

# THE U.S. Energy DATABOOK

*A summary of national and global energy indicators*



JULY 22, 2019

FEDERAL RESERVE BANK of KANSAS CITY

## SUMMARY OF CURRENT ENERGY CONDITIONS

In July, the number of total active drilling rigs in the United States dipped 1.3 percent from a month ago, down 8.8 percent from a year ago. In April 2019, U.S. crude oil production grew 2.1 percent while natural gas production declined 2.4 percent. For the week ending July 12th, West Texas Intermediate (WTI) crude oil averaged \$59.02 per barrel and North Sea Brent averaged \$65.98 per barrel, an increase of 12.4 percent and 4.4 percent in the last month, respectively. The Henry Hub natural gas spot price averaged \$2.47 per million Btu for the week ending July 12th, an expansion of 2.5 percent in the last month. U.S. crude oil and petroleum products exports decreased 2.7 percent and imports fell 6.3 percent in the last month. Global demand for petroleum inched up 0.6 percent the second quarter of 2019, and global petroleum production expanded 1.0 percent in June 2019.

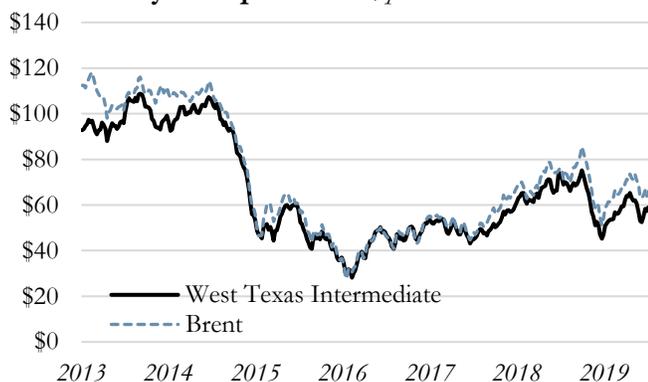
This databook provides current economic indicators to help monitor trends and allow comparison of past information. These indicators include: oil and natural gas prices; global petroleum production and demand; U.S. oil production and petroleum demand; U.S. crude oil stocks; OECD petroleum stocks; U.S. 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.



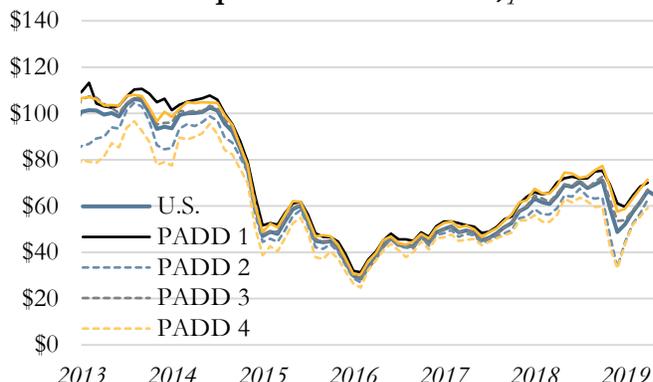
The Federal Reserve Bank of Kansas City's headquarters is located at 1 Memorial Drive in the heart of Kansas City, Missouri. The Federal Reserve Bank of Kansas City serves the Tenth Federal Reserve District, which includes Colorado, Kansas, western Missouri, Nebraska, northern New Mexico, Oklahoma and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

Weekly data through July 12, 2019

Weekly Oil Spot Prices, per barrel



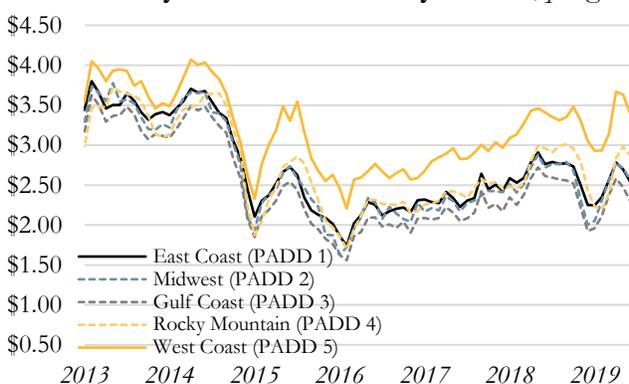
Refiner Acquisition Cost of Oil\*, per barrel



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	7/12/19	Ago	Ago	Ago	Ago	Ago
West Texas Intermediate	\$59.02	\$1.70	\$6.50	-\$5.08	\$8.24	-\$12.94
Brent	\$65.98	\$2.14	\$2.79	-\$5.35	\$7.34	-\$9.31
Henry Hub	\$2.47	\$0.16	\$0.06	-\$0.25	-\$0.42	-\$0.42

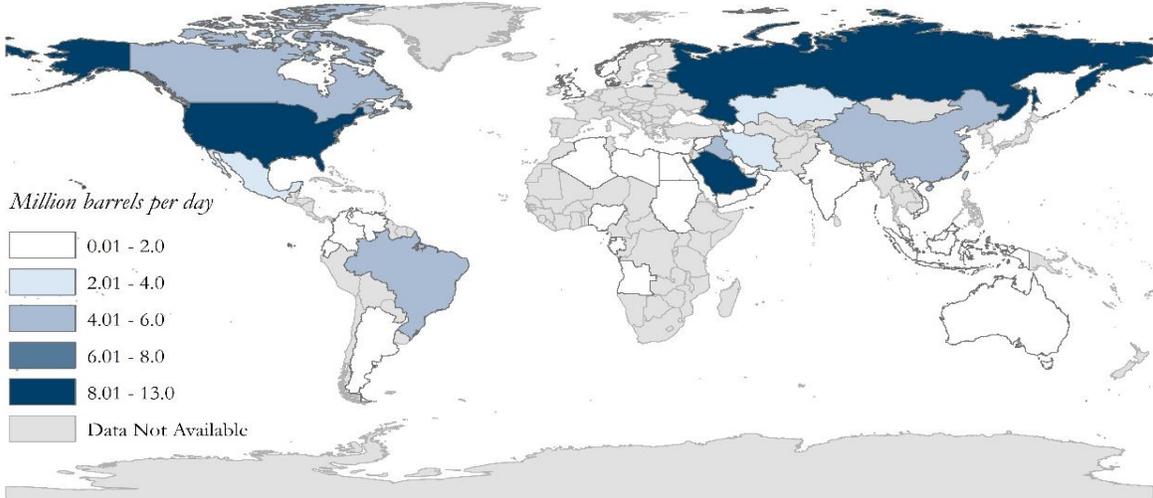
Monthly Gasoline Spot Prices, Change from

	Current	1 Month	3 months	6 Months	1 Year
Geographic Area	Jun-19	Ago	Ago	Ago	Ago
East Coast (PADD 1)	\$2.54	-\$0.16	-\$0.03	\$0.29	-\$0.22
Midwest (PADD 2)	\$2.56	-\$0.15	\$0.00	\$0.56	-\$0.16
Gulf Coast (PADD 3)	\$2.30	-\$0.17	-\$0.08	\$0.37	-\$0.32
Rocky Mountain (PADD 4)	\$2.87	-\$0.11	\$0.47	\$0.44	-\$0.09
West Coast (PADD 5)	\$3.39	-\$0.24	\$0.25	\$0.34	-\$0.02

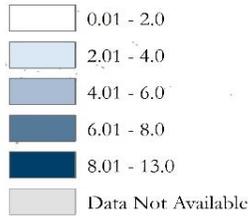
\*The cost of crude oil, including transportation and other fees paid by the refiner.

