

# THE U.S. Energy DATABOOK

*A summary of national and global energy indicators*



FEBRUARY 26, 2018

FEDERAL RESERVE BANK of KANSAS CITY

## SUMMARY OF CURRENT ENERGY CONDITIONS

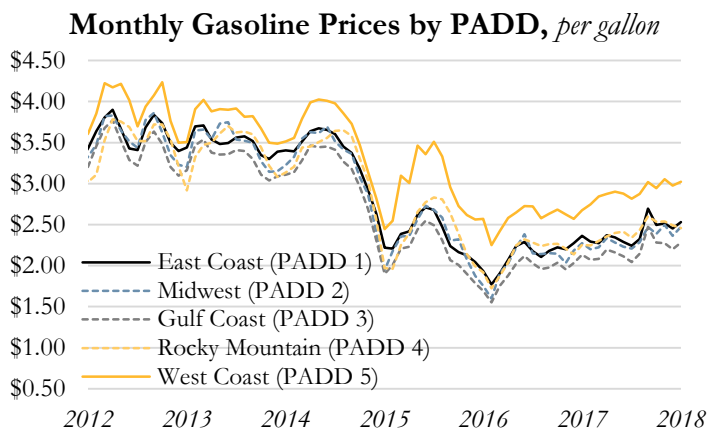
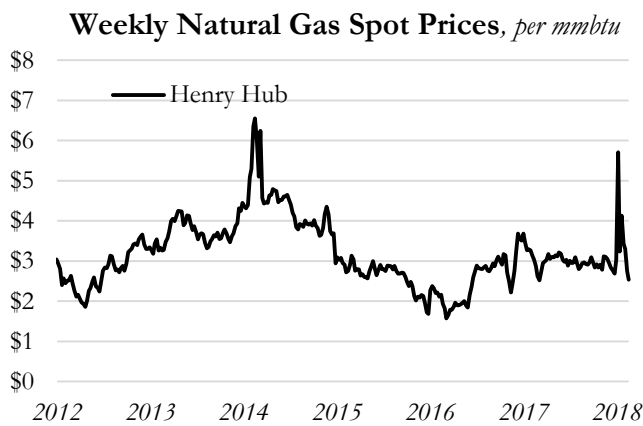
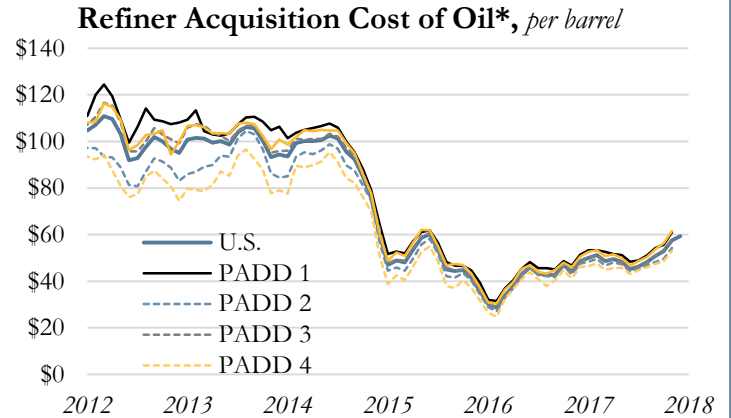
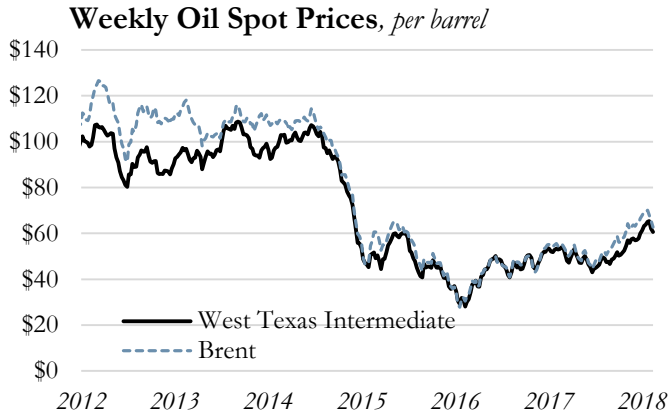
The number of total active drilling rigs in the United States increased 3.3 percent from a month ago and was up 29.7 percent from a year ago. U.S. crude oil production increased 4 percent in November, while natural gas production declined slightly by 0.4 percent. Oil and gas prices eased somewhat over the last month. For the week ending February 16th, West Texas Intermediate (WTI) crude oil averaged \$60.56 per barrel and North Sea Brent averaged \$62.72 per barrel. The Henry Hub natural gas spot price averaged \$2.54 per million Btu for the week ending February 16th. U.S. crude oil and petroleum products exports increased 3 percent and imports rose 2.3 percent. Preliminary estimates show that global oil production grew 0.5 percent in January, and global oil demand growth for the fourth quarter of 2017 remained at 0.2 percent.

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 February 16, 2018



#### Weekly Spot Prices, Change from

Weekly Spot Prices	Current 2/16/18	1 Week Ago	1 Month Ago	6 Months Ago	1 Year Ago	Peak (2011-17)
West Texas Intermediate	\$60.56	-\$1.45	-\$3.21	\$13.04	\$7.34	-\$48.21
Brent	\$62.72	-\$2.78	-\$6.67	\$12.14	\$8.26	-\$63.90
Henry Hub	\$2.54	-\$0.21	-\$1.59	-\$0.41	-\$0.33	-\$4.01

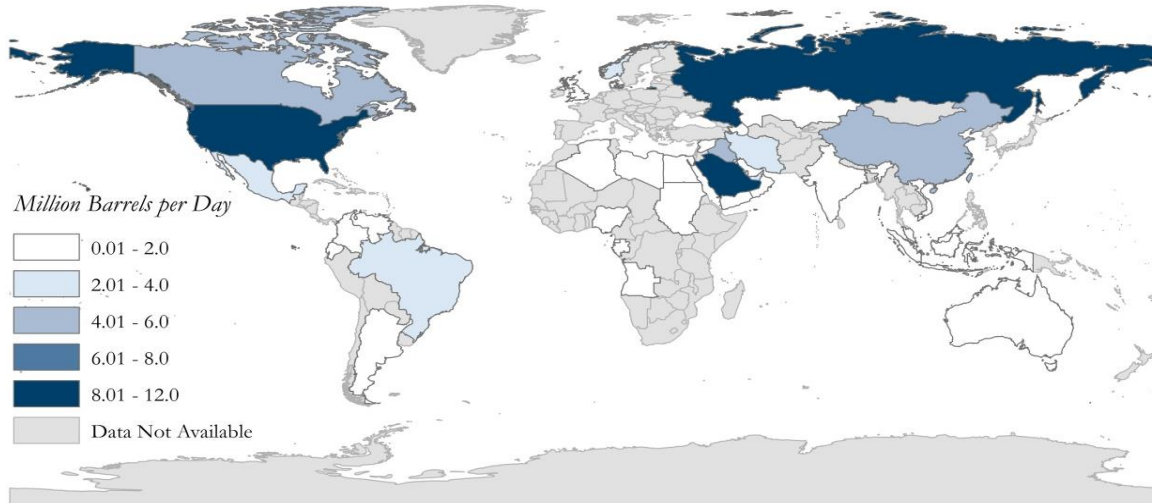
#### Monthly Gasoline Spot Prices, Change from

Geographic Area	Current Jan-18	1 Month Ago	6 Months Ago	1 Year Ago	Peak (2011-17)
East Coast (PADD 1)	\$2.53	\$0.08	\$0.29	\$0.17	-\$1.37
Midwest (PADD 2)	\$2.47	\$0.11	\$0.27	\$0.20	-\$1.44
Gulf Coast (PADD 3)	\$2.28	\$0.08	\$0.24	\$0.15	-\$1.49
Rocky Mountain (PADD 4)	\$2.46	-\$0.04	\$0.12	\$0.20	-\$1.33
West Coast (PADD 5)	\$3.02	\$0.05	\$0.21	\$0.35	-\$1.21

