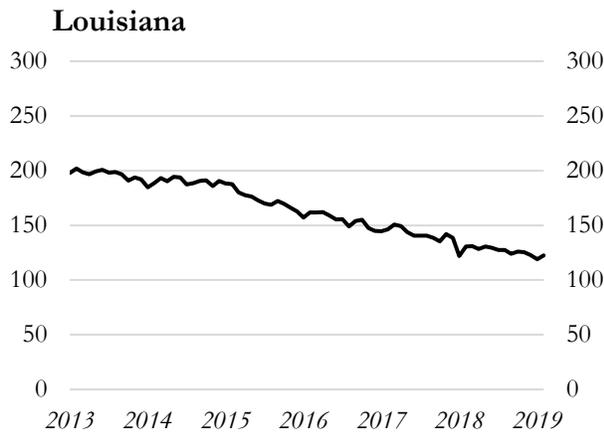
	California	Change from
	Thousand barrels per day	
Feb-19	457	
Month Ago	458	-0.2%
3 Months Ago	466	-2.0%
6 Months Ago	461	-1.0%
1 Year Ago	463	-1.4%
Share of U.S. Production		3.9%

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

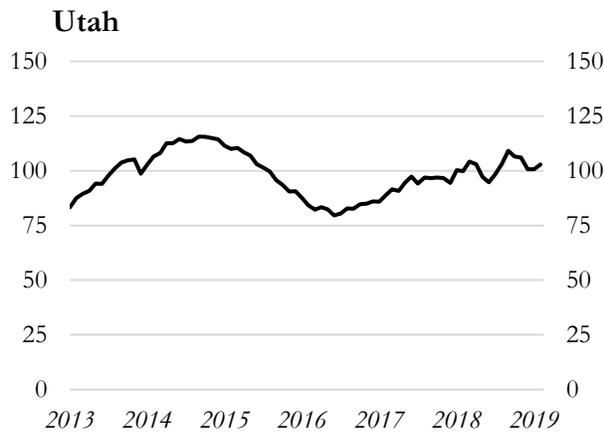
Data through February 2019



Wyoming		Change
Thousand barrels per day		from
Feb-19	266	
Month Ago	260	2.2%
3 Months Ago	251	5.8%
6 Months Ago	248	7.2%
1 Year Ago	223	19.0%
Share of U.S. Production		2.3%



Louisiana		Change
Thousand barrels per day		from
Feb-19	123	
Month Ago	119	2.9%
3 Months Ago	126	-2.4%
6 Months Ago	127	-3.8%
1 Year Ago	131	-6.1%
Share of U.S. Production		1.0%

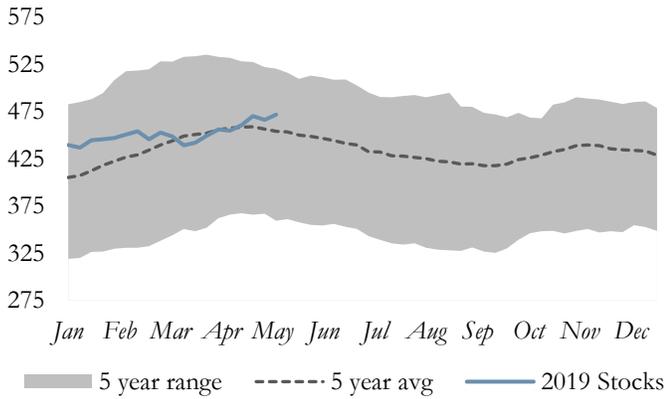


Utah		Change
Thousand barrels per day		from
Feb-19	103	
Month Ago	101	2.2%
3 Months Ago	106	-3.1%
6 Months Ago	103	-0.3%
1 Year Ago	100	3.0%
Share of U.S. Production		0.9%

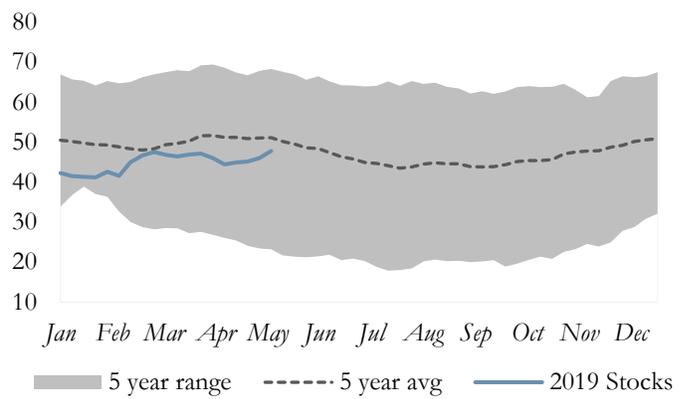
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