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

June 2019 Global Petroleum Production



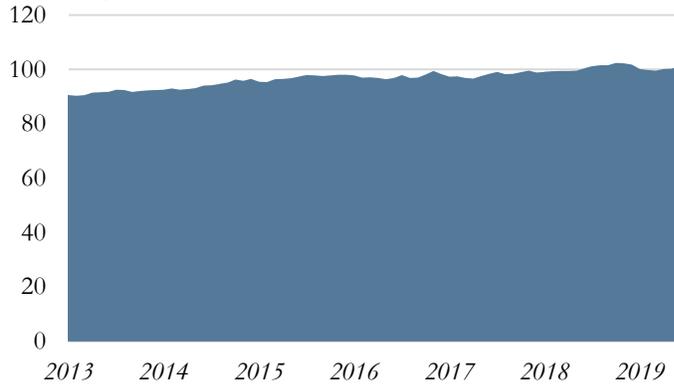
Million barrels per day



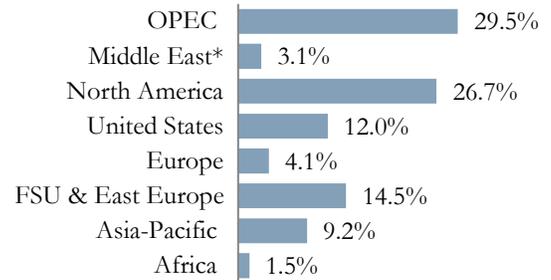
Source: Energy Information Administration/Haver Analytics

June 2019

Monthly Global Petroleum Production, million barrels per day

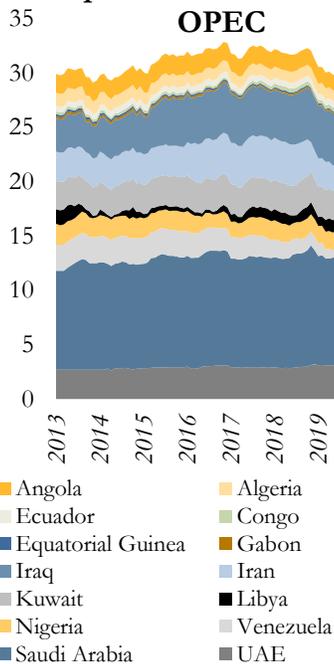


Regional Share of Production

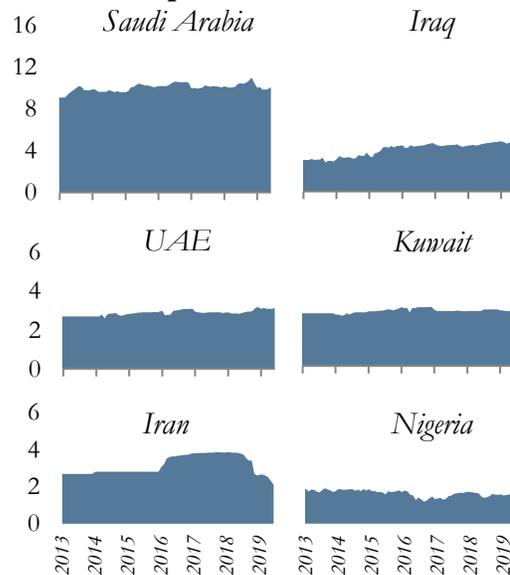


\*Excludes OPEC

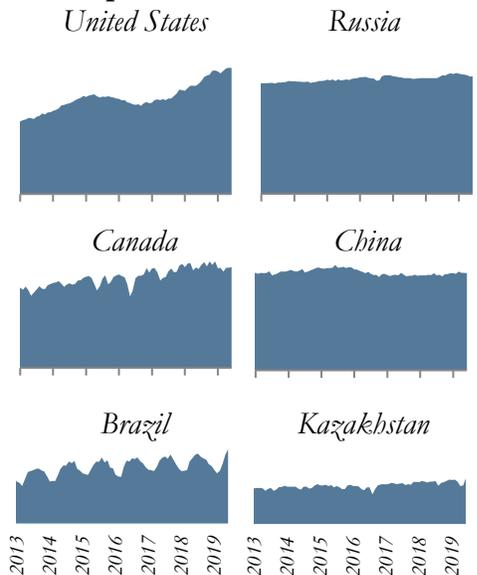
Top Crude Oil Producers, million barrels per day



Top OPEC Producers



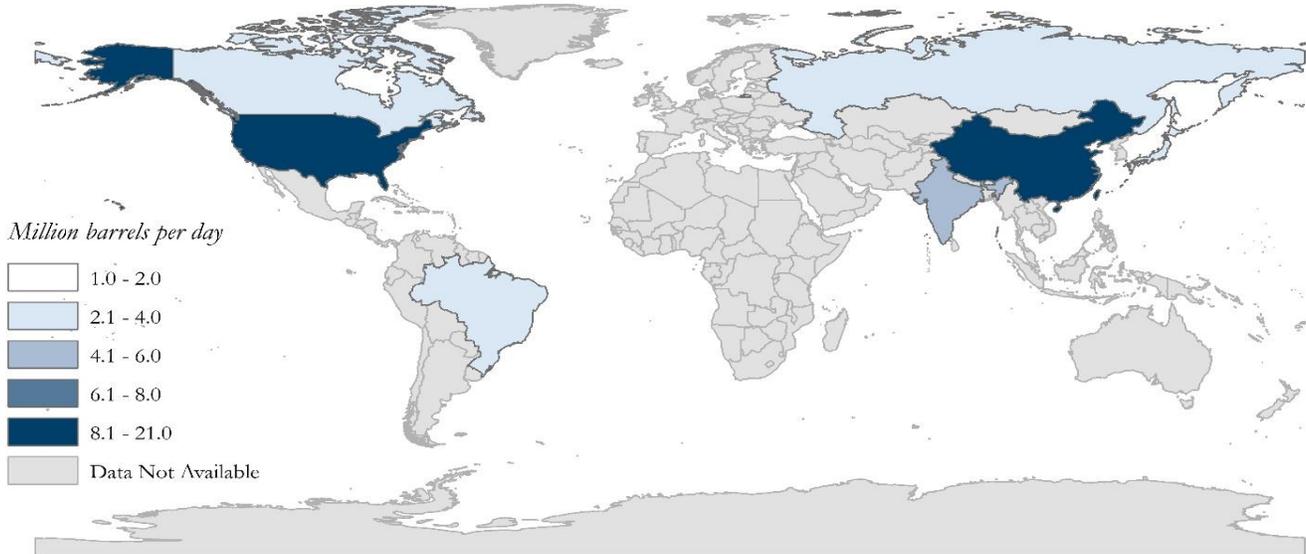
Top Non-OPEC Producers



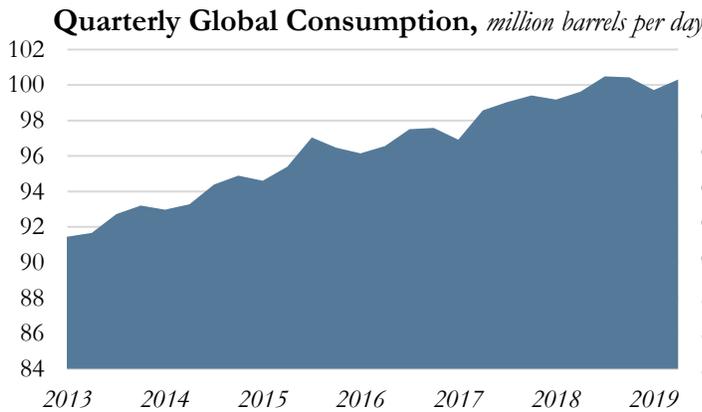
Note: OPEC country production values are for crude oil and non-OPEC country data is for petroleum production.

