

# THE U.S. Energy

## DATABOOK

*A summary of national and global energy indicators*



APRIL 20, 2018

FEDERAL RESERVE BANK of KANSAS CITY

### SUMMARY OF CURRENT ENERGY CONDITIONS

The number of total active drilling rigs in the United States rose 1.8 percent since a month ago and was up 18.2 percent from a year ago. U.S. crude oil production edged up 0.1 percent in January, while natural gas production decreased 1.3 percent. For the week ending April 13th, West Texas Intermediate (WTI) crude oil averaged \$66.02 per barrel and North Sea Brent averaged \$71.24 per barrel, rising nearly 7.7 percent and 11.1 percent respectively in the last month. These price increases were driven partially by declines in global stocks and record high OPEC production cut compliance. The Henry Hub natural gas spot price averaged \$2.78 per million Btu for the week ending April 13th, a nearly 2.6 percent increase in the last month. U.S. crude oil and petroleum products exports expanded 4.3 percent and imports also increased 7.9 percent over the last month. According to initial estimates for the first quarter of 2018, global petroleum demand grew 0.5 percent and monthly global petroleum production rose a modest 0.3 percent in March compared to the previous month.

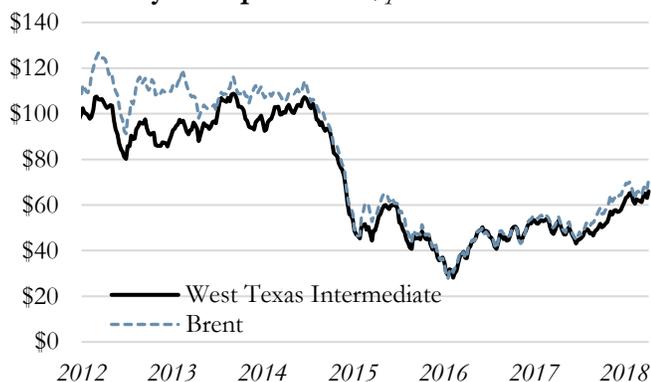
This databook provides current economic indicators to help monitor trends and allow comparison of past information. These indicators include: oil and natural gas prices; global petroleum production and demand; U.S. oil production and petroleum demand; U.S. crude oil stocks; OECD petroleum stocks; U.S.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



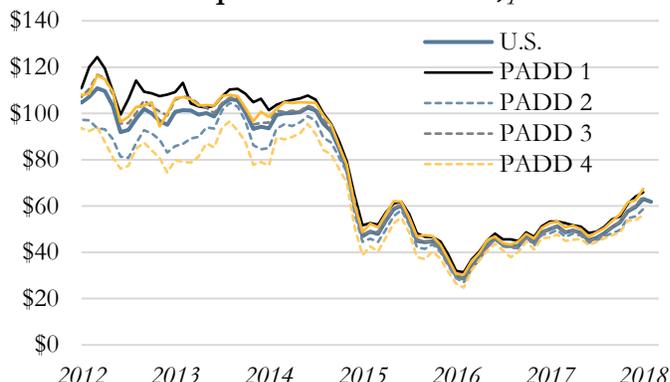
The Federal Reserve Bank of Kansas City's headquarters is located at 1 Memorial Drive in the heart of Kansas City, Missouri. The Federal Reserve Bank of Kansas City serves the Tenth Federal Reserve District, which includes Colorado, Kansas, western Missouri, Nebraska, northern New Mexico, Oklahoma and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

Weekly data through April 13, 2018

Weekly Oil Spot Prices, per barrel



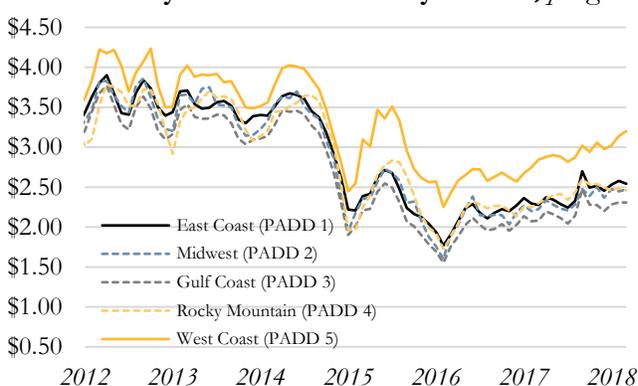
Refiner Acquisition Cost of Oil\*, per barrel



Weekly Natural Gas Spot Prices, per mmbtu



Monthly Gasoline Prices by PADD, per gallon



Weekly Spot Prices, Change from

Weekly Spot Prices	Current 4/13/18	1 Week Ago	1 Month Ago	6 Months Ago	1 Year Ago	Peak (2012-17)
West Texas Intermediate	\$66.02	\$2.95	\$4.74	\$15.25	\$12.83	-\$42.75
Brent	\$71.24	\$4.21	\$7.10	\$15.03	\$16.41	-\$55.38
Henry Hub	\$2.78	-\$0.01	\$0.07	-\$0.14	-\$0.27	-\$3.77

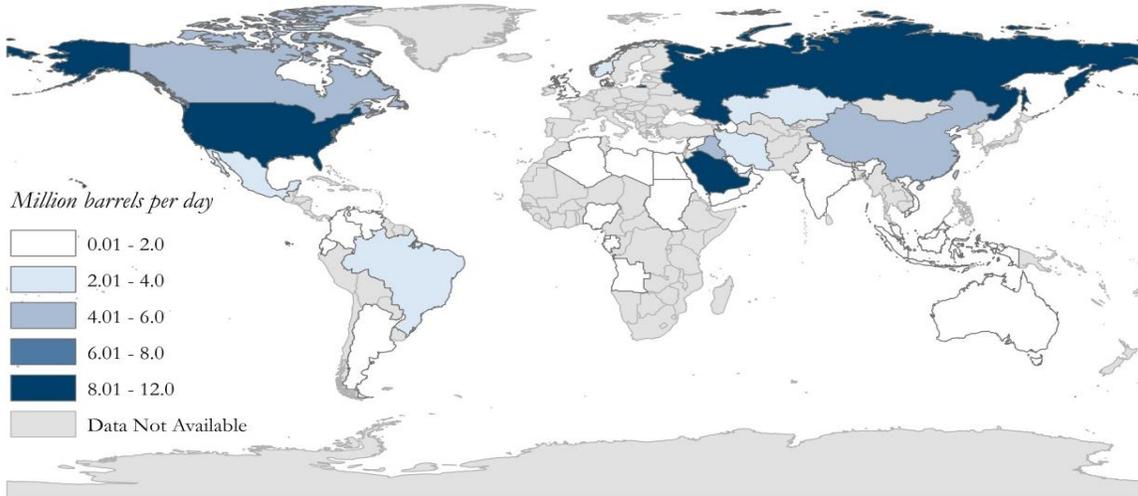
Monthly Gasoline Spot Prices, Change from