May 2019 Weekly U.S. Crude Oil Stocks

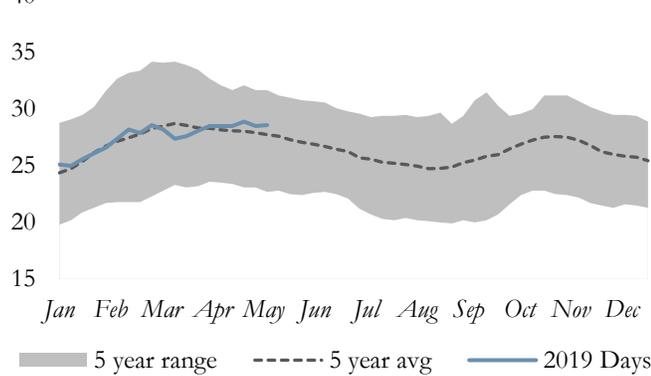
U.S. Oil Stocks, million barrels\*



Cushing, OK Oil Stocks, million barrels



U.S. Oil Days of Supply, days



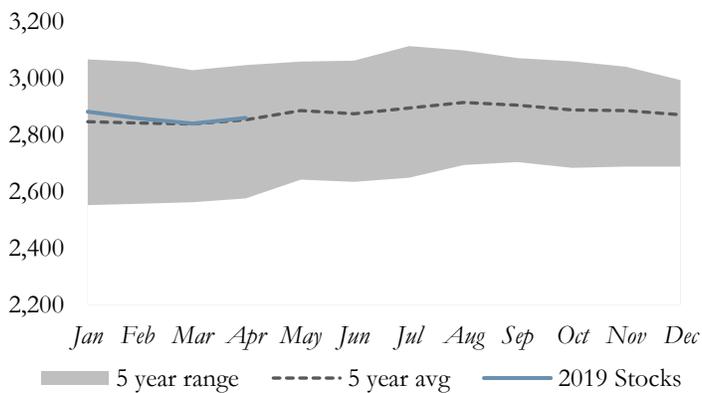
Crude Oil Stocks

	1 Week Change from Ago	1 Year Ago
U.S.	1.2%	9.2%
Cushing, OK	3.9%	28.4%
Days of Supply	0.4%	9.6%
East Coast (PADD 1)	5.2%	11.5%
Midwest (PADD 2)	1.4%	11.0%
Gulf Coast (PADD 3)	1.2%	11.1%
Rocky Mountain (PADD 4)	-2.3%	0.3%
West Coast (PADD 5)	0.8%	0.3%

\*Stocks include those domestic and Customs-cleared foreign stocks held at, or in transit to, refineries and bulk terminals, and stocks in pipelines.

April 2019 OECD Commercial Petroleum Inventory

OECD Commercial Petroleum Inventory, million barrels



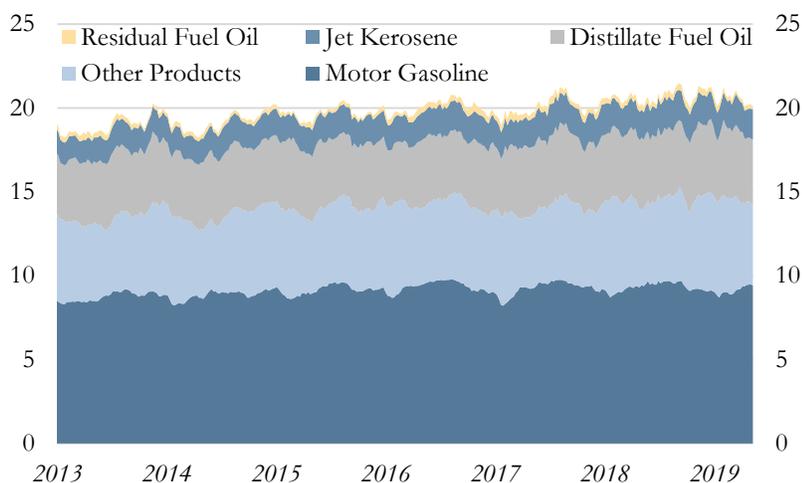
Petroleum Stocks	Million Barrels	Change from
Current Month	2,860	
1 Month Ago	2,840	0.7%
3 Months Ago	2,882	-0.8%
6 Months Ago	2,848	0.4%
1 Year Ago	2,810	1.8%