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

Second Quarter 2019 Global Petroleum Consumption

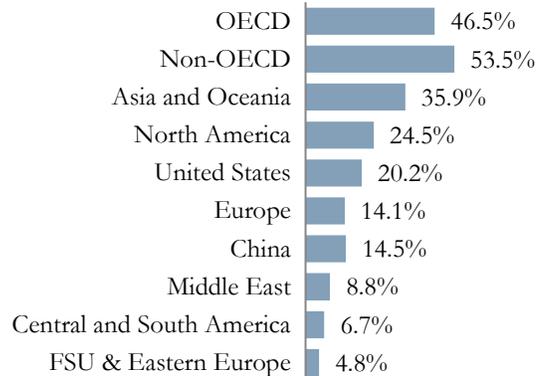


Source: Energy Information Administration/Haver Analytics

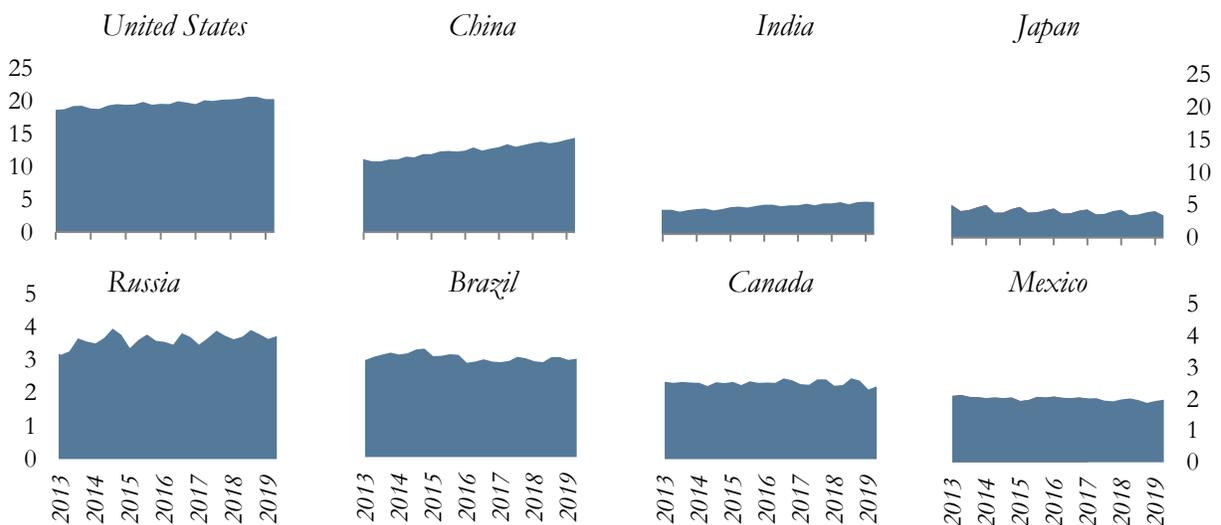


Second Quarter 2019

Regional Share of Consumption

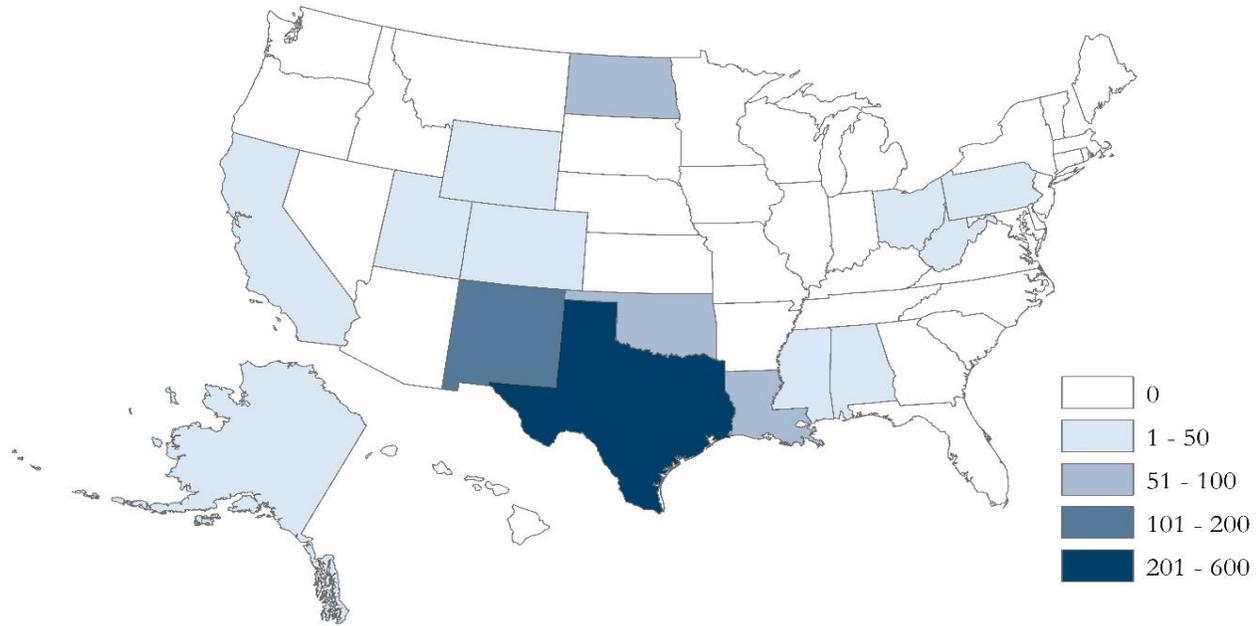


Top Petroleum Consumers, million barrels per day



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

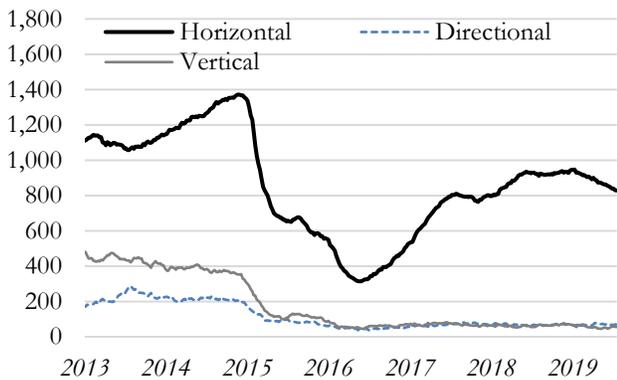
July 2019 Weekly Active Oil & Gas Drilling Rig Counts



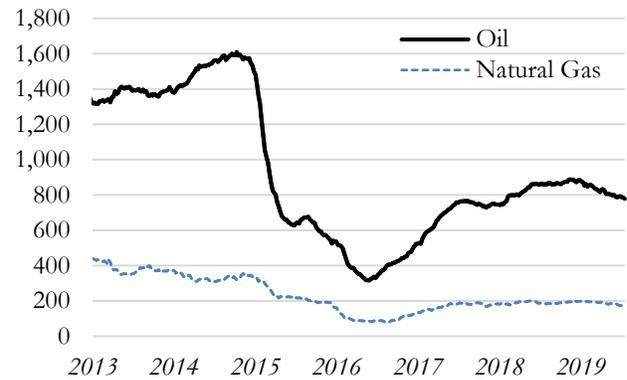
Source: Baker Hughes/Haver Analytics

July 19, 2019

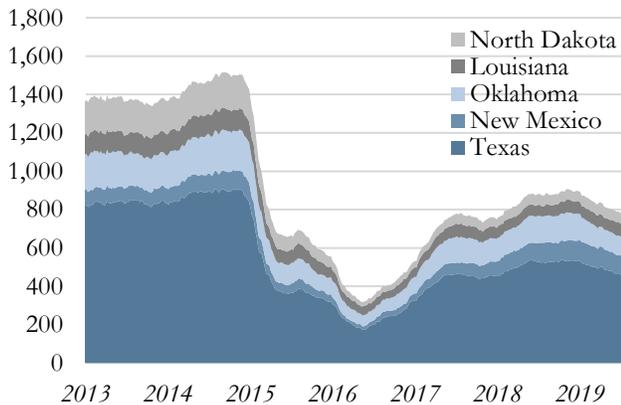
U.S. Active Drilling Rigs by Trajectory



U.S. Active Drilling Rigs by Type



Top Five States for Drilling Activity (Total Active Rigs)