Geographic Area	Current Mar-18	1 Month Ago	6 Months Ago	1 Year Ago	Peak (2012-17)
East Coast (PADD 1)	\$2.54	-\$0.03	-\$0.15	\$0.27	-\$1.36
Midwest (PADD 2)	\$2.47	\$0.02	\$0.00	\$0.25	-\$1.39
Gulf Coast (PADD 3)	\$2.31	\$0.00	-\$0.16	\$0.23	-\$1.46
Rocky Mountain (PADD 4)	\$2.46	-\$0.03	-\$0.14	\$0.16	-\$1.33
West Coast (PADD 5)	\$3.20	\$0.06	\$0.18	\$0.36	-\$1.03

\*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

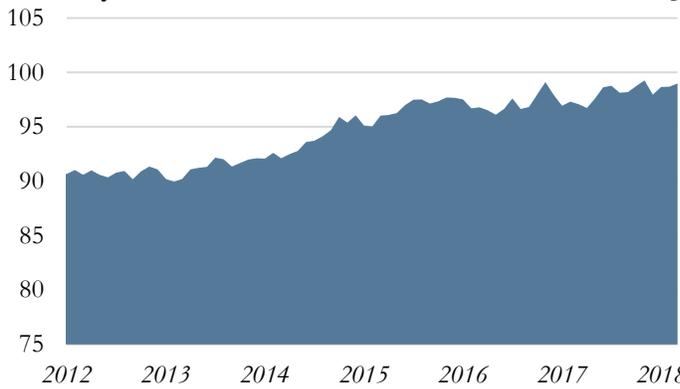
March 2018 Global Petroleum Production



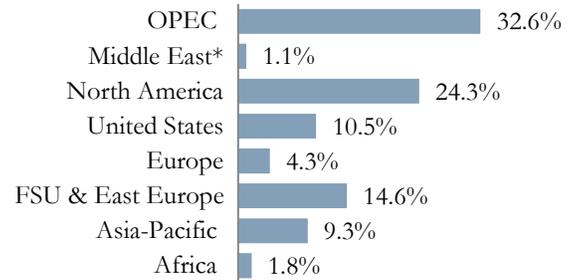
Source: Energy Information Administration/Haver Analytics