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

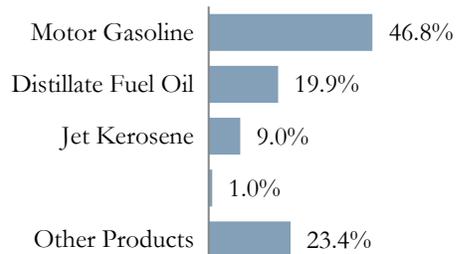
### May 2019 Weekly U.S. Demand for Petroleum Products

4-Week Averages

#### All Petroleum Products, million barrels per day



#### Share of Total Consumption



### U.S. Consumption by Product & Percent Change

#### U.S. Consumption by Product, thousand barrels per day

	Current 5/10/19	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	20,121	20,084	20,807	21,315	20,060
Motor Gasoline	9,414	9,370	9,038	9,219	9,370
Distillate Fuel Oil	4,000	3,876	4,308	4,346	4,191
Jet Kerosene	1,811	1,666	1,624	1,772	1,632
Residual Fuel Oil	197	265	192	332	325
Other Products	4,699	4,907	5,645	5,646	4,542

#### U.S. Consumption by Product, Change from

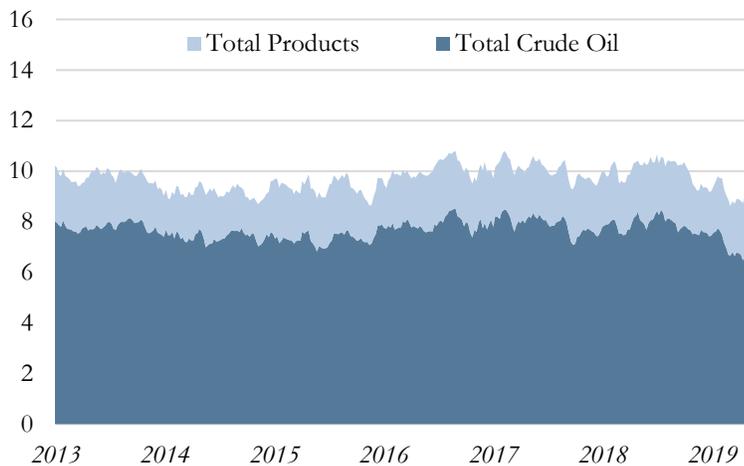
	Current 5/10/19	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	-	0.2%	-3.3%	-5.6%	0.3%
Motor Gasoline	-	0.5%	4.2%	2.1%	0.5%
Distillate Fuel Oil	-	3.2%	-7.1%	-8.0%	-4.6%
Jet Kerosene	-	8.7%	11.5%	2.2%	11.0%
Residual Fuel Oil	-	-25.7%	2.6%	-40.7%	-39.4%
Other Products	-	-4.2%	-16.8%	-16.8%	3.5%

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

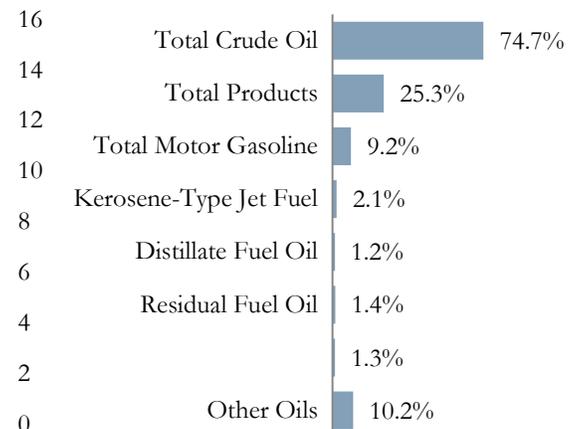
May 2019 Weekly U.S. Imports of Crude Oil & Petroleum Products