\*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

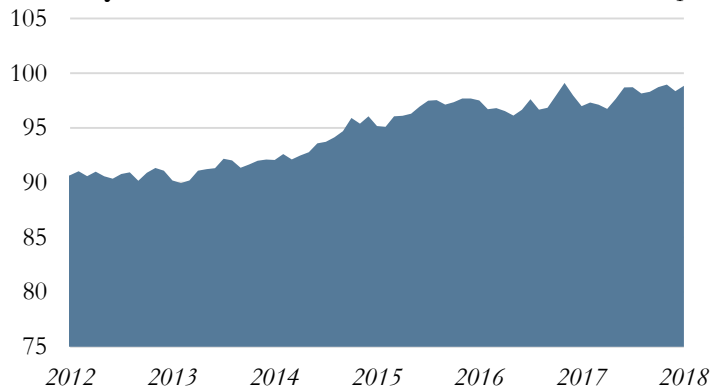
January 2018 Global Petroleum Production



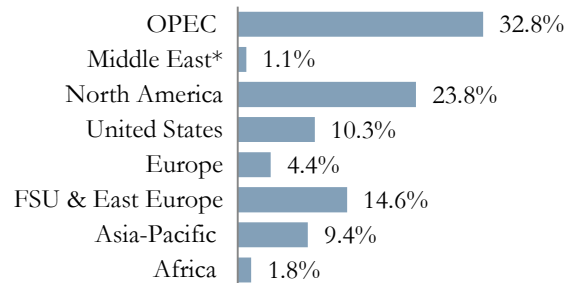
Source: Energy Information Administration/Haver Analytics