March 2018

Monthly Global Petroleum Production, million barrels per day

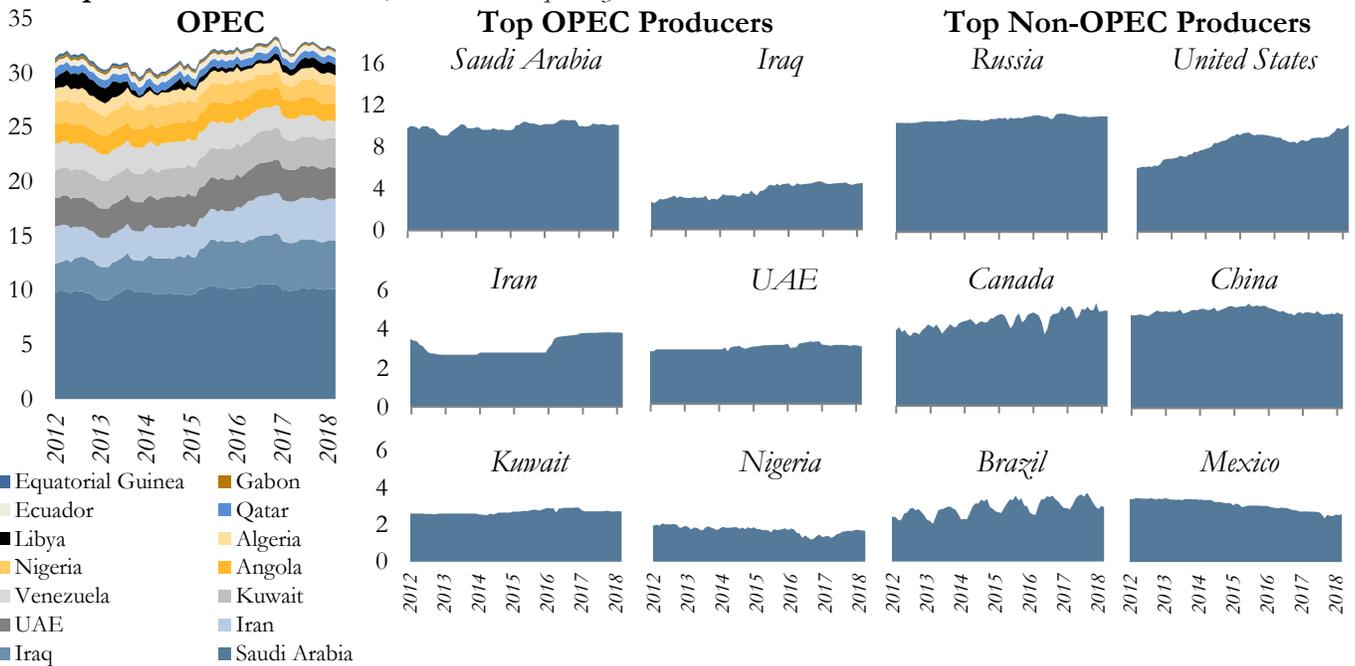


Regional Share of Production



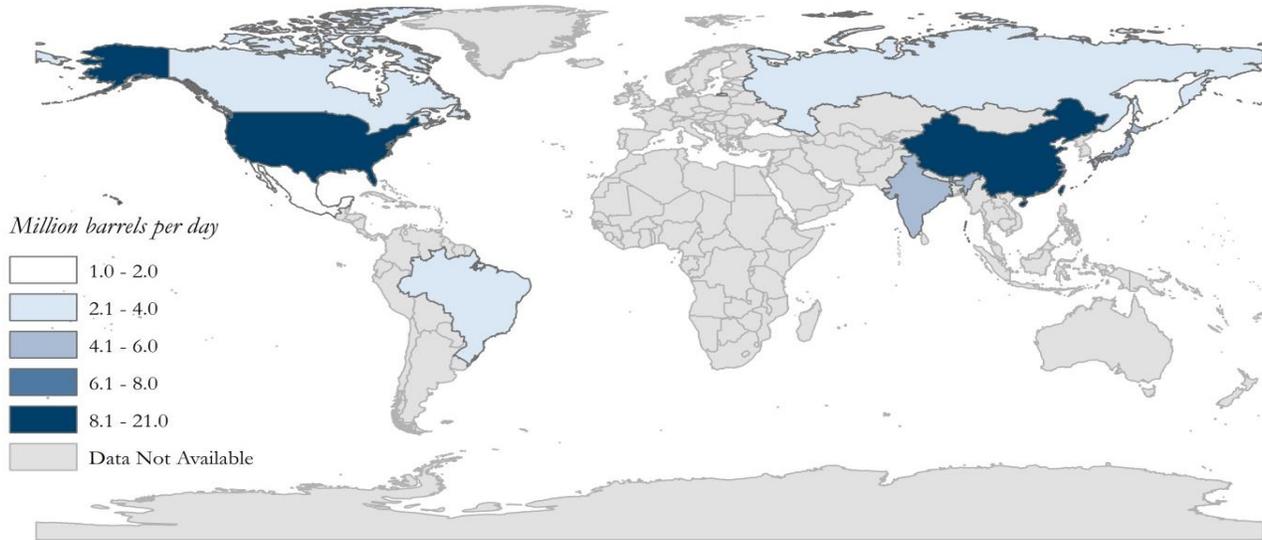
\*Excludes OPEC

Top Crude Oil Producers, million barrels per day

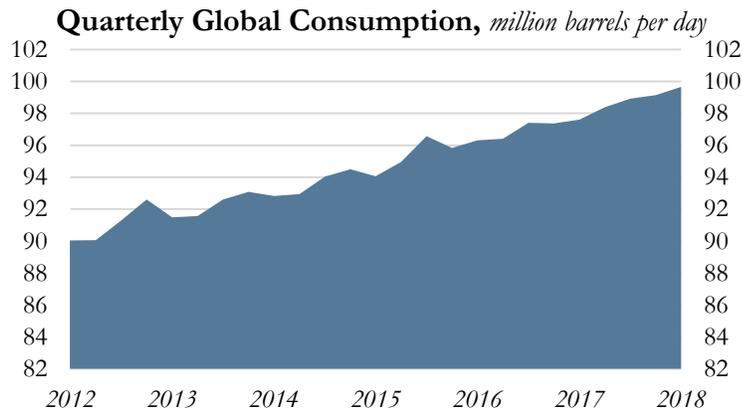


Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

First Quarter 2018 Global Petroleum Consumption

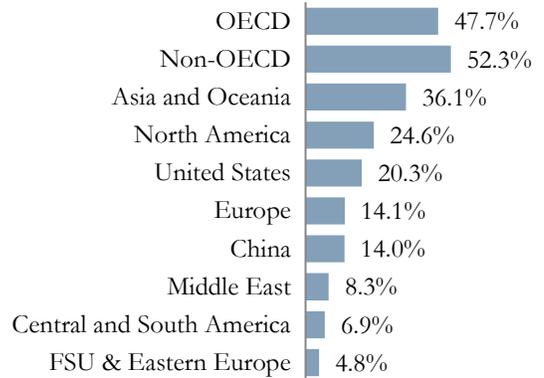


Source: Energy Information Administration/Haver Analytics

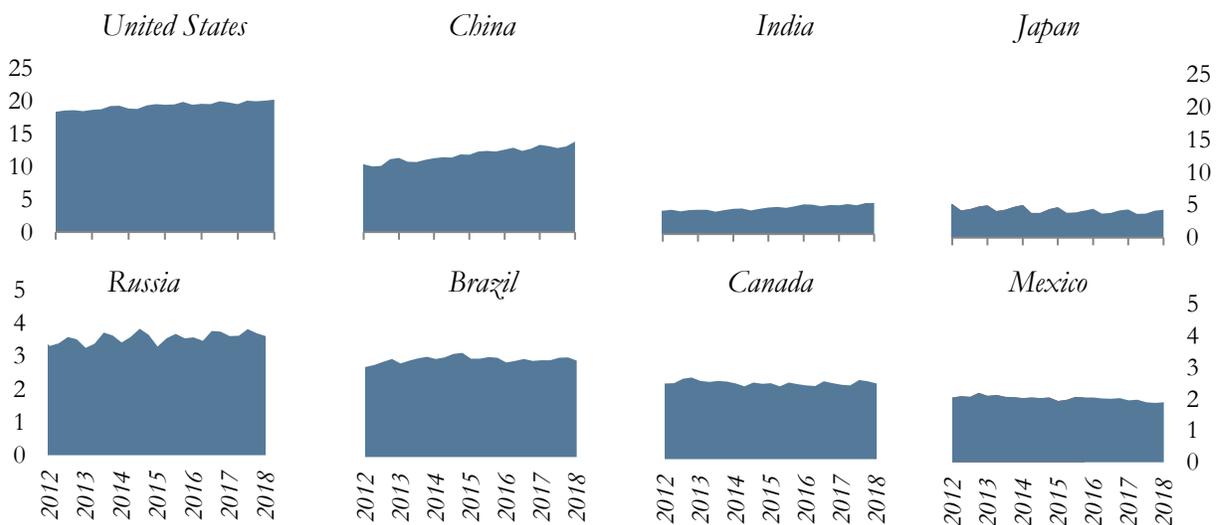


First Quarter 2018