4-Week Averages

Imports, million barrels per day



Share of Total Imports



U.S. Imports by Product\*

Thousand barrels per day

	Current 5/10/19	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	<b>7,217</b>	<b>6,474</b>	<b>7,158</b>	<b>7,503</b>	<b>7,986</b>
<b>Total Products</b>	<b>2,449</b>	<b>2,270</b>	<b>2,117</b>	<b>1,737</b>	<b>2,246</b>
Total Motor Gasoline	885	785	541	384	836
Kerosene-Type Jet Fuel	202	179	144	102	119
Distillate Fuel Oil	115	144	347	194	101
Residual Fuel Oil	135	174	203	172	215
Propane/ Propylene	125	167	209	157	130
Other Oils	987	822	673	715	845
<b>Total Imports</b>	<b>9,666</b>	<b>8,744</b>	<b>9,275</b>	<b>9,240</b>	<b>10,232</b>

U.S. Imports by Product, Change from

	Current 5/10/19	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	-	<b>11.5%</b>	<b>0.8%</b>	<b>-3.8%</b>	<b>-9.6%</b>
<b>Total Products</b>	-	<b>7.9%</b>	<b>15.7%</b>	<b>41.0%</b>	<b>9.0%</b>
Total Motor Gasoline	-	12.7%	63.6%	130.5%	5.9%
Kerosene-Type Jet Fuel	-	12.8%	40.3%	98.0%	69.7%
Distillate Fuel Oil	-	-20.1%	-66.9%	-40.7%	13.9%
Residual Fuel Oil	-	-22.4%	-33.5%	-21.5%	-37.2%
Propane/ Propylene	-	-25.1%	-40.2%	-20.4%	-3.8%
Other Oils	-	20.1%	46.7%	38.0%	16.8%
<b>Total Imports</b>	-	<b>10.5%</b>	<b>4.2%</b>	<b>4.6%</b>	<b>-5.5%</b>

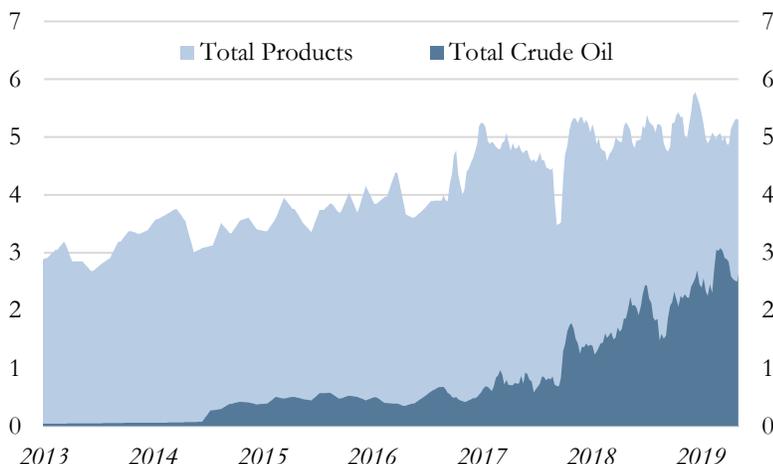
\*Totals may not sum due to component rounding

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

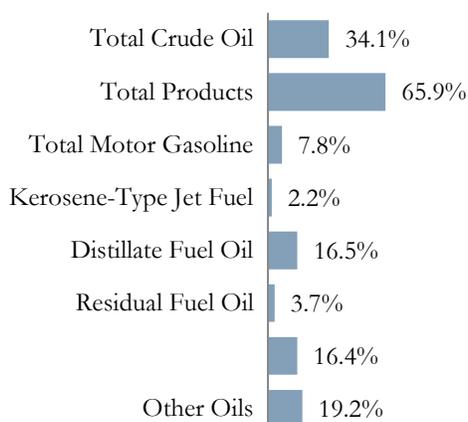
May 2019 Weekly U.S. Exports of Crude Oil & Petroleum Products

4-Week Averages

Exports, million barrels per day



Share of Total Exports



U.S. Exports by Product\*

Thousand barrels per day

	Current 5/10/19	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	<b>2,740</b>	<b>2,590</b>	<b>2,303</b>	<b>2,280</b>	<b>2,231</b>
<b>Total Products</b>	<b>5,287</b>	<b>5,145</b>	<b>5,076</b>	<b>5,010</b>	<b>5,116</b>
Total Motor Gasoline	628	641	752	854	800
Kerosene-Type Jet Fuel	174	199	203	206	207
Distillate Fuel Oil	1,324	1,344	1,166	1,300	1,281
Residual Fuel Oil	300	259	289	270	341
Propane/Propylene	1,319	1,113	908	773	852
Other Oils	1,542	1,589	1,758	1,607	1,636
<b>Total Exports</b>	<b>8,027</b>	<b>7,735</b>	<b>7,379</b>	<b>7,290</b>	<b>7,347</b>