January 2018

Monthly Global Petroleum Production, million barrels per day

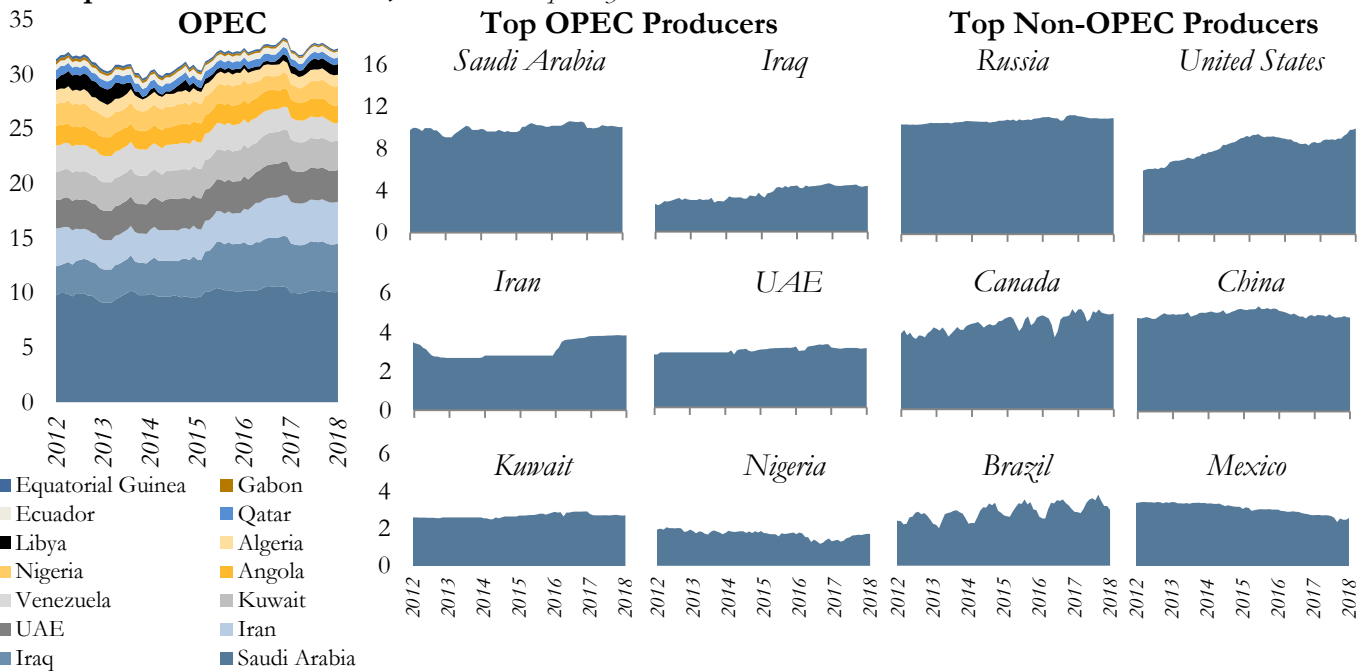


Regional Share of Production



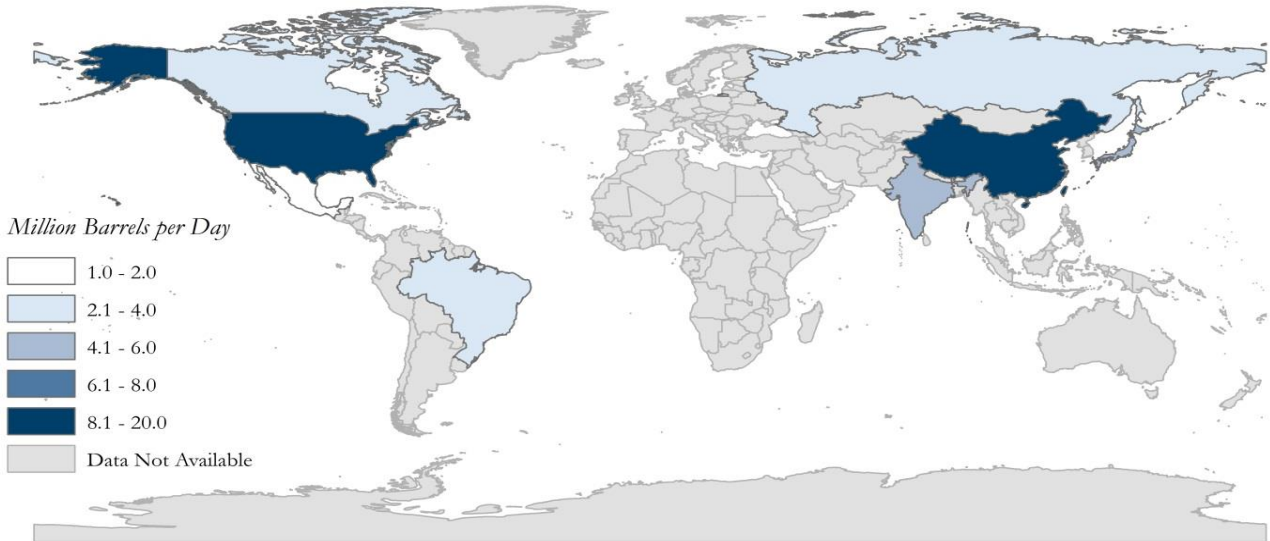
\*Excludes OPEC

Top Crude Oil Producers, million barrels per day

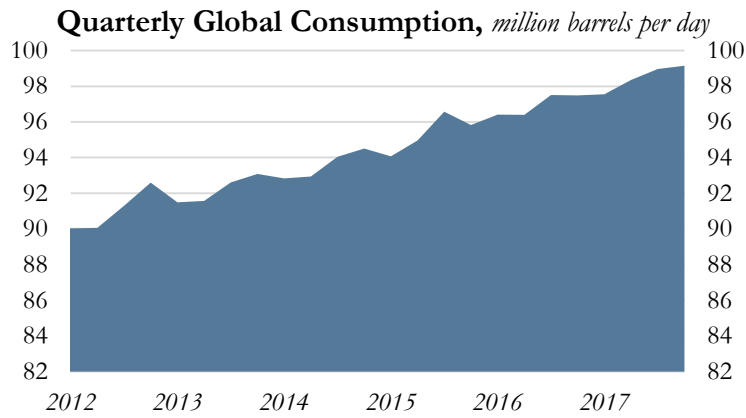


Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

Fourth Quarter 2017 Global Petroleum Consumption

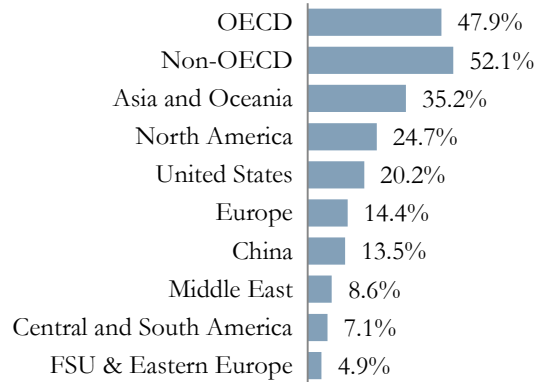


Source: Energy Information Administration/Haver Analytics

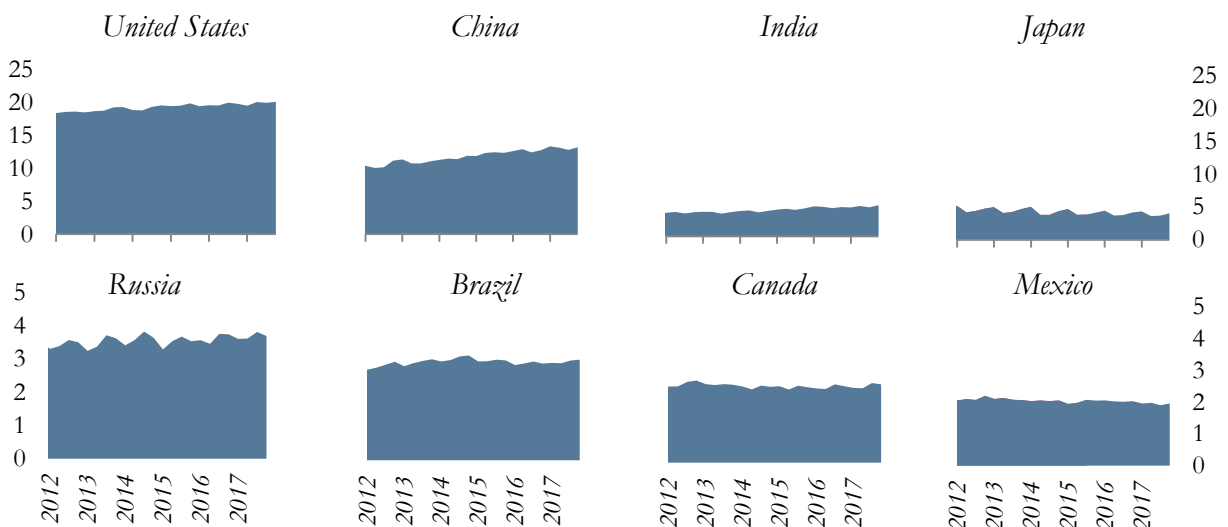


Fourth Quarter 2017

Regional Share of Consumption

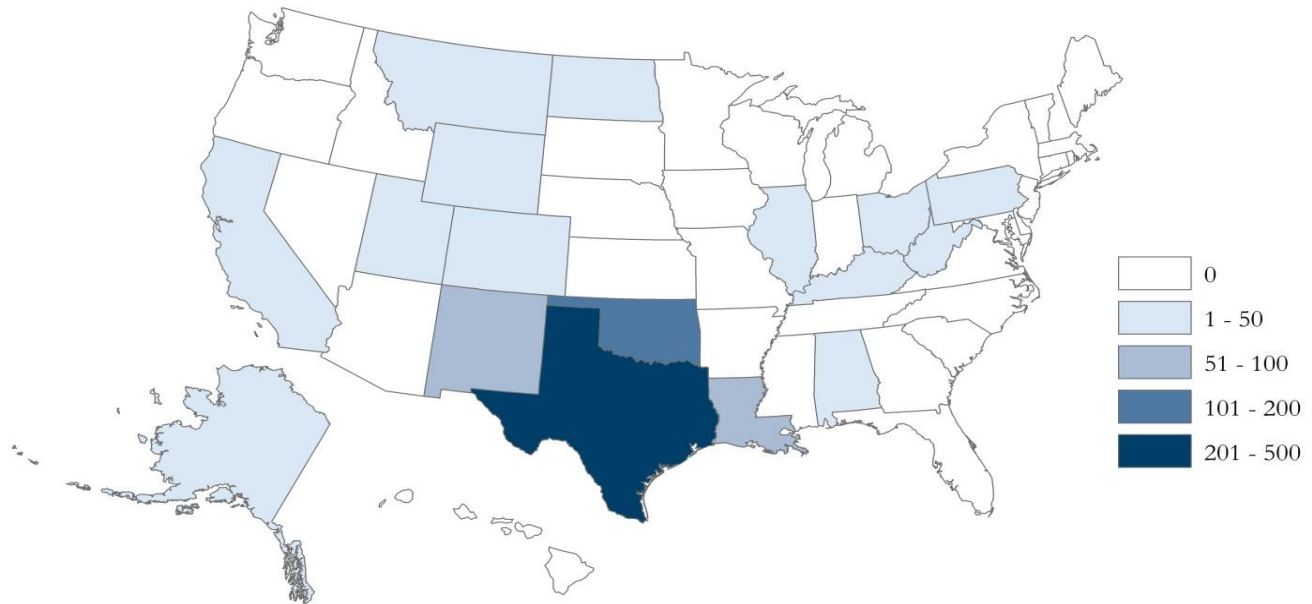


Top Petroleum Consumers, million barrels per day



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

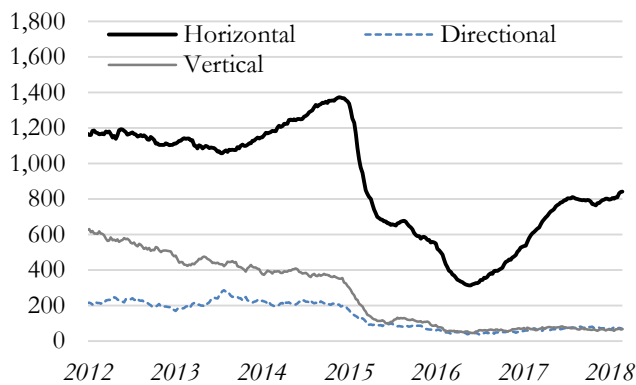
February 2018 Weekly Active Oil & Gas Drilling Rig Counts



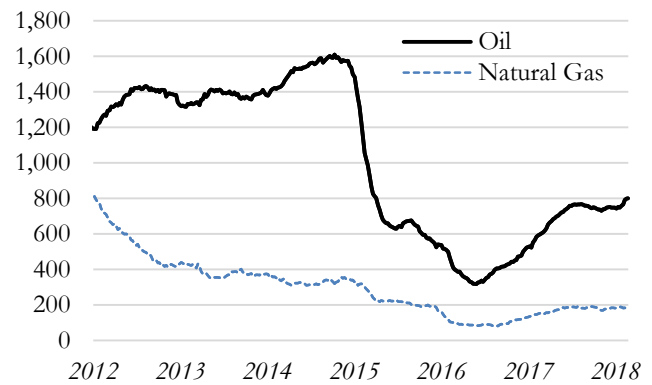
Source: Baker Hughes/Haver Analytics

February 23, 2018

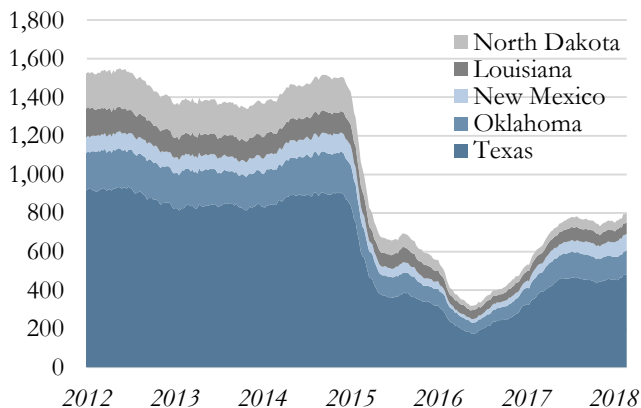
U.S. Active Drilling Rigs by Trajectory



U.S. Active Drilling Rigs by Type



Top Five States for Drilling Activity (Total Active Rigs)