Regional Share of Consumption

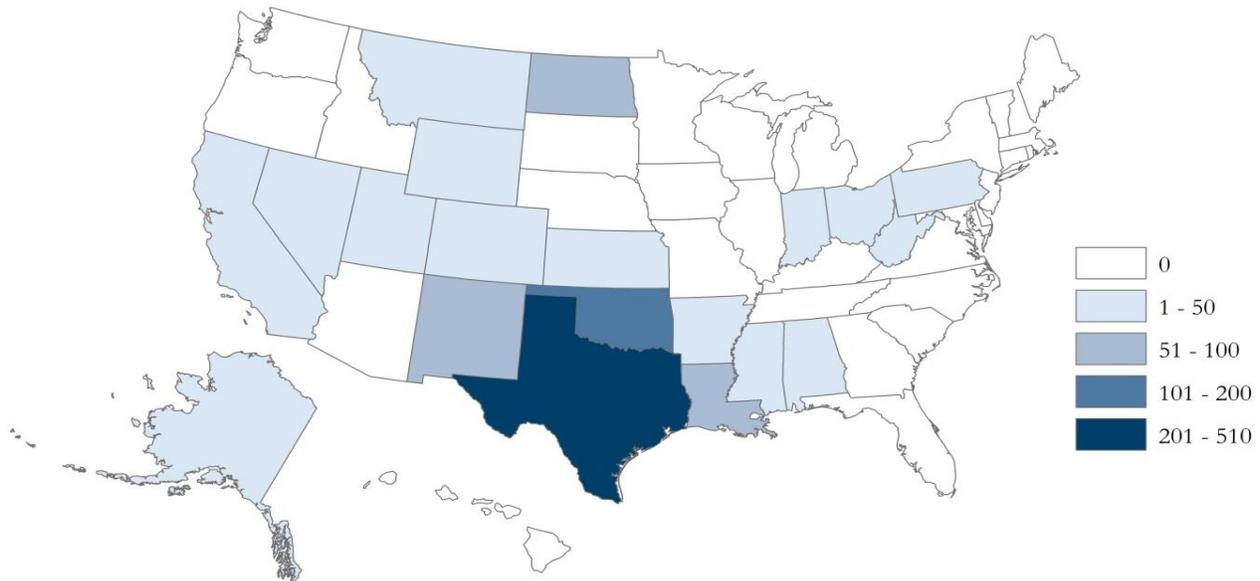


Top Petroleum Consumers, million barrels per day



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

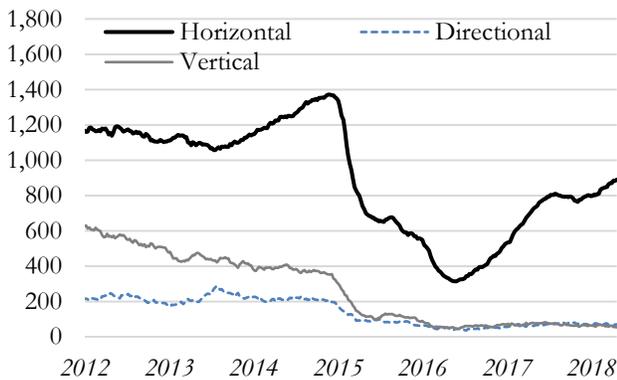
April 2018 Weekly Active Oil & Gas Drilling Rig Counts



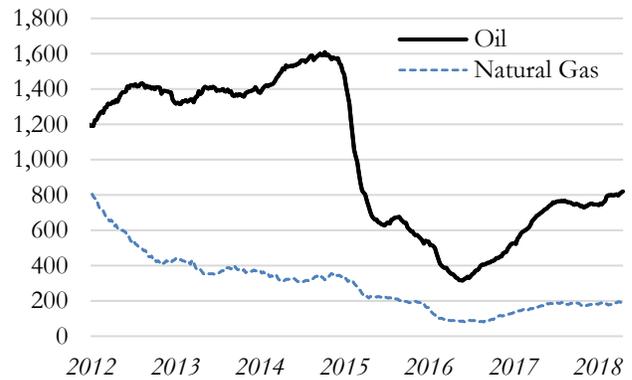
Source: Baker Hughes/Haver Analytics

April 20, 2018

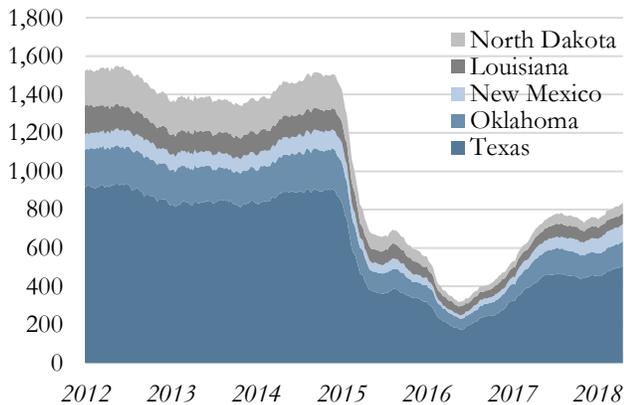
U.S. Active Drilling Rigs by Trajectory



U.S. Active Drilling Rigs by Type



Top Five States for Drilling Activity (Total Active Rigs)