U.S. Exports by Product, Change from

	Current 5/10/19	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	-	<b>5.8%</b>	<b>19.0%</b>	<b>20.2%</b>	22.8%
<b>Total Products</b>	-	<b>2.8%</b>	<b>4.2%</b>	<b>5.5%</b>	<b>3.3%</b>
Total Motor Gasoline	-	-2.0%	-16.5%	-26.5%	-21.5%
Kerosene-Type Jet Fuel	-	-12.6%	-14.3%	-15.5%	-15.9%
Distillate Fuel Oil	-	-1.5%	13.6%	1.8%	3.4%
Residual Fuel Oil	-	15.8%	3.8%	11.1%	-12.0%
Propane/Propylene	-	18.5%	45.3%	70.6%	54.8%
Other Oils	-	-3.0%	-12.3%	-4.0%	-5.7%
<b>Total Exports</b>	-	<b>3.8%</b>	<b>8.8%</b>	<b>10.1%</b>	<b>9.3%</b>

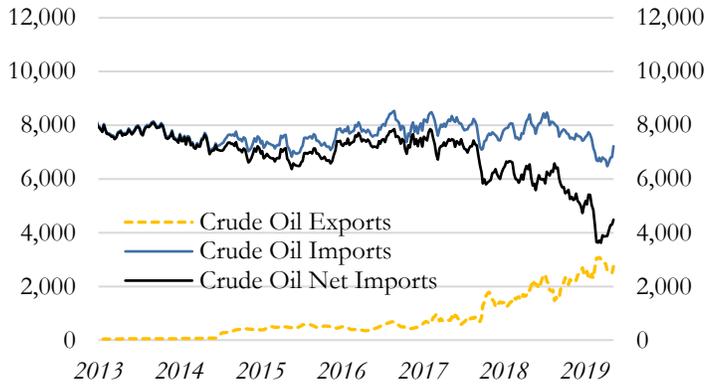
\*Totals may not sum due to rounding

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

**May 2019 Weekly U.S. Net Imports of Crude Oil & Petroleum Products**

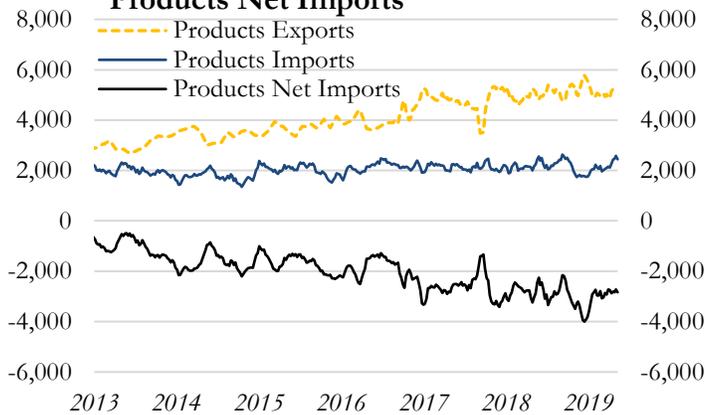
*4-Week Averages, Thousand barrels per day*

**Crude Oil Net Imports**



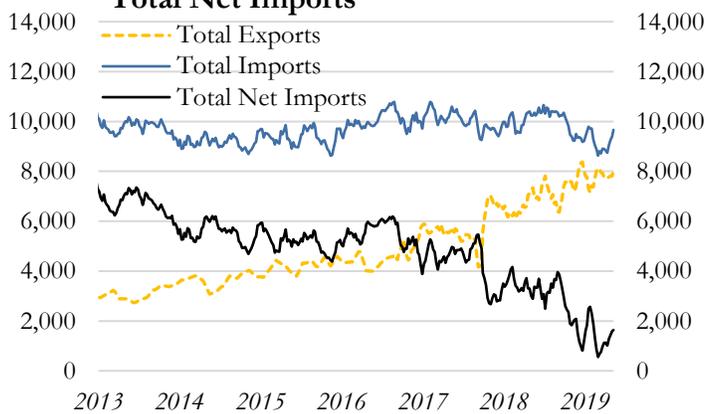
<b>Crude Oil Net Imports</b>		<i>Change</i>
<i>Thousand barrels per day</i>		<i>from</i>
5/10/19	4,477	
Month Ago	3,884	15.3%
3 Months Ago	4,854	-7.8%
6 Months Ago	5,223	-14.3%
1 Year Ago	5,755	-22.2%