Rig Count By Type

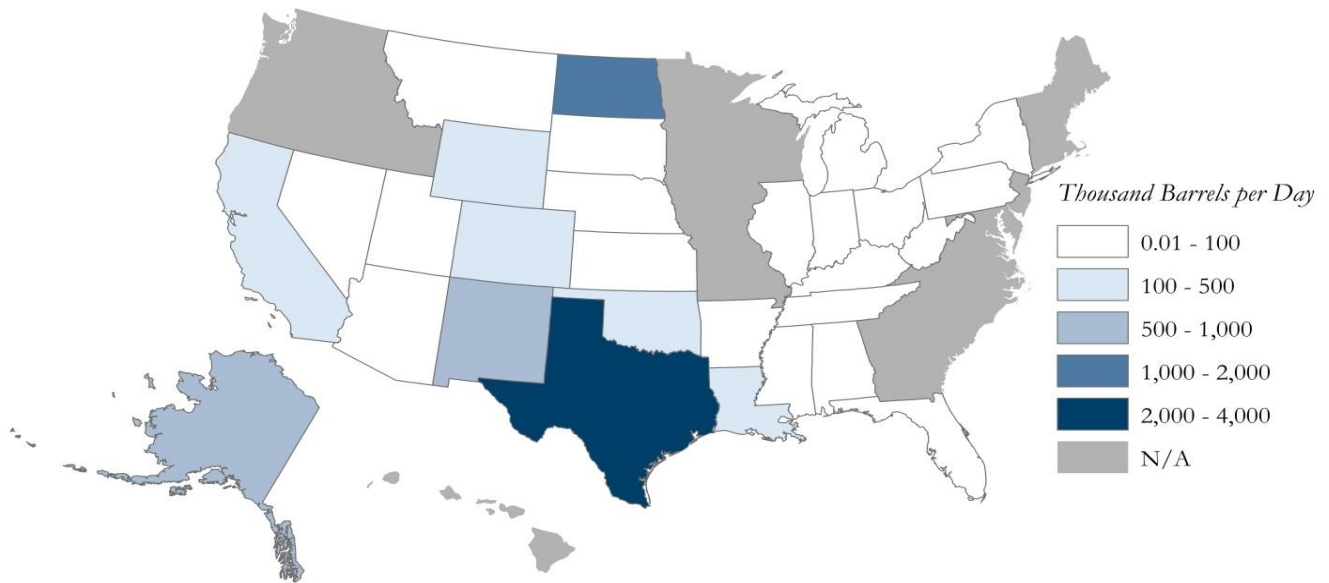
Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	799	759	747	602
Gas	179	188	176	151
Misc	0	0	0	1
<b>Total</b>	<b>978</b>	<b>947</b>	<b>923</b>	<b>754</b>

Rig Count By Type, Change from

Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	-	5.3%	7.0%	32.7%
Gas	-	-4.8%	1.7%	18.5%
Misc	-	-	-	-100.0%
<b>Total</b>	-	<b>3.3%</b>	<b>6.0%</b>	<b>29.7%</b>

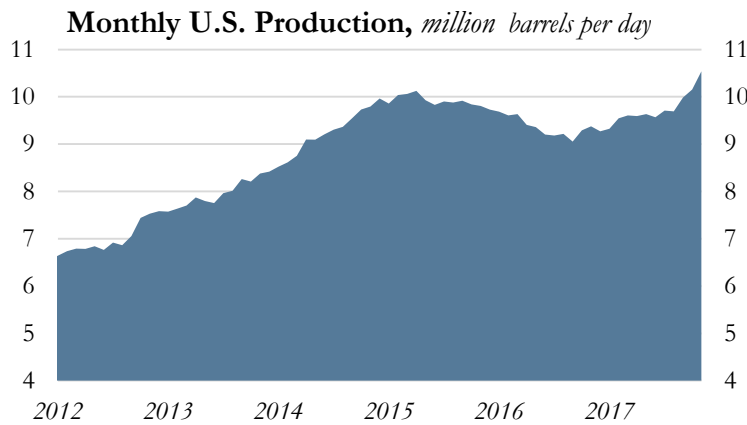
Source: Baker Hughes/Haver Analytics

November 2017 U.S. Crude Oil Production

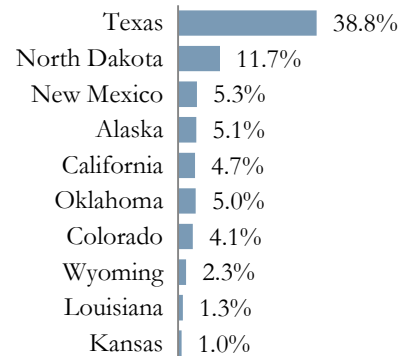


Source: Energy Information Administration/Haver Analytics

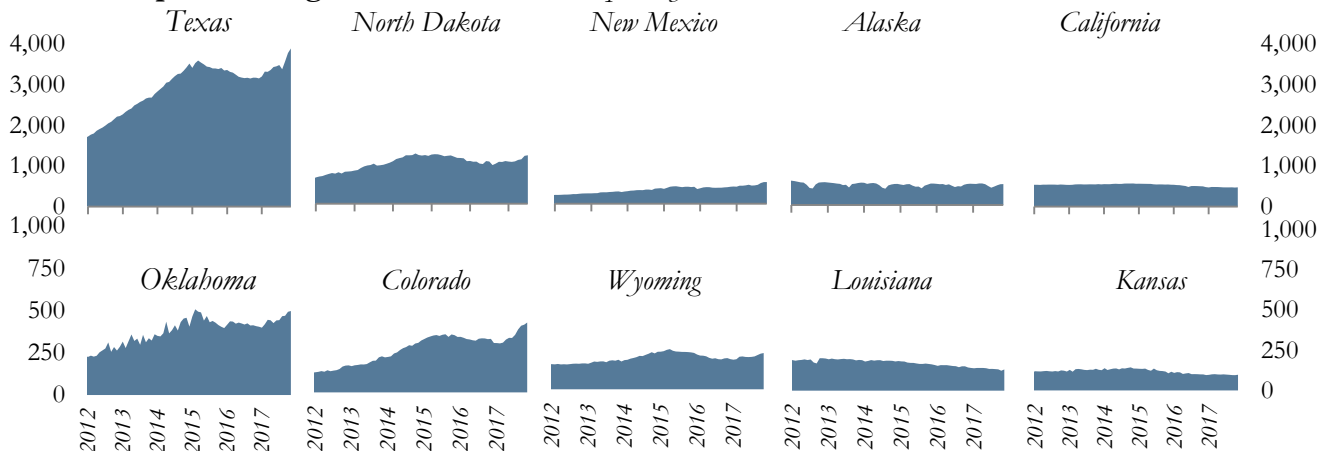
November 2017



Share of Production



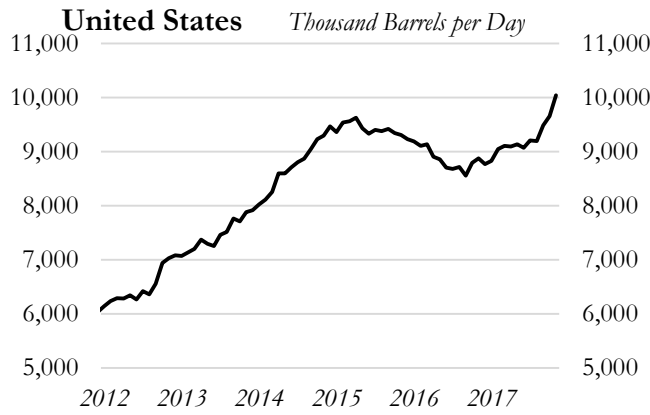
Top Producing States, thousand barrels per day



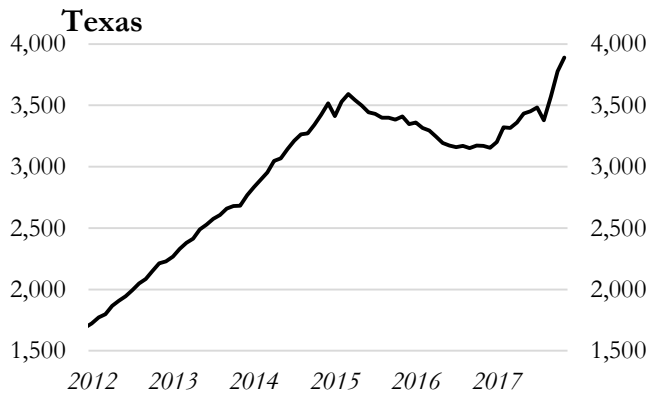
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics



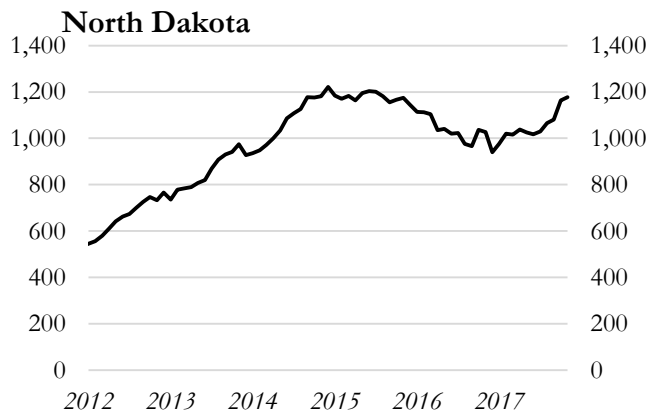
Data through November 2017



<b>United States</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Nov-17	10,038	
Month Ago	9,654	4.0%
3 Months Ago	9,192	9.2%
6 Months Ago	9,134	9.9%
1 Year Ago	8,876	13.1%