Rig Count By Type

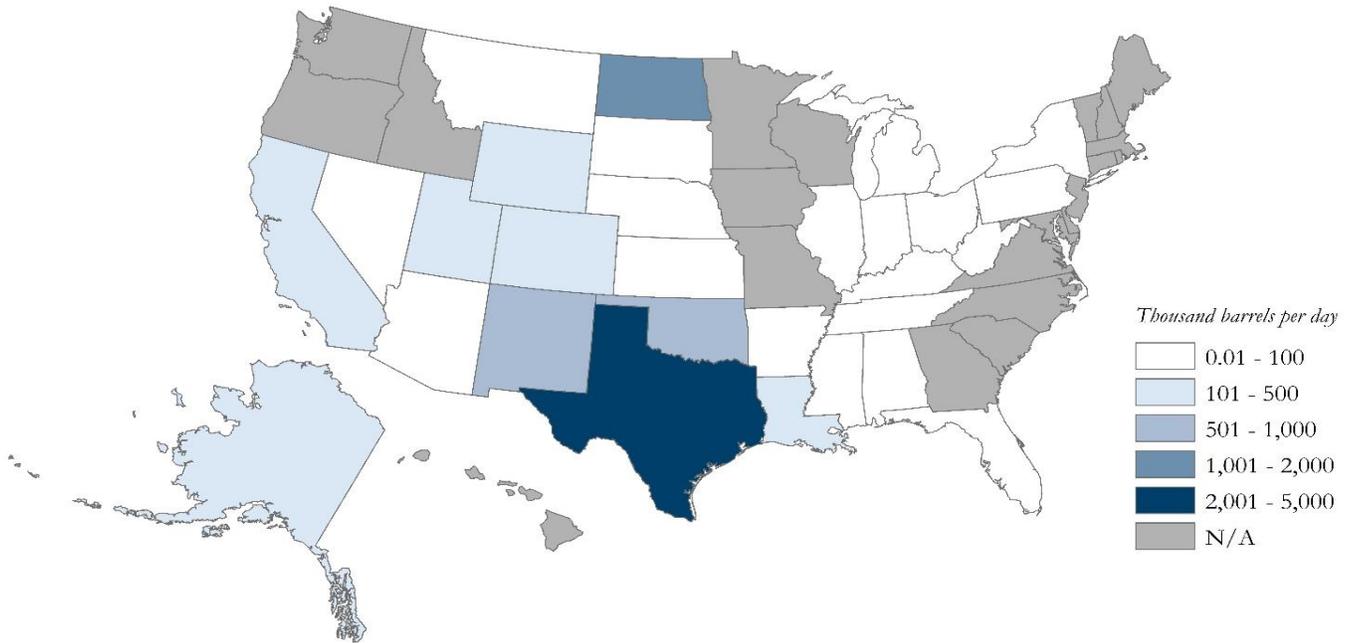
Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	779	789	825	858
Gas	174	177	187	187
Misc	1	1	0	1
<b>Total</b>	<b>954</b>	<b>967</b>	<b>1012</b>	<b>1046</b>

Rig Count By Type, Change from

Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	-	-1.3%	-5.6%	-9.2%
Gas	-	-1.7%	-7.0%	-7.0%
Misc	-	0.0%	-	0.0%
<b>Total</b>	-	<b>-1.3%</b>	<b>-5.7%</b>	<b>-8.8%</b>

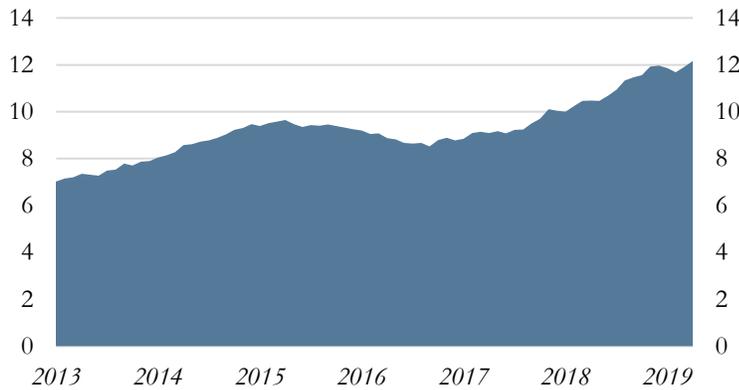
Source: Baker Hughes/Haver Analytics

April 2019 U.S. Crude Oil Production

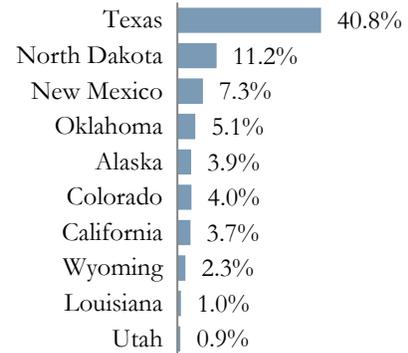


Source: Baker Hughes/Haver Analytics

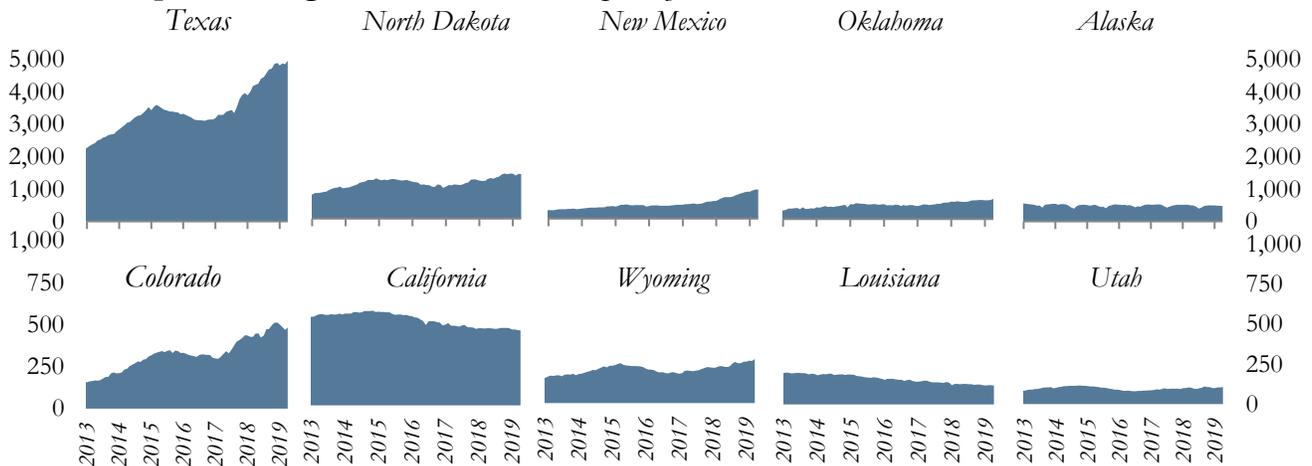
Monthly U.S. Production, million barrels per day



April 2019 Share of Production



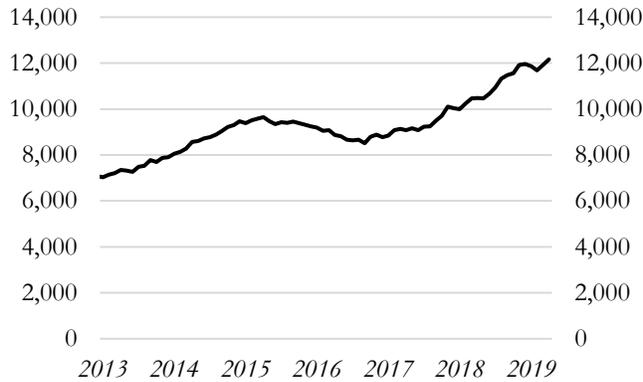
Top Producing States, thousand barrels per day



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

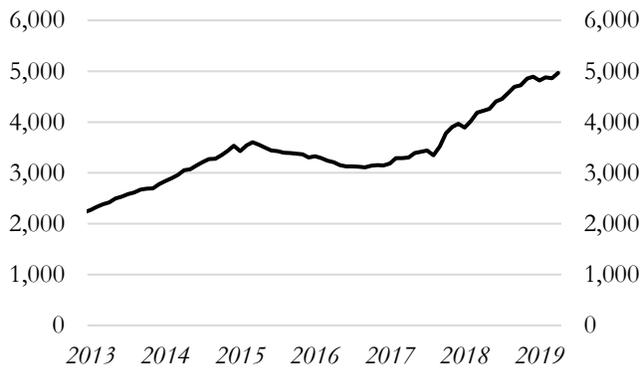
Data through April 2019

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



<b>United States</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Apr-19	12,162	
Month Ago	11,916	2.1%
3 Months Ago	11,860	2.5%
6 Months Ago	11,559	5.2%
1 Year Ago	10,475	16.1%

**Texas**



<b>Texas</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Apr-19	4,967	
Month Ago	4,860	2.2%
3 Months Ago	4,819	3.1%
6 Months Ago	4,725	5.1%
1 Year Ago	4,222	17.6%
Share of U.S. Production		40.8%

**North Dakota**



<b>North Dakota</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Apr-19	1,359	
Month Ago	1,361	-0.1%
3 Months Ago	1,374	-1.1%
6 Months Ago	1,374	-1.1%
1 Year Ago	1,211	12.3%
Share of U.S. Production		11.2%