**Products Net Imports**



<b>Products Net Imports</b>		<i>Change</i>
<i>Thousand barrels per day</i>		<i>from</i>
5/10/19	-2,838	
Month Ago	-2,876	-
3 Months Ago	-2,958	-
6 Months Ago	-3,273	-
1 Year Ago	-2,870	-

**Total Net Imports**



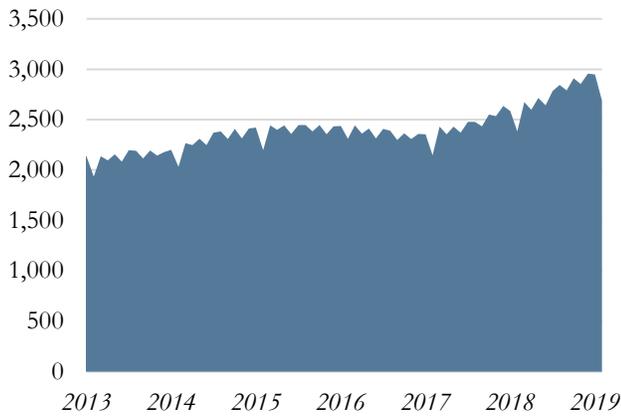
<b>Total Net Imports</b>		<i>Change</i>
<i>Thousand barrels per day</i>		<i>from</i>
5/10/19	1,639	
Month Ago	1,008	62.6%
3 Months Ago	1,896	-13.6%
6 Months Ago	1,951	-16.0%
1 Year Ago	2,885	-43.2%

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

U.S. Natural Gas Production & Stocks

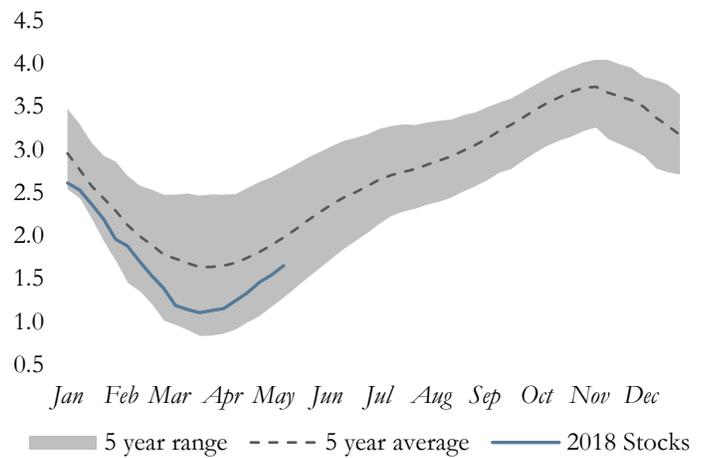
February 2019 Production

Total U.S. Production, Billion cubic feet (Bcf)



May 2019 Weekly Stocks

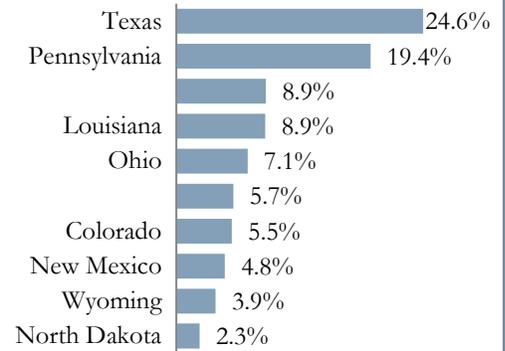
U.S. Natural Gas Stocks, Billion cubic feet (Bcf)



U.S. Natural Gas, Billion cubic feet (Bcf)

	Current Period*	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
U.S. Production	2,688	2,948	2,855	2,845	2,385
U.S. Stocks	1,653	1,247	1,882	3,247	1,538