<b>Texas</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Nov-17	3,891	
Month Ago	3,777	3.0%
3 Months Ago	3,379	15.2%
6 Months Ago	3,434	13.3%
1 Year Ago	3,171	22.7%
Share of U.S. Production		38.8%



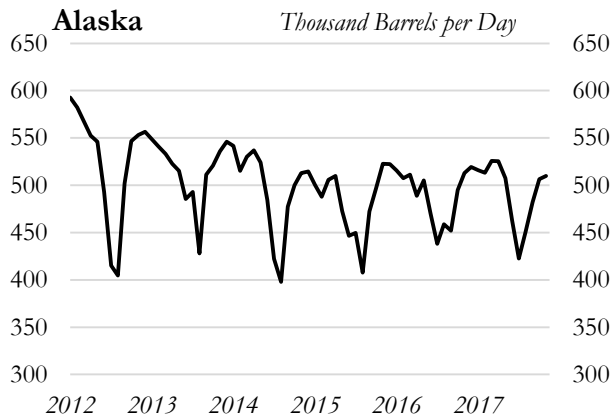
<b>North Dakota</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Nov-17	1,178	
Month Ago	1,164	1.2%
3 Months Ago	1,066	10.5%
6 Months Ago	1,025	14.9%
1 Year Ago	1,026	14.7%
Share of U.S. Production		11.7%



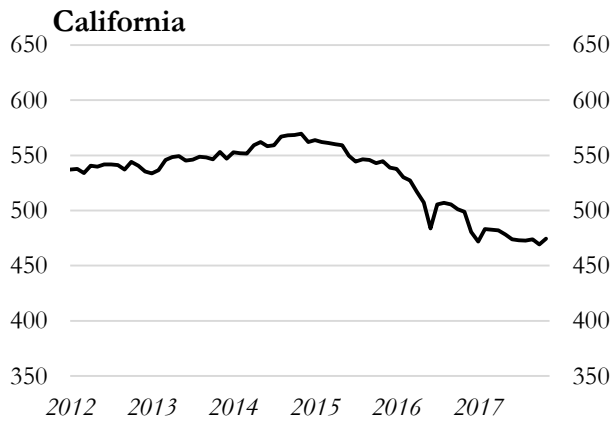
<b>New Mexico</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Nov-17	528	
Month Ago	528	0.1%
3 Months Ago	462	14.4%
6 Months Ago	463	14.1%
1 Year Ago	415	27.4%
Share of U.S. Production		5.3%

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

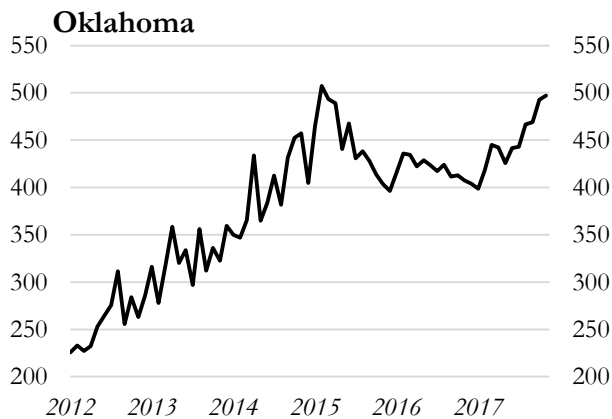
Data through November 2017



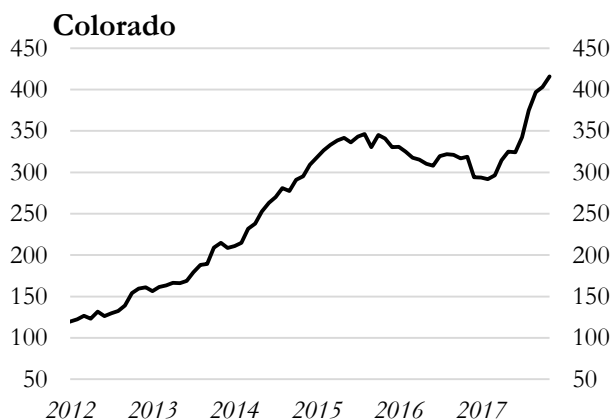
	<b>Alaska</b>	<i>Change from</i>
	<i>Thousand barrels per day</i>	
Nov-17	510	
Month Ago	507	0.6%
3 Months Ago	451	13.1%
6 Months Ago	508	0.5%
1 Year Ago	513	-0.6%
Share of U.S. Production	5.1%	



	<b>California</b>	<i>Change from</i>
	<i>Thousand barrels per day</i>	
Nov-17	474	
Month Ago	469	1.1%
3 Months Ago	473	0.3%
6 Months Ago	478	-0.8%
1 Year Ago	499	-4.9%
Share of U.S. Production	4.7%	



	<b>Oklahoma</b>	<i>Change from</i>
	<i>Thousand barrels per day</i>	
Nov-17	497	
Month Ago	493	0.9%
3 Months Ago	467	6.5%
6 Months Ago	426	16.8%
1 Year Ago	408	22.0%
Share of U.S. Production	5.0%	

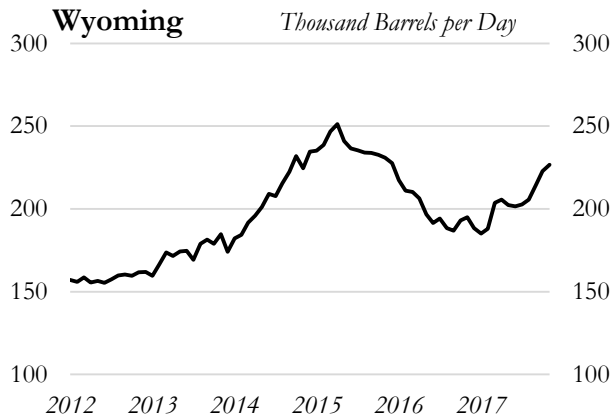


	<b>Colorado</b>	<i>Change from</i>
	<i>Thousand barrels per day</i>	
Nov-17	416	
Month Ago	403	3.2%
3 Months Ago	375	11.0%
6 Months Ago	325	28.1%
1 Year Ago	319	30.5%
Share of U.S. Production	4.1%	

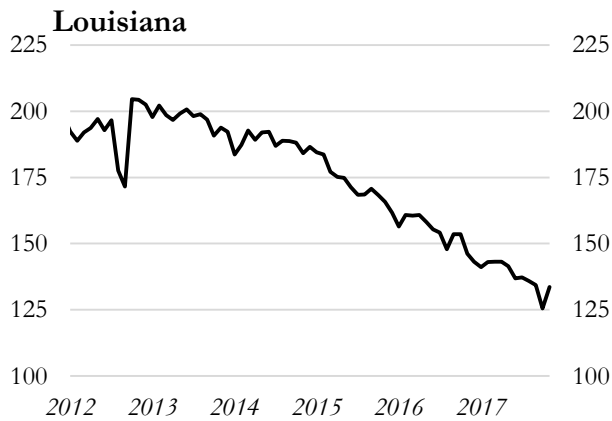
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics



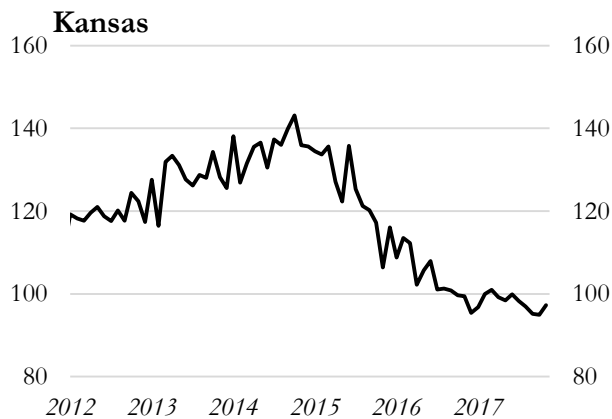
Data through November 2017



<b>Wyoming</b>		<i>Change</i>
<i>Thousand barrels per day</i>		<i>from</i>
Nov-17	227	
Month Ago	223	1.7%
3 Months Ago	206	10.2%
6 Months Ago	202	12.0%
1 Year Ago	195	16.3%
Share of U.S. Production		2.3%