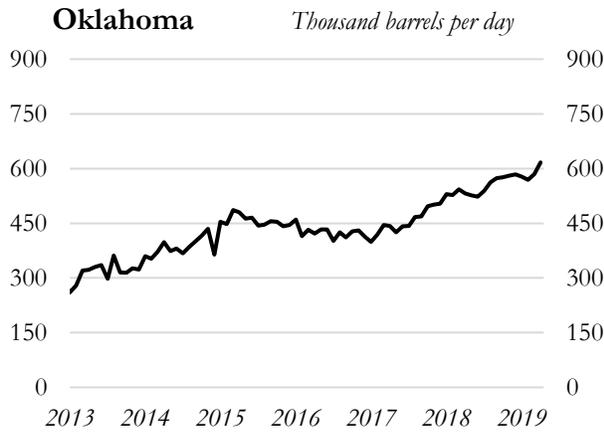
**New Mexico**



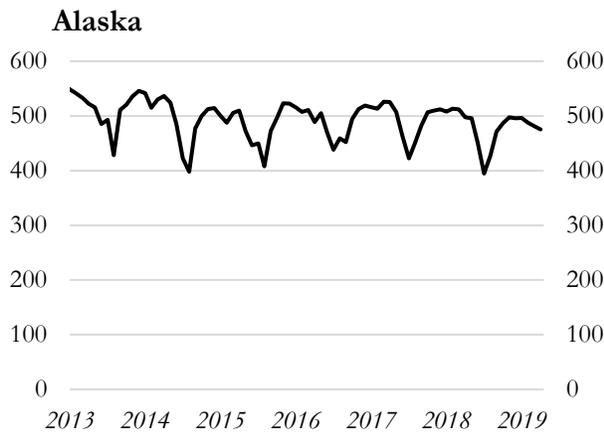
<b>New Mexico</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Apr-19	883	
Month Ago	886	-0.3%
3 Months Ago	820	7.6%
6 Months Ago	772	14.4%
1 Year Ago	650	35.9%
Share of U.S. Production		7.3%

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

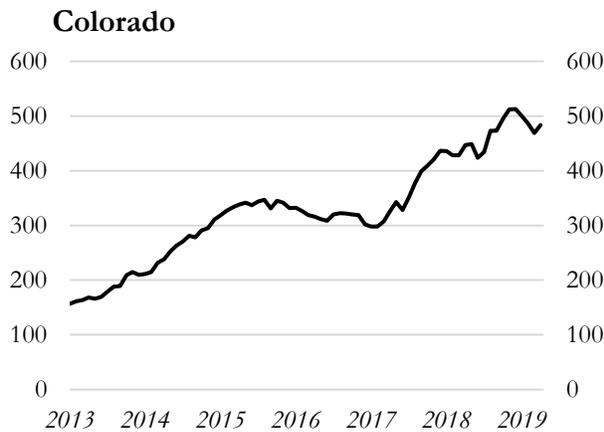
Data through April 2019



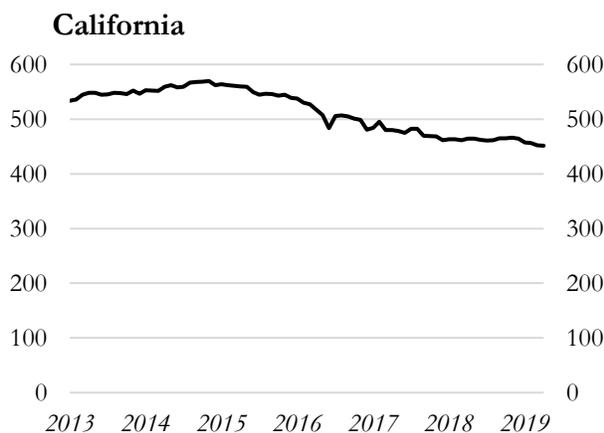
<b>Oklahoma</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Apr-19	617	
Month Ago	585	5.5%
3 Months Ago	578	6.8%
6 Months Ago	576	7.1%
1 Year Ago	531	16.1%
Share of U.S. Production		5.1%



<b>Alaska</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Apr-19	475	
Month Ago	481	-1.2%
3 Months Ago	496	-4.2%
6 Months Ago	487	-2.3%
1 Year Ago	497	-4.4%
Share of U.S. Production		3.9%



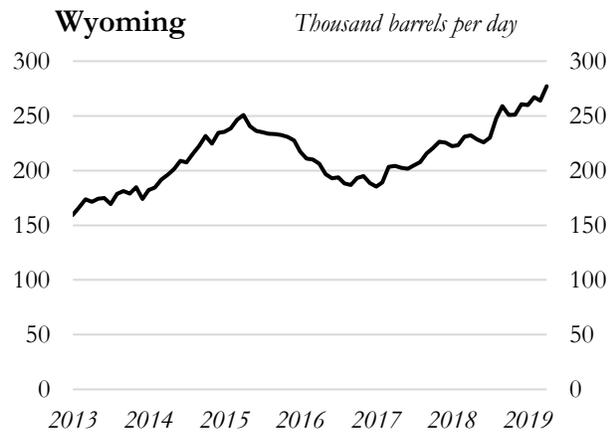
<b>Colorado</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Apr-19	483	
Month Ago	469	3.1%
3 Months Ago	501	-3.4%
6 Months Ago	495	-2.3%
1 Year Ago	447	8.2%
Share of U.S. Production		4.0%



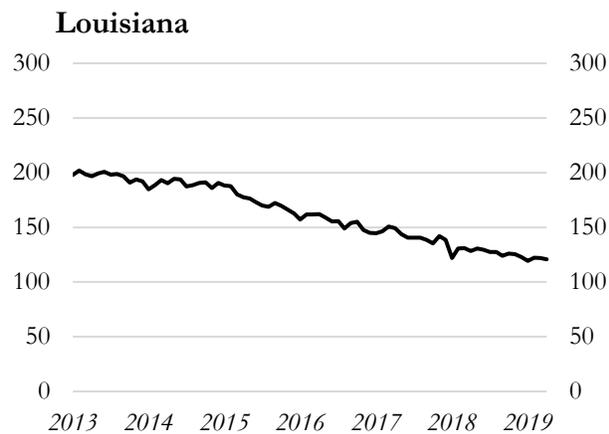
<b>California</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Apr-19	451	
Month Ago	452	-0.2%
3 Months Ago	457	-1.3%
6 Months Ago	465	-2.9%
1 Year Ago	465	-2.8%
Share of U.S. Production		3.7%

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

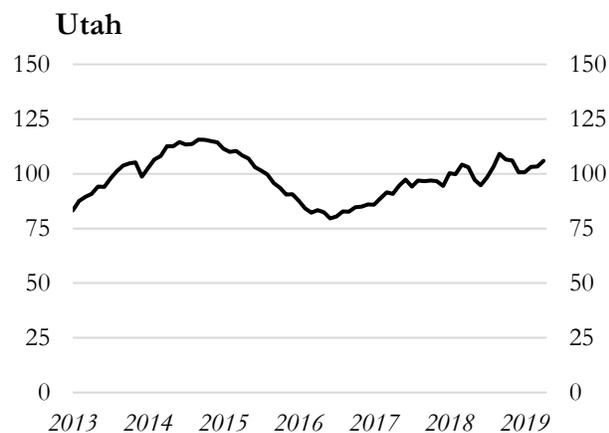
Data through April 2019



Wyoming		Change from
Thousand barrels per day		
Apr-19	277	
Month Ago	264	5.0%
3 Months Ago	260	6.6%
6 Months Ago	251	10.5%
1 Year Ago	232	19.3%
Share of U.S. Production		2.3%



Louisiana		Change from
Thousand barrels per day		
Apr-19	121	
Month Ago	122	-1.0%
3 Months Ago	119	1.2%
6 Months Ago	126	-4.1%
1 Year Ago	128	-5.9%
Share of U.S. Production		1.0%