Rig Count By Type

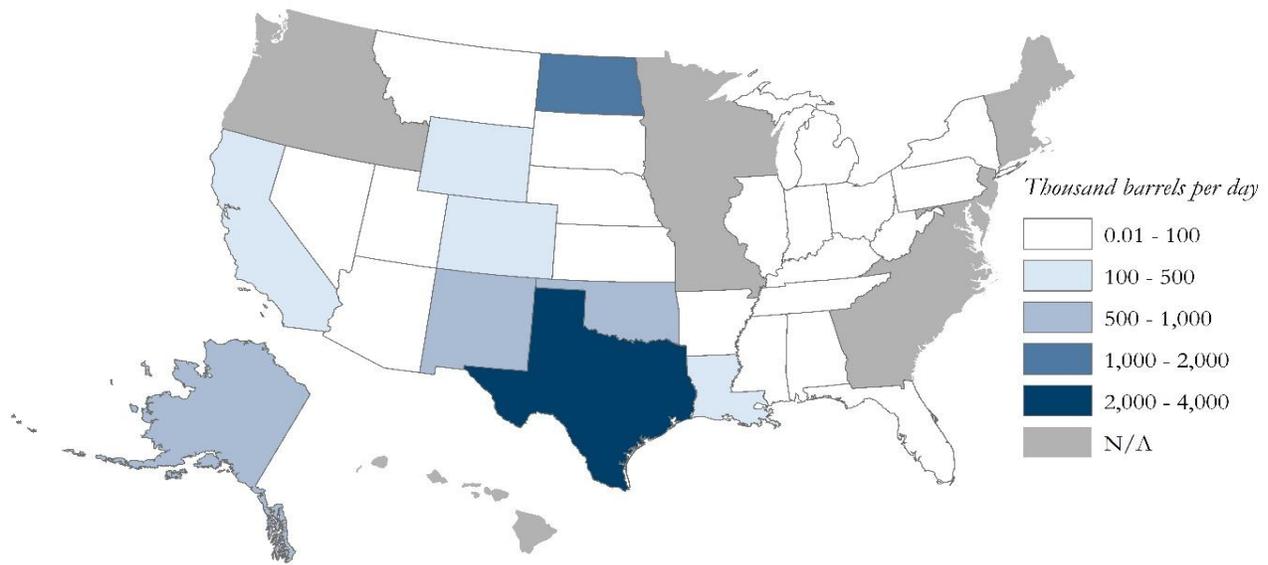
Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	820	804	747	688
Gas	192	190	189	167
Misc	1	1	0	2
<b>Total</b>	<b>1013</b>	<b>995</b>	<b>936</b>	<b>857</b>

Rig Count By Type, Change from

Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	-	2.0%	9.8%	19.2%
Gas	-	1.1%	1.6%	15.0%
Misc	-	0.0%	-	-50.0%
<b>Total</b>	-	<b>1.8%</b>	<b>8.2%</b>	<b>18.2%</b>

Source: Baker Hughes/Haver Analytics

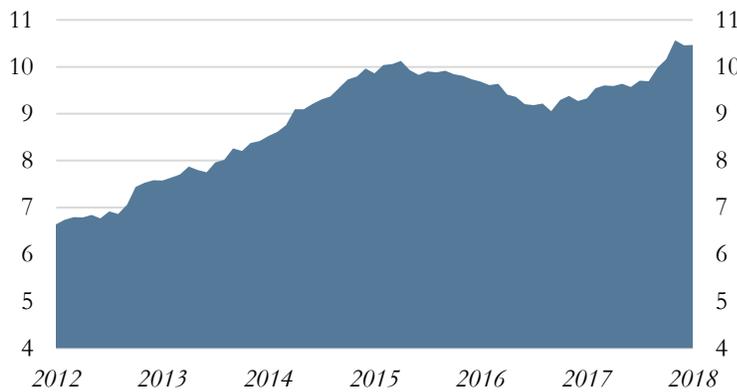
January 2018 U.S. Crude Oil Production



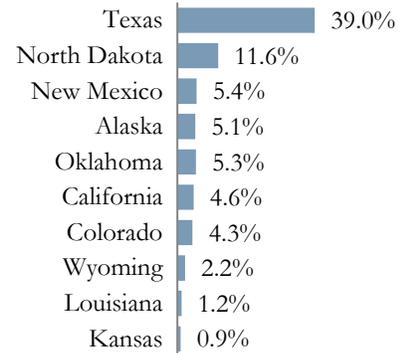
Source: Energy Information Administration/Haver Analytics

January 2018

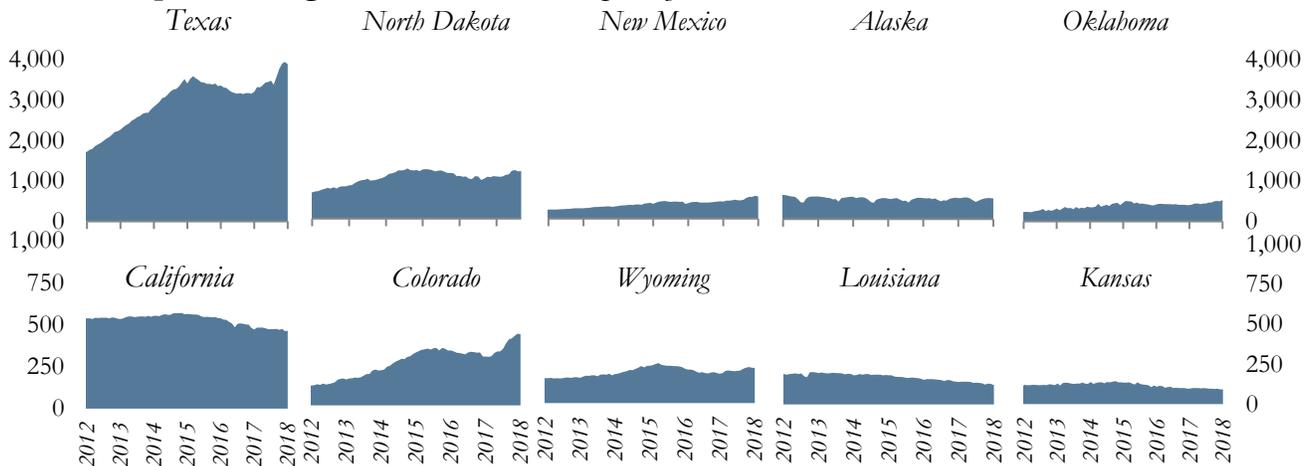
Monthly U.S. Production, million barrels per day