<b>Louisiana</b>		<i>Change</i>
<i>Thousand barrels per day</i>		<i>from</i>
Nov-17	134	
Month Ago	126	6.4%
3 Months Ago	136	-1.7%
6 Months Ago	141	-5.5%
1 Year Ago	146	-8.6%
Share of U.S. Production		1.3%

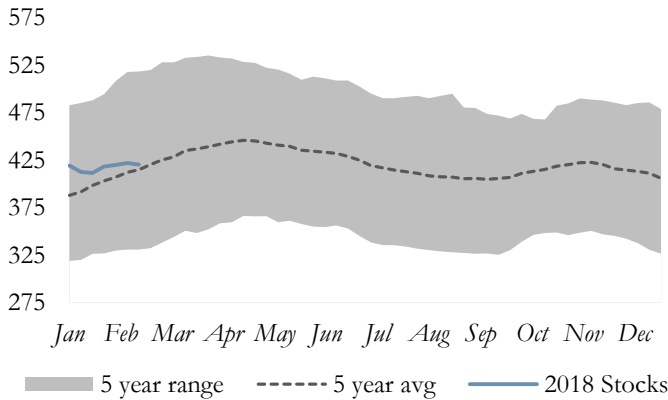


<b>Kansas</b>		<i>Change</i>
<i>Thousand barrels per day</i>		<i>from</i>
Nov-17	97	
Month Ago	95	2.5%
3 Months Ago	97	0.4%
6 Months Ago	98	-1.1%
1 Year Ago	99	-2.1%
Share of U.S. Production		1.0%

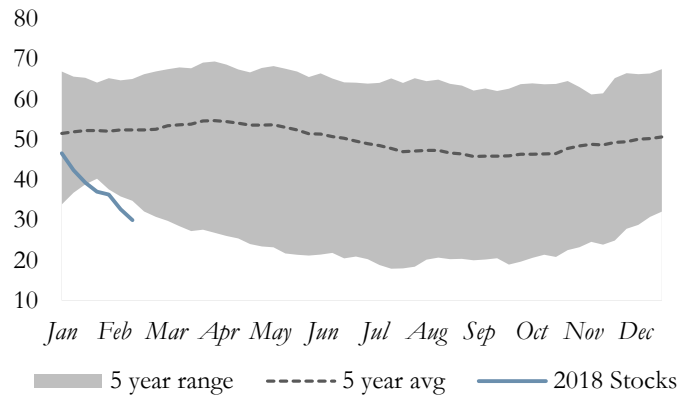
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

February 2018 Weekly U.S. Crude Oil Stocks

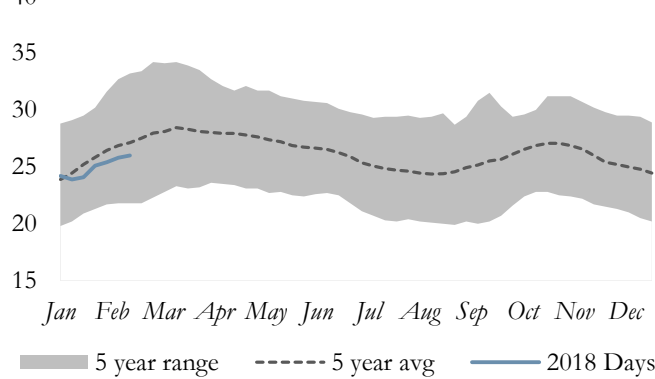
U.S. Oil Stocks, million barrels\*



Cushing, OK Oil Stocks, million barrels



U.S. Oil Days of Supply, days



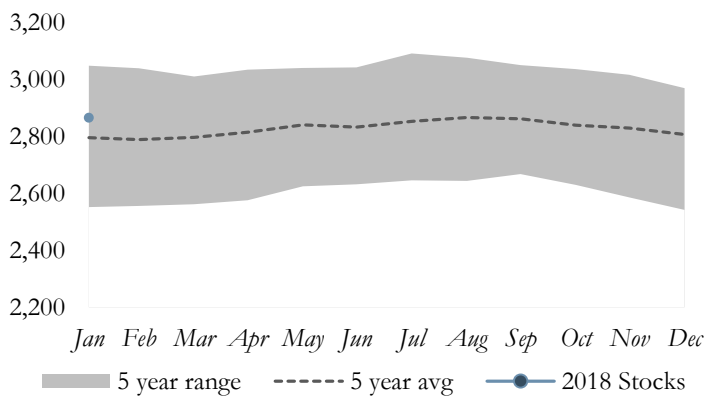
Crude Oil Stocks

	1 Week Ago	1 Year Ago
U.S.	-0.4%	-18.9%
Cushing, OK	-8.2%	-52.4%
Days of Supply	0.8%	-21.7%
East Coast (PADD 1)	-6.2%	-32.5%
Midwest (PADD 2)	-2.2%	-24.6%
Gulf Coast (PADD 3)	0.7%	-18.7%
Rocky Mountain (PADD 4)	-0.2%	-12.1%
West Coast (PADD 5)	0.5%	-2.2%

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

January 2018 OECD Commercial Petroleum Inventory

OECD Commercial Petroleum Inventory, million barrels



Petroleum Stocks

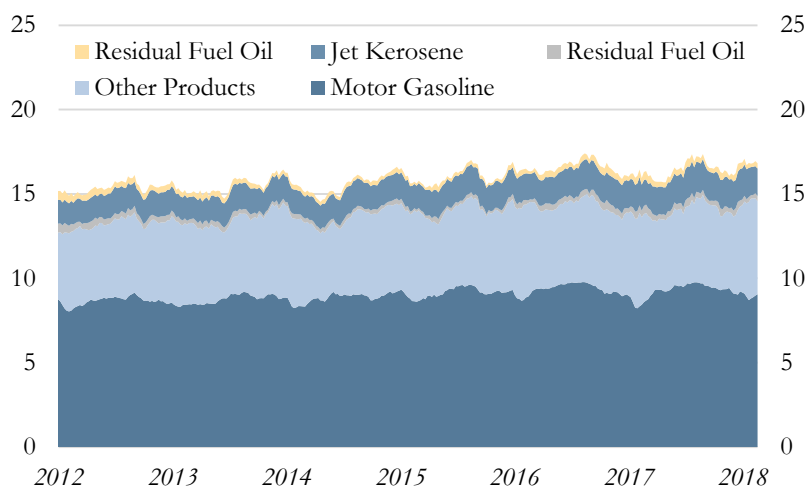
	Million Barrels	Change from
Current Month	2,866	
1 Month Ago	2,870	-0.1%
3 Months Ago	2,912	-1.6%
6 Months Ago	3,010	-4.8%
1 Year Ago	3,049	-6.0%

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

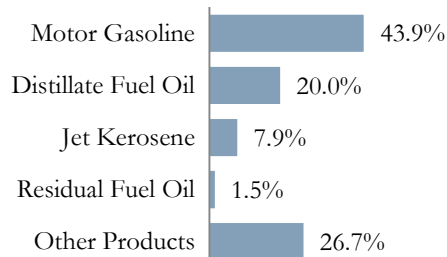
### February 2018 Weekly U.S. Demand for Petroleum Products

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 2/16/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	20,646	20,508	19,882	21,039	19,786
Motor Gasoline	9,054	8,707	9,431	9,698	8,587
Distillate Fuel Oil	4,139	3,957	4,027	4,237	3,966
Jet Kerosene	1,636	1,737	1,722	1,769	1,533
Residual Fuel Oil	309	289	216	320	482
Other Products	5,508	5,818	4,486	5,015	5,218