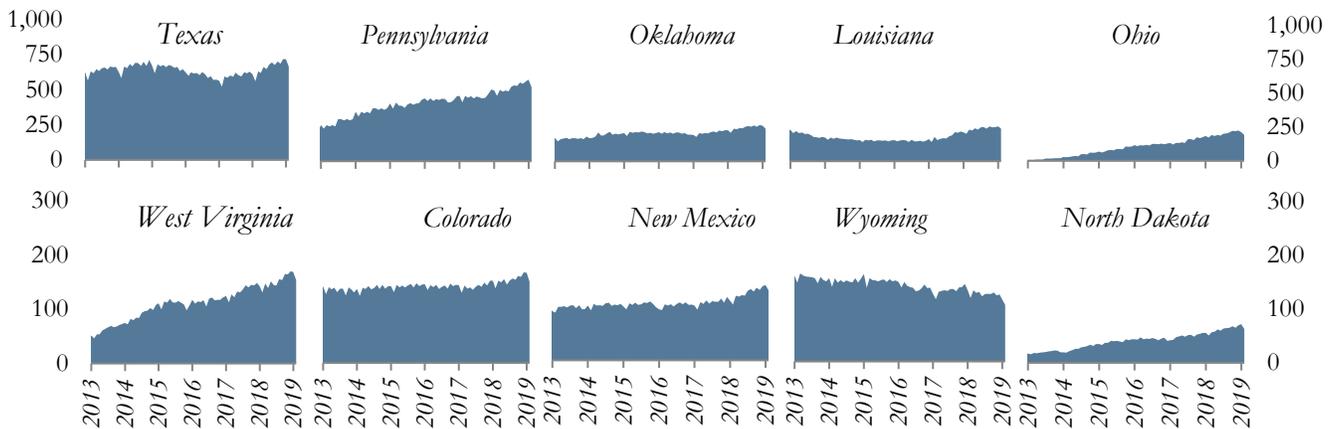
Share of Production



U.S. Natural Gas, Change from

	Current Period*	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
U.S. Production	-	-8.8%	-5.9%	-5.5%	12.7%
U.S. Stocks	-	32.6%	-12.2%	-49.1%	7.5%

Top Producing States, Billion cubic feet (Bcf)



\*U.S. production is monthly data & stocks are weekly data

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

*Definitions:*

West Texas Intermediate: A crude oil produced in Texas and southern Oklahoma which serves as a reference or "marker" for pricing a number of other crude streams and is traded in the domestic spot market at Cushing, Oklahoma.

Brent: A blended crude oil produced in the North Sea region which serves as a reference or "marker" for pricing a number of other international crude streams.

Petroleum products include unfinished oils, liquefied petroleum gases, pentanes plus, aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

Refined petroleum products include but are not limited to gasolines, kerosene, distillates (including No. 2 fuel oil), liquefied petroleum gas, asphalt, lubricating oils, diesel fuels, and residual fuels.

*Notes:*

*Page 2:* Petroleum Administration for Defense Districts (PADD) are geographic aggregations of the 50 States and the District of Columbia into five districts by the Petroleum Administration for Defense in 1950. These districts were originally defined during World War II for purposes of administering oil allocation. For more information, visit: <http://www.eia.gov/petroleum/supply/monthly/pdf/append.pdf>

*Page 3:* For OPEC countries & the U.S., only crude oil production data is used. For non-OPEC countries (excluding the U.S.) total petroleum production data is used. Total petroleum production includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

*Page 5:* The active rig count is the number of rigs actively exploring for or developing oil or natural gas. Rig counts provide an indicator of new drilling activity and potential for expanded crude oil or natural gas production.

*Pages 10:* Crude oil stocks are stocks of crude oil and lease condensate held at refineries, in pipelines, at pipeline terminals, and on leases.

Crude oil stocks for Cushing include domestic and foreign crude oil stocks held in tank farms in Lincoln, Payne, and Creek counties in Oklahoma. Cushing, Oklahoma, is the designated delivery point for NYMEX crude oil futures contracts.

Days of supply are calculated by taking the current stock level and dividing by product supplied (used as an estimate of demand) averaged over the most recent four-week period. For crude oil, refinery inputs of crude oil are used as a proxy for demand.

*Notes:*

Page 11: Petroleum Consumption approximately represents consumption of petroleum products because it measures the disappearance of these products from primary sources, i.e., refineries, natural gas-processing plants, blending plants, pipelines, and bulk terminals.

**Data Revisions**

Most data are revised periodically to correct for errors and incorporate additional information as it becomes available. Data shown in this report are subject to change.

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