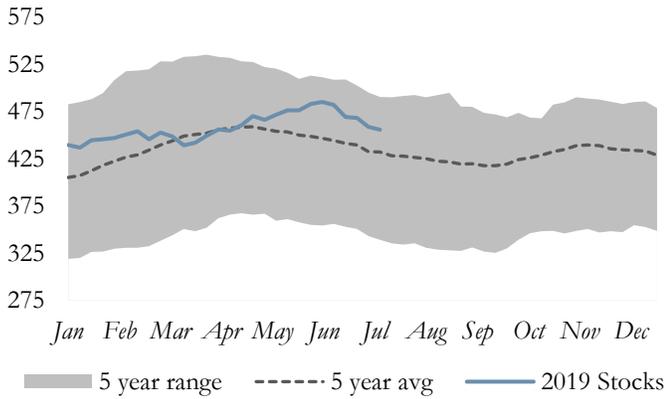


Utah		Change from
Thousand barrels per day		
Apr-19	106	
Month Ago	103	2.6%
3 Months Ago	101	5.2%
6 Months Ago	106	-0.5%
1 Year Ago	103	2.8%
Share of U.S. Production		0.9%

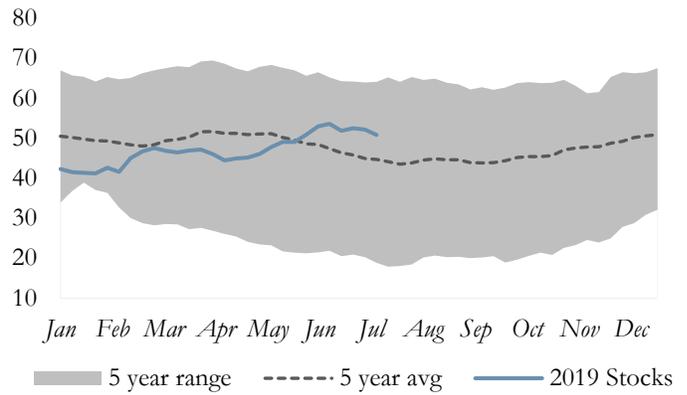
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

July 2019 Weekly U.S. Crude Oil Stocks

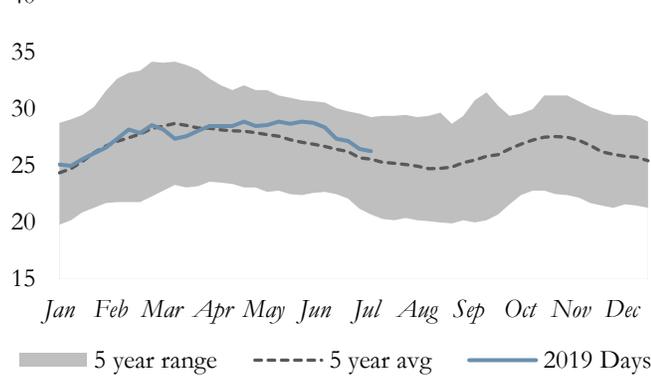
U.S. Oil Stocks, million barrels\*



Cushing, OK Oil Stocks, million barrels



U.S. Oil Days of Supply, days



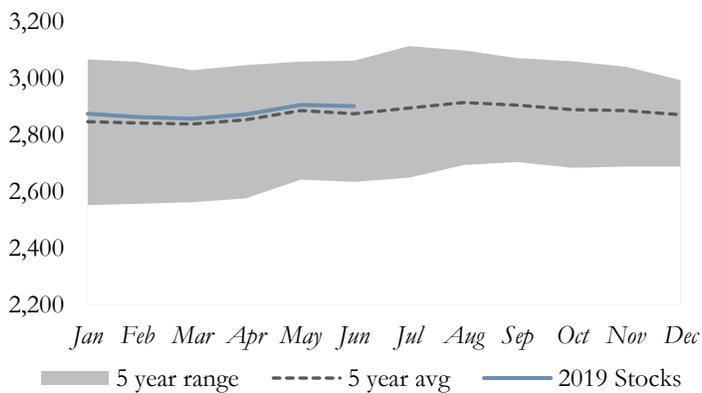
Crude Oil Stocks

	1 Week Change from Ago	1 Year Ago
U.S.	-0.7%	10.9%
Cushing, OK	-2.6%	104.5%
Days of Supply	-0.8%	12.4%
East Coast (PADD 1)	-1.2%	0.6%
Midwest (PADD 2)	-1.1%	29.1%
Gulf Coast (PADD 3)	0.2%	7.9%
Rocky Mountain (PADD 4)	-2.3%	2.0%
West Coast (PADD 5)	-2.9%	-7.6%

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

June 2019 OECD Commercial Petroleum Inventory

OECD Commercial Petroleum Inventory, million barrels



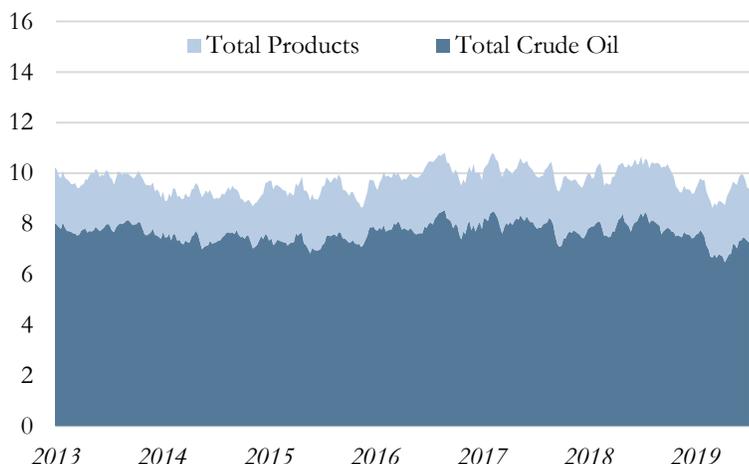
Petroleum Stocks	Million Barrels	Change from
Current Month	2,902	
1 Month Ago	2,906	-0.1%
3 Months Ago	2,857	1.6%
6 Months Ago	2,861	1.4%
1 Year Ago	2,805	3.5%

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

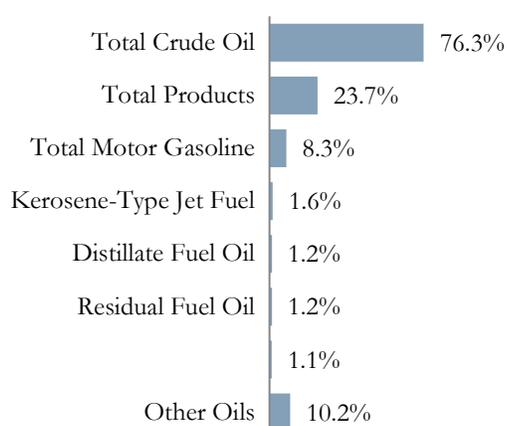
**July 2019 Weekly U.S. Imports of Crude Oil & Petroleum Products**

*4-Week Averages*

**Imports, million barrels per day**



**Share of Total Imports**



**U.S. Imports by Product\***

*Thousand barrels per day*

	<i>Current</i> 7/12/19	<i>1 Month</i> <i>Ago</i>	<i>3 Months</i> <i>Ago</i>	<i>6 Months</i> <i>Ago</i>	<i>1 Year</i> <i>Ago</i>
<b>Total Crude Oil</b>	<b>7,094</b>	<b>7,467</b>	<b>6,474</b>	<b>7,605</b>	<b>8,477</b>
<b>Total Products</b>	<b>2,203</b>	<b>2,458</b>	<b>2,270</b>	<b>1,985</b>	<b>2,080</b>
<i>Total Motor Gasoline</i>	769	930	785	438	787
<i>Kerosene-Type Jet Fuel</i>	148	158	179	96	117
<i>Distillate Fuel Oil</i>	111	144	144	259	97
<i>Residual Fuel Oil</i>	112	177	174	187	236
<i>Propane/Propylene</i>	105	121	167	183	99
<i>Other Oils</i>	948	916	822	822	745
<b>Total Imports</b>	<b>9,297</b>	<b>9,925</b>	<b>8,744</b>	<b>9,590</b>	<b>10,557</b>