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

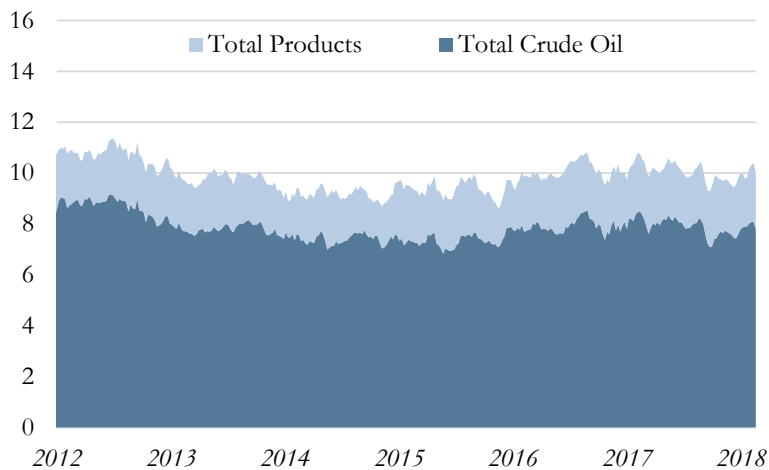
	Current 2/16/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	-	0.7%	3.8%	-1.9%	4.3%
Motor Gasoline	-	4.0%	-4.0%	-6.6%	5.4%
Distillate Fuel Oil	-	4.6%	2.8%	-2.3%	4.4%
Jet Kerosene	-	-5.8%	-5.0%	-7.5%	6.7%
Residual Fuel Oil	-	6.9%	43.1%	-3.4%	-35.9%
Other Products	-	-5.3%	22.8%	9.8%	5.6%

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

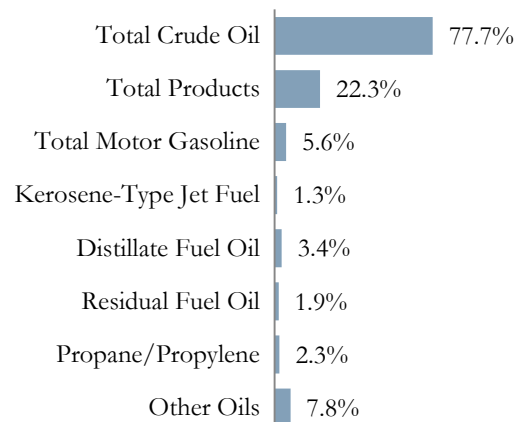
February 2018 Weekly U.S. Imports of Crude Oil & Petroleum Products

4-Week Averages

Imports, million barrels per day



Share of Total Imports



U.S. Imports by Product\*

Thousand barrels per day

	Current 2/16/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	<b>7,808</b>	<b>7,904</b>	<b>7,680</b>	<b>8,233</b>	<b>8,360</b>
<b>Total Products</b>	<b>2,237</b>	<b>1,911</b>	<b>2,059</b>	<b>2,111</b>	<b>2,186</b>
Total Motor Gasoline	561	396	452	720	568
Kerosene-Type Jet Fuel	126	149	233	137	113
Distillate Fuel Oil	344	176	144	112	197
Residual Fuel Oil	191	180	168	186	205
Propane/Propylene	236	183	137	113	200
Other Oils	779	828	917	825	903
<b>Total Imports</b>	<b>10,045</b>	<b>9,815</b>	<b>9,739</b>	<b>10,344</b>	<b>10,546</b>

U.S. Imports by Product, Change from

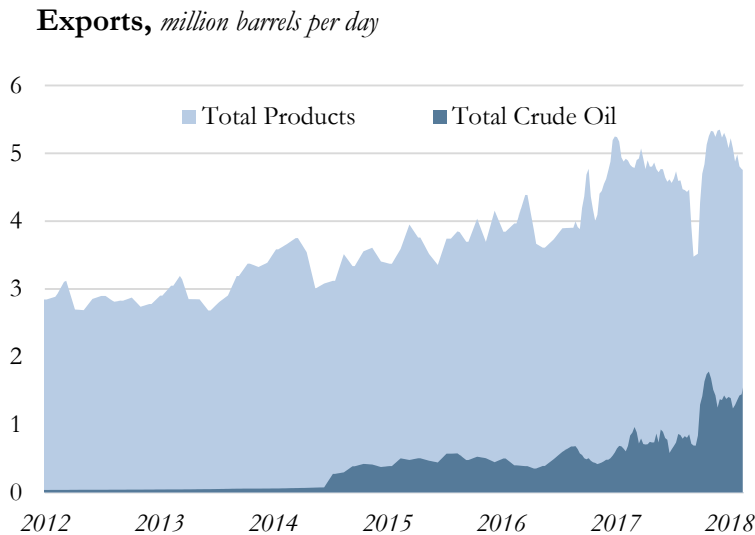
	Current 2/16/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	-	<b>-1.2%</b>	<b>1.7%</b>	<b>-5.2%</b>	<b>-6.6%</b>
<b>Total Products</b>	-	<b>17.1%</b>	<b>8.6%</b>	<b>6.0%</b>	<b>2.3%</b>
Total Motor Gasoline	-	41.7%	24.1%	-22.1%	-1.2%
Kerosene-Type Jet Fuel	-	-15.4%	-45.9%	-8.0%	11.5%
Distillate Fuel Oil	-	95.5%	138.9%	207.1%	74.6%
Residual Fuel Oil	-	6.1%	13.7%	2.7%	-6.8%
Propane/Propylene	-	29.0%	72.3%	108.8%	18.0%
Other Oils	-	-5.9%	-15.0%	-5.6%	-13.7%
<b>Total Imports</b>	-	<b>2.3%</b>	<b>3.1%</b>	<b>-2.9%</b>	<b>-4.8%</b>

\*Totals may not sum due to component rounding

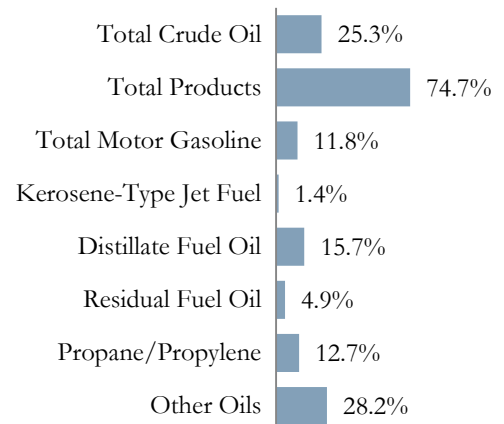
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

February 2018 Weekly U.S. Exports of Crude Oil & Petroleum Products

4-Week Averages



Share of Total Exports



U.S. Exports by Product\*

Thousand barrels per day

	Current 2/16/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	<b>1,605</b>	<b>1,288</b>	<b>1,431</b>	<b>806</b>	<b>838</b>
<b>Total Products</b>	<b>4,745</b>	<b>4,877</b>	<b>5,241</b>	<b>4,430</b>	<b>4,829</b>
Total Motor Gasoline	750	883	756	582	802
Kerosene-Type Jet Fuel	86	126	117	161	207
Distillate Fuel Oil	998	1,061	1,468	1,145	994
Residual Fuel Oil	309	285	296	272	341
Propane/Propylene	809	807	940	710	1,123
Other Oils	1,793	1,715	1,664	1,560	1,363
<b>Total Exports</b>	<b>6,349</b>	<b>6,165</b>	<b>6,672</b>	<b>5,235</b>	<b>5,667</b>

U.S. Exports by Product, Change from

	Current 2/16/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	-	<b>24.6%</b>	<b>12.2%</b>	<b>99.1%</b>	91.5%
<b>Total Products</b>	-	<b>-2.7%</b>	<b>-9.5%</b>	<b>7.1%</b>	<b>-1.7%</b>
Total Motor Gasoline	-	-15.1%	-0.8%	28.9%	-6.5%
Kerosene-Type Jet Fuel	-	-31.7%	-26.5%	-46.6%	-58.5%
Distillate Fuel Oil	-	-5.9%	-32.0%	-12.8%	0.4%
Residual Fuel Oil	-	8.4%	4.4%	13.6%	-9.4%
Propane/Propylene	-	0.2%	-13.9%	13.9%	-28.0%
Other Oils	-	4.5%	7.8%	14.9%	31.5%
<b>Total Exports</b>	-	<b>3.0%</b>	<b>-4.8%</b>	<b>21.3%</b>	<b>12.0%</b>