Share of Production

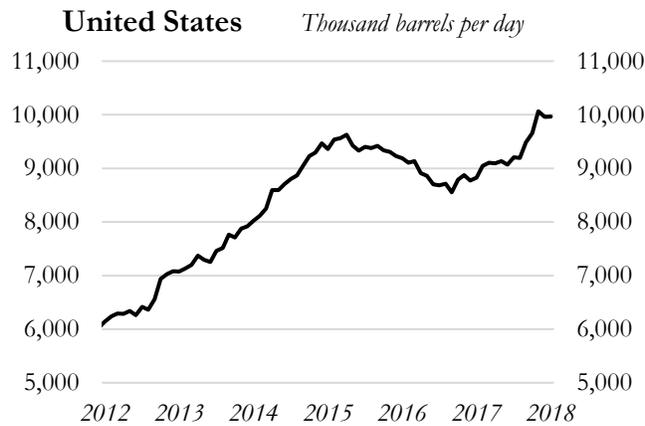


Top Producing States, thousand barrels per day

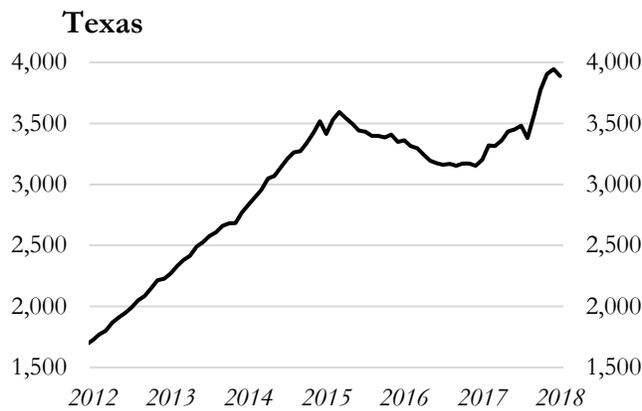


Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

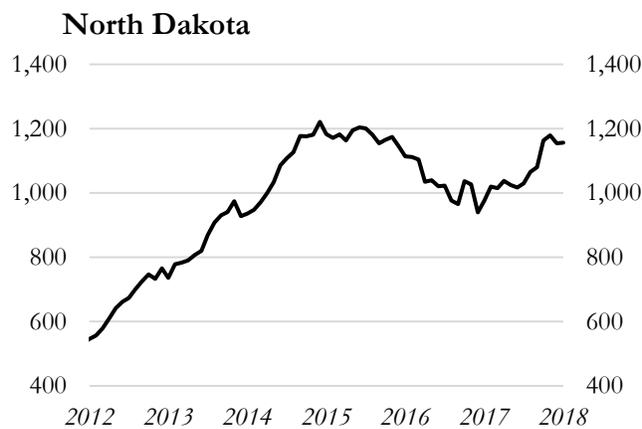
Data through January 2018



United States		Change
Thousand barrels per day		from
Jan-18	9,964	
Month Ago	9,958	0.1%
3 Months Ago	9,658	3.2%
6 Months Ago	9,209	8.2%
1 Year Ago	8,825	12.9%



Texas		Change
Thousand barrels per day		from
Jan-18	3,889	
Month Ago	3,945	-1.4%
3 Months Ago	3,776	3.0%
6 Months Ago	3,482	11.7%
1 Year Ago	3,202	21.4%
Share of U.S. Production		39.0%



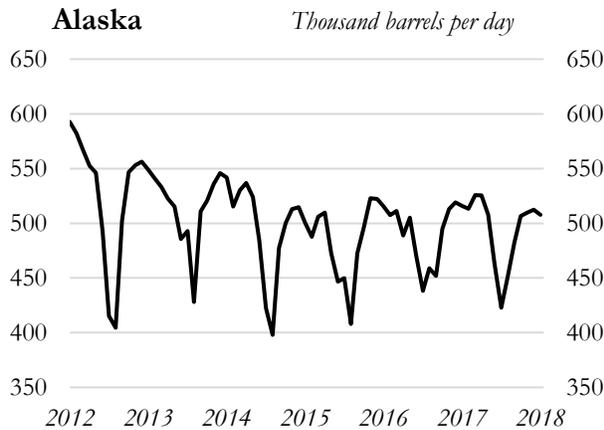
North Dakota		Change
Thousand barrels per day		from
Jan-18	1,156	
Month Ago	1,154	0.2%
3 Months Ago	1,164	-0.7%
6 Months Ago	1,030	12.3%
1 Year Ago	975	18.5%
Share of U.S. Production		11.6%



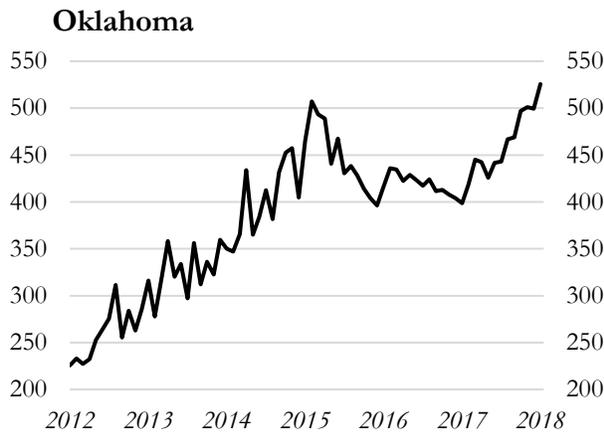
New Mexico		Change
Thousand barrels per day		from
Jan-18	540	
Month Ago	557	-3.0%
3 Months Ago	528	2.3%
6 Months Ago	447	20.8%
1 Year Ago	416	29.7%
Share of U.S. Production		5.4%