**U.S. Imports by Product, Change from**

	<i>Current</i> 7/12/19	<i>1 Month</i> <i>Ago</i>	<i>3 Months</i> <i>Ago</i>	<i>6 Months</i> <i>Ago</i>	<i>1 Year</i> <i>Ago</i>
<b>Total Crude Oil</b>	-	<b>-5.0%</b>	<b>9.6%</b>	<b>-6.7%</b>	<b>-16.3%</b>
<b>Total Products</b>	-	<b>-10.4%</b>	<b>-3.0%</b>	<b>11.0%</b>	<b>5.9%</b>
<i>Total Motor Gasoline</i>	-	<b>-17.3%</b>	<b>-2.0%</b>	75.6%	<b>-2.3%</b>
<i>Kerosene-Type Jet Fuel</i>	-	<b>-6.3%</b>	<b>-17.3%</b>	54.2%	26.5%
<i>Distillate Fuel Oil</i>	-	<b>-22.9%</b>	<b>-22.9%</b>	<b>-57.1%</b>	14.4%
<i>Residual Fuel Oil</i>	-	<b>-36.7%</b>	<b>-35.6%</b>	<b>-40.1%</b>	<b>-52.5%</b>
<i>Propane/Propylene</i>	-	<b>-13.2%</b>	<b>-37.1%</b>	<b>-42.6%</b>	6.1%
<i>Other Oils</i>	-	3.5%	15.3%	15.3%	27.2%
<b>Total Imports</b>	-	<b>-6.3%</b>	<b>6.3%</b>	<b>-3.1%</b>	<b>-11.9%</b>

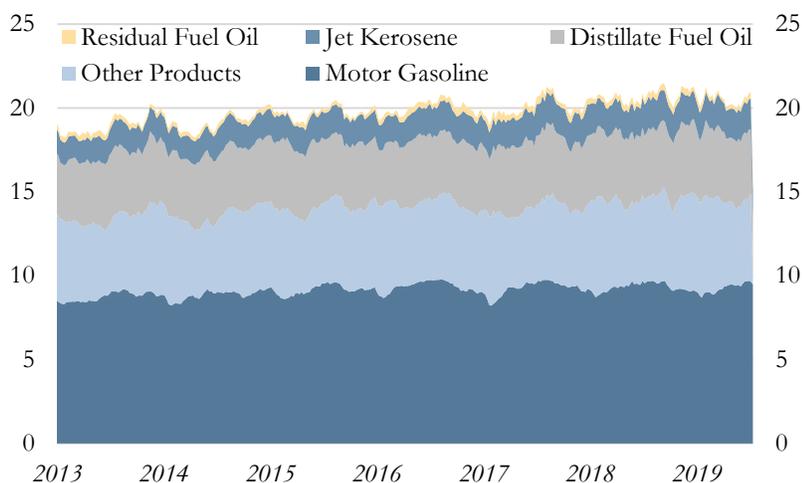
\*Totals may not sum due to component rounding

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

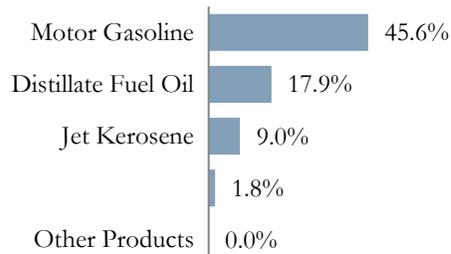
### July 2019 Weekly U.S. Demand for Petroleum Products

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 7/12/19	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	20,811	20,709	20,084	20,106	20,694
Motor Gasoline	9,482	9,660	9,370	8,818	9,646
Distillate Fuel Oil	3,728	4,025	3,876	3,712	3,921
Jet Kerosene	1,864	1,822	1,666	1,680	1,825
Residual Fuel Oil	384	331	265	389	324
Other Products	-	4,871	4,907	5,507	4,978

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

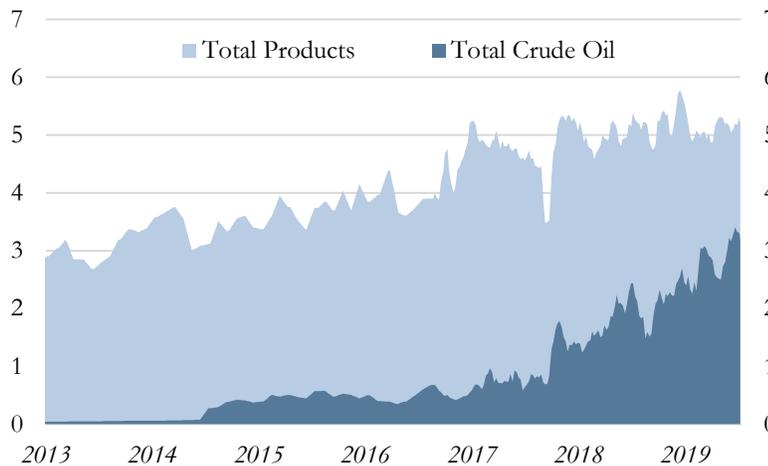
	Current 7/12/19	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	-	0.5%	3.6%	3.5%	0.6%
Motor Gasoline	-	-1.8%	1.2%	7.5%	-1.7%
Distillate Fuel Oil	-	-7.4%	-3.8%	0.4%	-4.9%
Jet Kerosene	-	2.3%	11.9%	11.0%	2.1%
Residual Fuel Oil	-	16.0%	44.9%	-1.3%	18.5%
Other Products	-	-100.0%	-100.0%	-100.0%	-100.0%

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

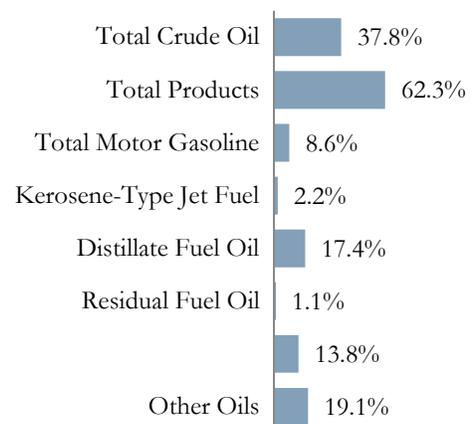
July 2019 Weekly U.S. Exports of Crude Oil & Petroleum Products

4-Week Averages

Exports, million barrels per day



Share of Total Exports



U.S. Exports by Product\*

Thousand barrels per day

	Current 7/12/19	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	<b>3,086</b>	<b>3,290</b>	<b>2,590</b>	<b>2,559</b>	<b>2,206</b>
<b>Total Products</b>	<b>5,089</b>	<b>5,108</b>	<b>5,145</b>	<b>5,214</b>	<b>5,263</b>
Total Motor Gasoline	705	639	641	820	755
Kerosene-Type Jet Fuel	180	178	199	246	225
Distillate Fuel Oil	1,424	1,369	1,344	1,225	1,406
Residual Fuel Oil	92	259	259	222	369
Propane/Propylene	1,130	1,139	1,113	1,024	723
Other Oils	1,559	1,524	1,589	1,678	1,786
<b>Total Exports</b>	<b>8,174</b>	<b>8,398</b>	<b>7,735</b>	<b>7,774</b>	<b>7,469</b>

U.S. Exports by Product, Change from

	Current 7/12/19	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	-	<b>-6.2%</b>	<b>19.2%</b>	<b>20.6%</b>	39.9%
<b>Total Products</b>	-	<b>-0.4%</b>	<b>-1.1%</b>	<b>-2.4%</b>	<b>-3.3%</b>
Total Motor Gasoline	-	10.3%	10.0%	-14.0%	-6.6%
Kerosene-Type Jet Fuel	-	1.1%	-9.5%	-26.8%	-20.0%
Distillate Fuel Oil	-	4.0%	6.0%	16.2%	1.3%
Residual Fuel Oil	-	-64.5%	-64.5%	-58.6%	-75.1%
Propane/Propylene	-	-0.8%	1.5%	10.4%	56.3%
Other Oils	-	2.3%	-1.9%	-7.1%	-12.7%
<b>Total Exports</b>	-	<b>-2.7%</b>	<b>5.7%</b>	<b>5.1%</b>	<b>9.4%</b>