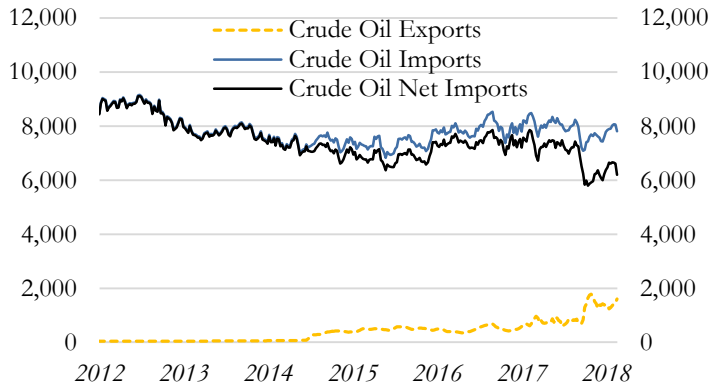
\*Totals may not sum due to rounding

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

### February 2018 Weekly U.S. Net Imports of Crude Oil & Petroleum Products

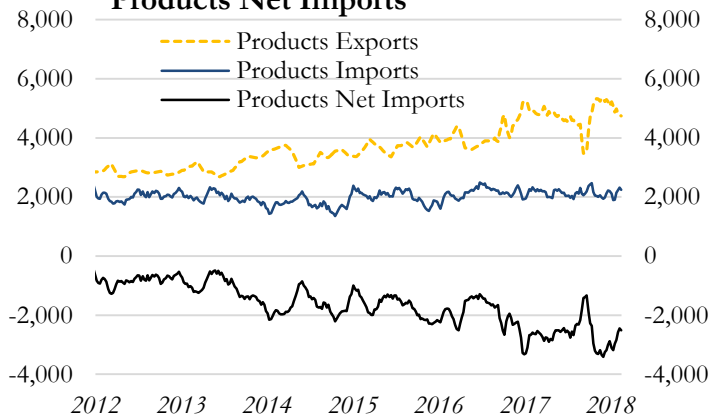
4-Week Averages, Thousand barrels per day

#### Crude Oil Net Imports



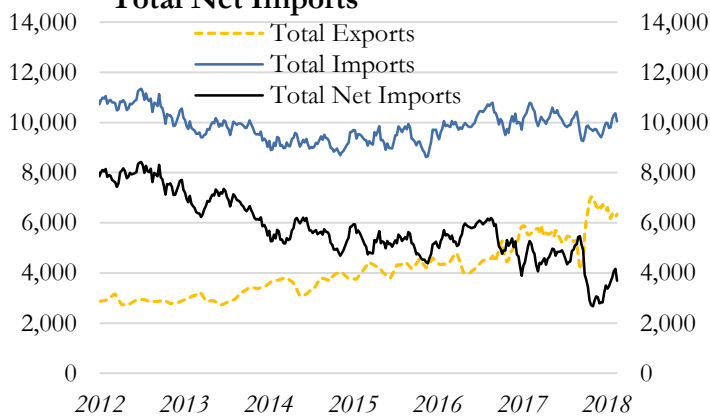
Crude Oil Net Imports		Change
Thousand barrels per day		from
2/16/18	6,203	
Month Ago	6,616	-6.2%
3 Months Ago	6,249	-0.7%
6 Months Ago	7,427	-16.5%
1 Year Ago	7,522	-17.5%

#### Products Net Imports



Products Net Imports		Change
Thousand barrels per day		from
2/16/18	-2,508	
Month Ago	-2,966	-
3 Months Ago	-3,182	-
6 Months Ago	-2,319	-
1 Year Ago	-2,643	-

#### Total Net Imports

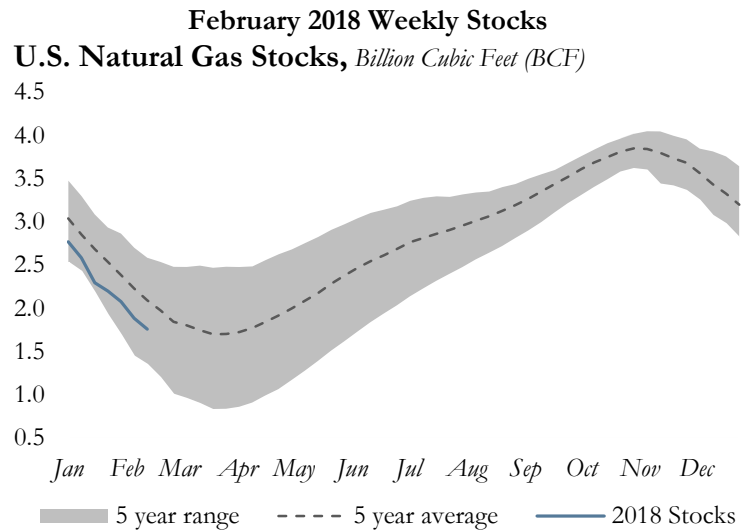
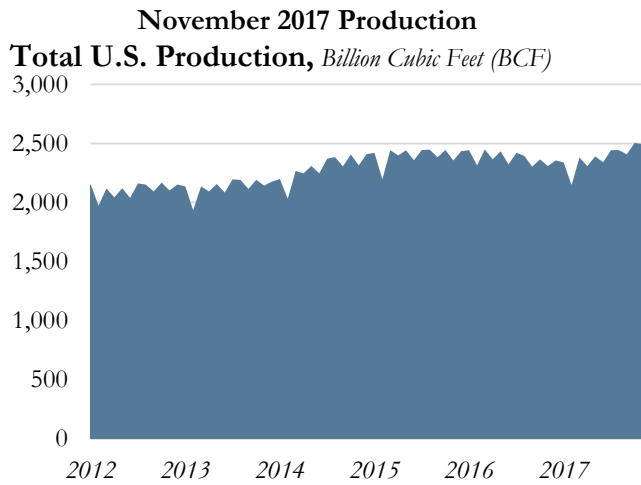


Total Net Imports		Change
Thousand barrels per day		from
2/16/18	3,696	
Month Ago	3,650	1.3%
3 Months Ago	3,067	20.5%
6 Months Ago	5,109	-27.7%
1 Year Ago	4,879	-24.2%

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



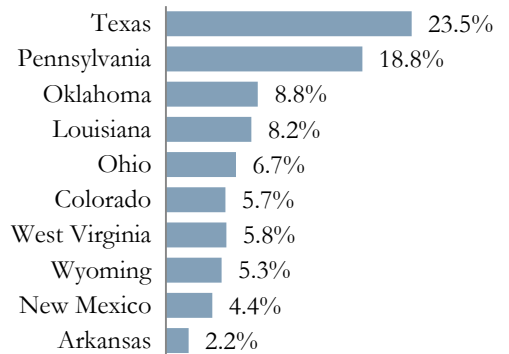
U.S. Natural Gas Production & Stocks



**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	2,495	2,504	2,444	2,391	2,310
U.S. Stocks	1,760	2,296	3,726	3,125	2,356

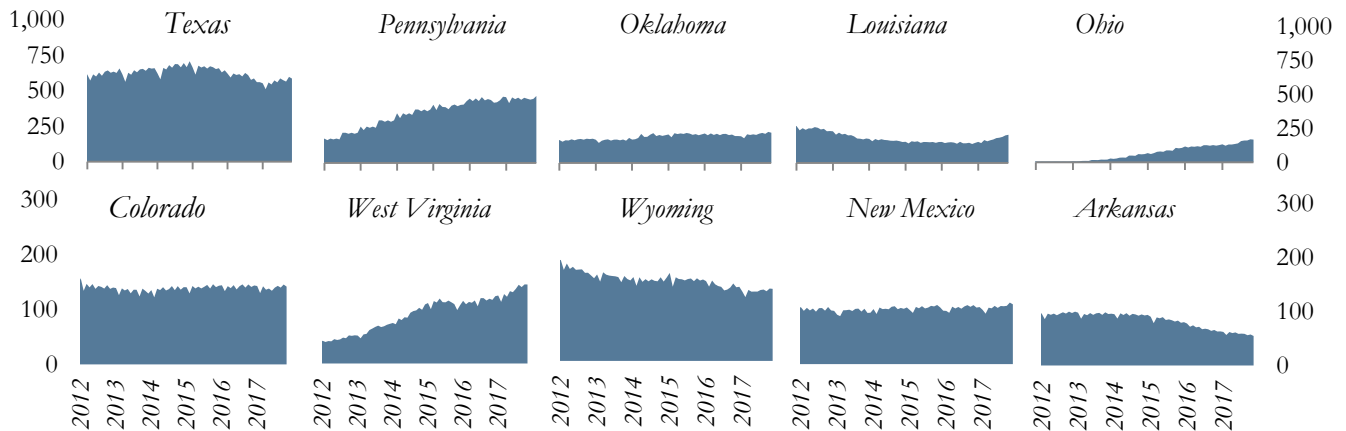
**Share of Production**



**U.S. Natural Gas, Change from**

	Current Period*	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
U.S. Production	-	-0.4%	2.1%	4.3%	8.0%
U.S. Stocks	-	-23.3%	-52.8%	-43.7%	-25.3%

**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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