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

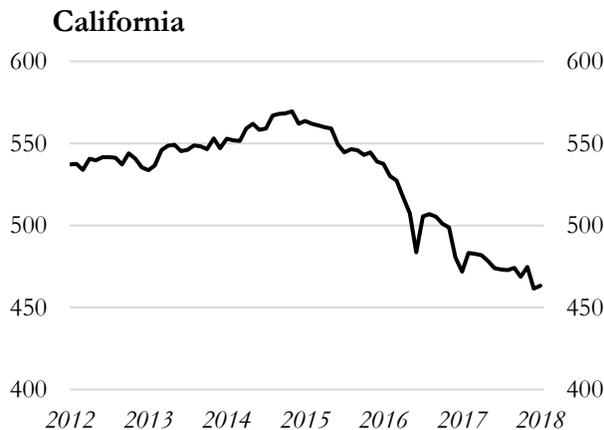
Data through January 2018



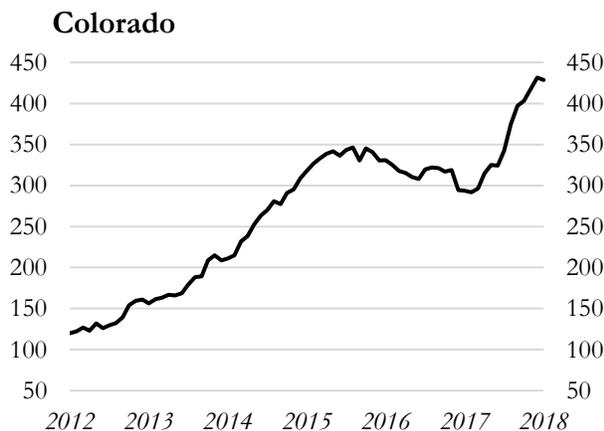
<b>Alaska</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Jan-18	508	
Month Ago	512	-0.9%
3 Months Ago	507	0.2%
6 Months Ago	423	20.1%
1 Year Ago	516	-1.6%
Share of U.S. Production	5.1%	



<b>Oklahoma</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Jan-18	526	
Month Ago	499	5.3%
3 Months Ago	497	5.8%
6 Months Ago	443	18.7%
1 Year Ago	399	31.8%
Share of U.S. Production	5.3%	



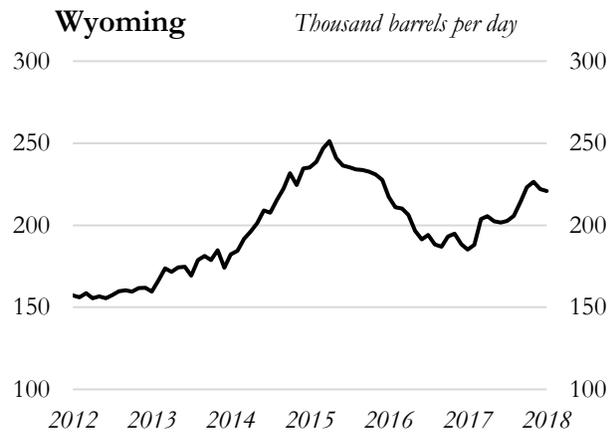
<b>California</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Jan-18	463	
Month Ago	461	0.4%
3 Months Ago	469	-1.2%
6 Months Ago	473	-2.1%
1 Year Ago	472	-1.8%
Share of U.S. Production	4.6%	



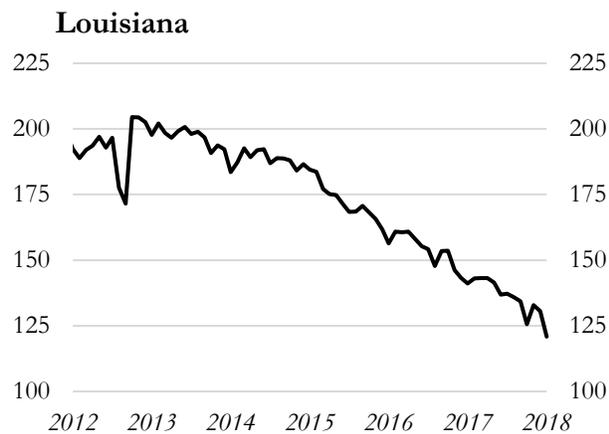
<b>Colorado</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Jan-18	428	
Month Ago	432	-0.7%
3 Months Ago	403	6.3%
6 Months Ago	343	25.1%
1 Year Ago	294	45.9%
Share of U.S. Production	4.3%	

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

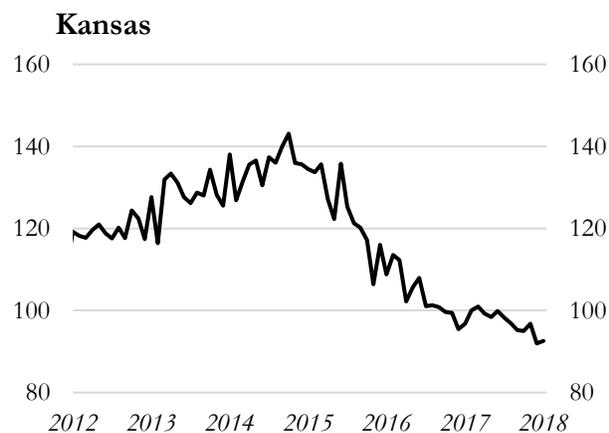
Data through January 2018



Wyoming		Change
Thousand barrels per day		from
Jan-18	221	
Month Ago	222	-0.5%
3 Months Ago	223	-1.1%
6 Months Ago	203	9.0%
1 Year Ago	185	19.2%
Share of U.S. Production	2.2%	



Louisiana		Change
Thousand barrels per day		from
Jan-18	121	
Month Ago	131	-7.4%
3 Months Ago	126	-3.7%
6 Months Ago	137	-11.9%
1 Year Ago	141	-14.3%
Share of U.S. Production	1.2%	

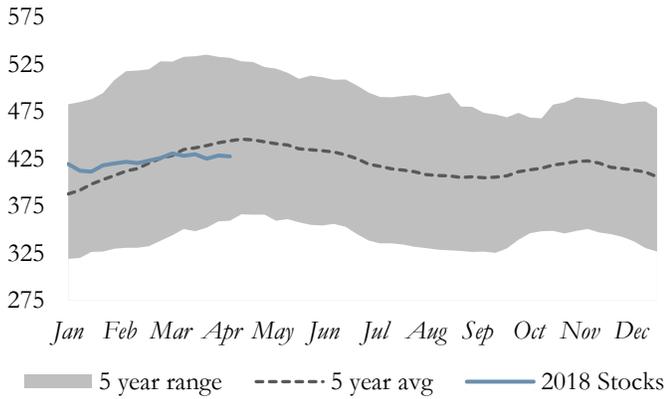


Kansas		Change
Thousand barrels per day		from
Jan-18	93	
Month Ago	92	0.6%
3 Months Ago	95	-2.6%
6 Months Ago	98	-5.8%
1 Year Ago	97	-4.4%
Share of U.S. Production	0.9%	