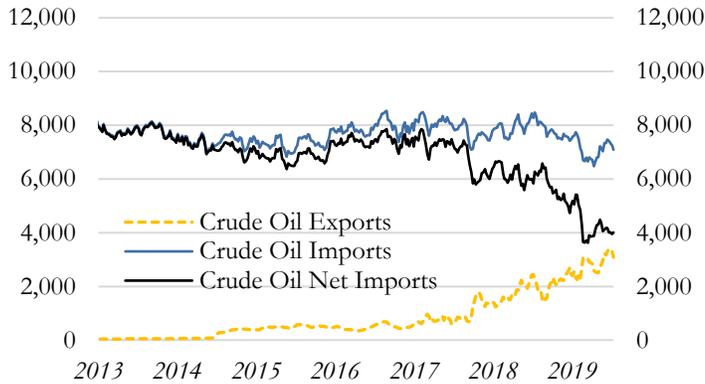
\*Totals may not sum due to rounding

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

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

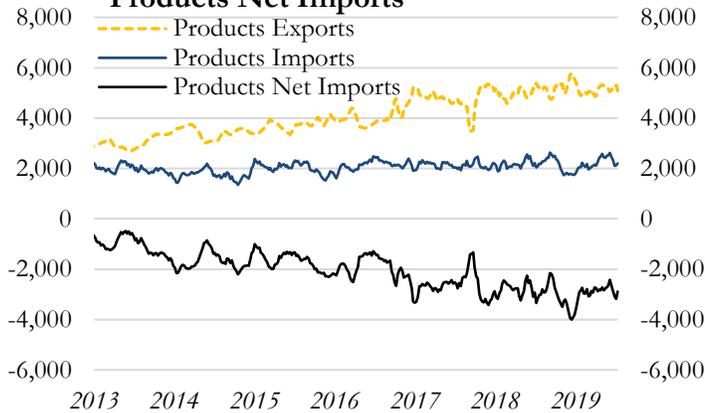
4-Week Averages, Thousand barrels per day

Crude Oil Net Imports



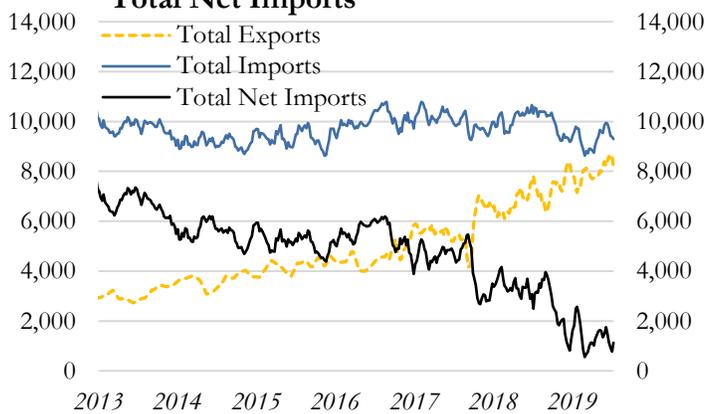
Crude Oil Net Imports		Change
Thousand barrels per day		from
7/12/19	4,008	
Month Ago	4,177	-4.0%
3 Months Ago	3,884	3.2%
6 Months Ago	5,046	-20.6%
1 Year Ago	6,271	-36.1%

Products Net Imports



Products Net Imports		Change
Thousand barrels per day		from
7/12/19	-2,886	
Month Ago	-2,650	-
3 Months Ago	-2,876	-
6 Months Ago	-3,230	-
1 Year Ago	-3,184	-

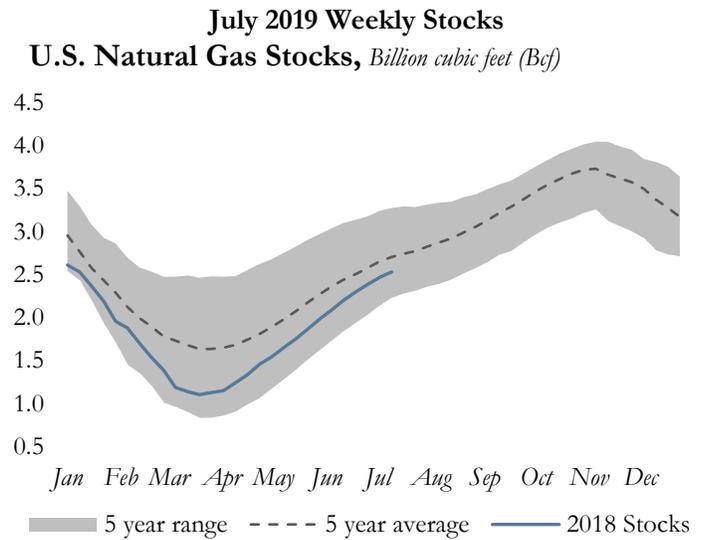
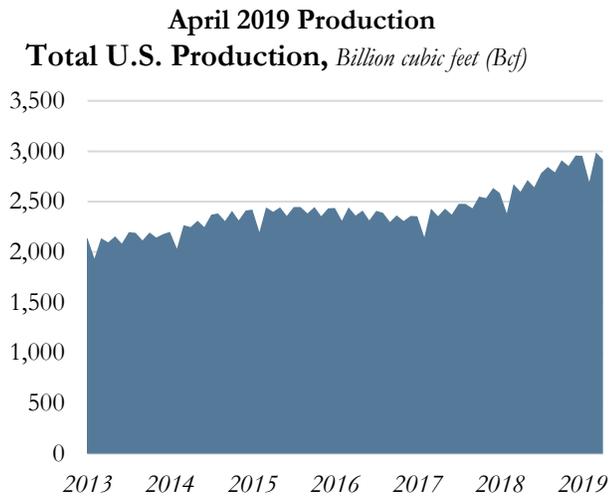
Total Net Imports



Total Net Imports		Change
Thousand barrels per day		from
7/12/19	1,122	
Month Ago	1,527	-26.5%
3 Months Ago	1,008	11.3%
6 Months Ago	1,816	-38.2%
1 Year Ago	3,088	-63.7%

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

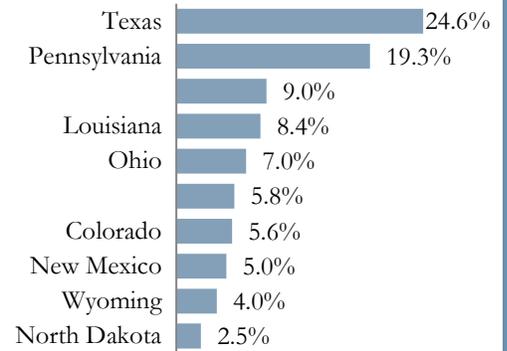
U.S. Natural Gas Production & Stocks



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	2,915	2,988	2,955	2,909	2,598
U.S. Stocks	2,533	2,203	1,247	2,533	2,248

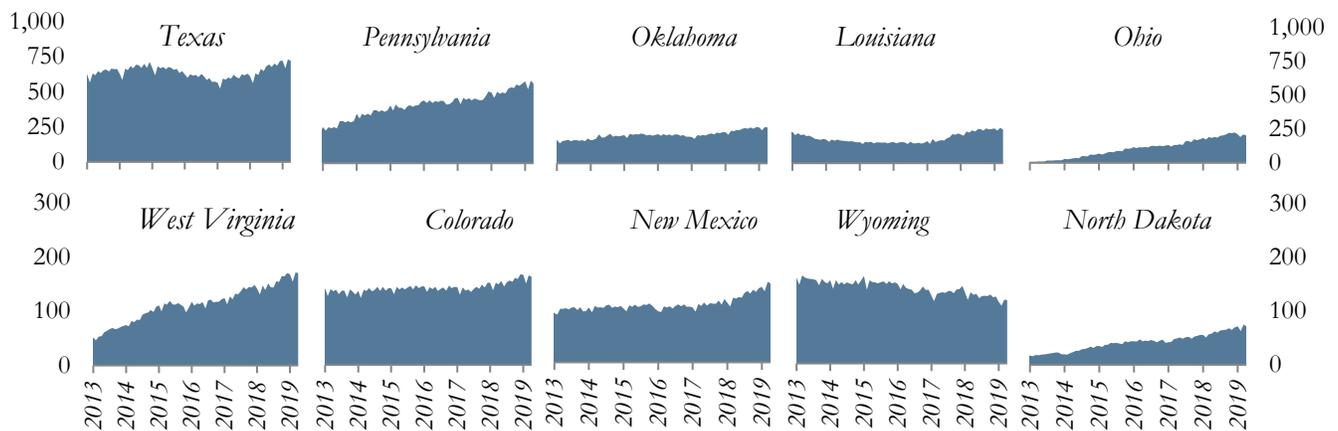
Share of Production



U.S. Natural Gas, Change from

	Current Period*	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
U.S. Production	-	-2.4%	-1.3%	0.2%	12.2%
U.S. Stocks	-	15.0%	103.1%	0.0%	12.7%

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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