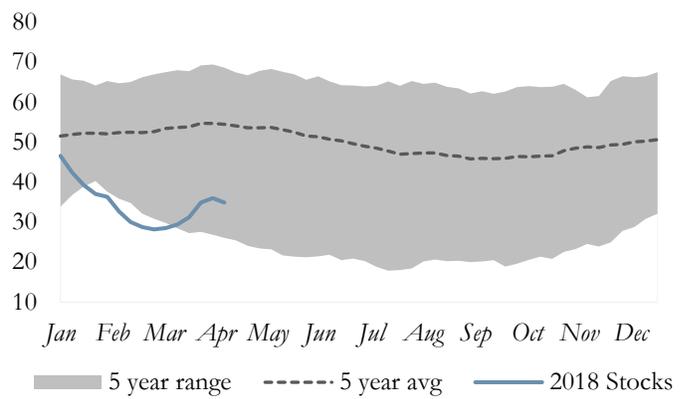
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

April 2018 Weekly U.S. Crude Oil Stocks

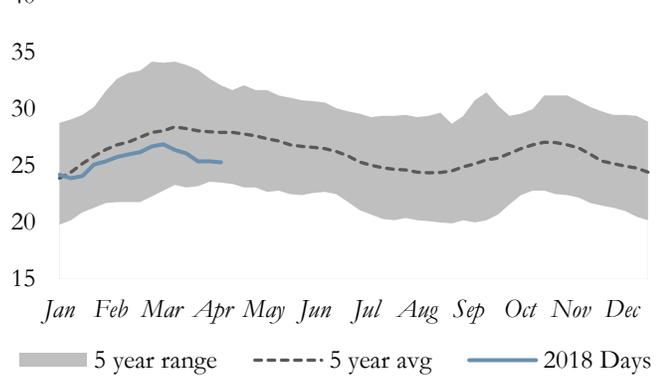
U.S. Oil Stocks, million barrels\*



Cushing, OK Oil Stocks, million barrels



U.S. Oil Days of Supply, days



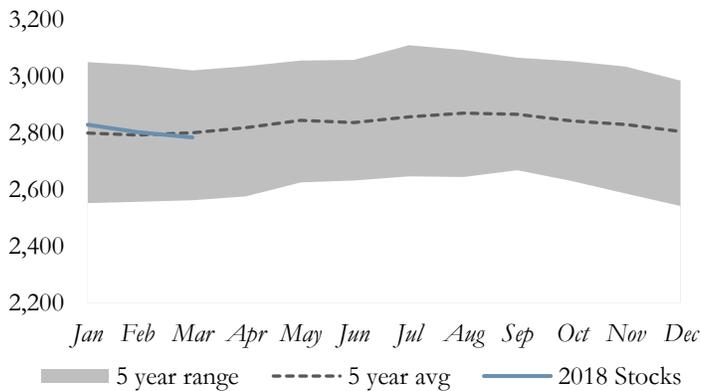
Crude Oil Stocks

	1 Week Change from Ago	1 Year Ago
U.S.	-0.2%	-19.7%
Cushing, OK	-3.1%	-49.1%
Days of Supply	-0.4%	-21.2%
East Coast (PADD 1)	3.1%	-30.3%
Midwest (PADD 2)	0.7%	-23.3%
Gulf Coast (PADD 3)	-0.7%	-19.0%
Rocky Mountain (PADD 4)	-1.0%	-10.2%
West Coast (PADD 5)	-1.3%	-13.3%

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

March 2018 OECD Commercial Petroleum Inventory

OECD Commercial Petroleum Inventory, million barrels



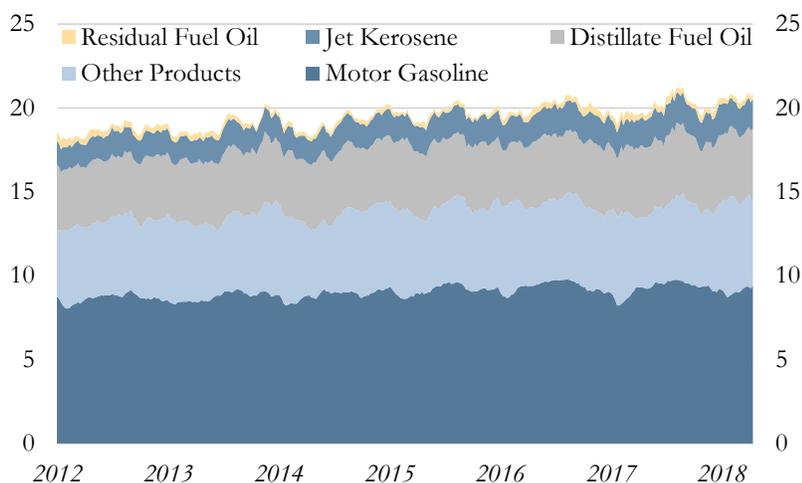
Petroleum Stocks	Million Barrels	Change from
Current Month	2,784	
1 Month Ago	2,803	-0.7%
3 Months Ago	2,838	-1.9%
6 Months Ago	2,954	-5.8%
1 Year Ago	3,012	-7.6%

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

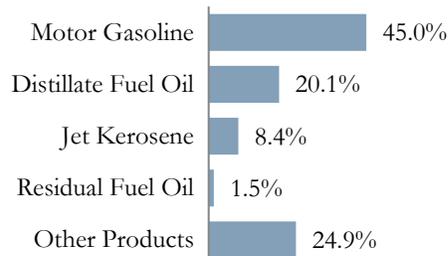
### April 2018 Weekly U.S. Demand for Petroleum Products

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 4/13/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	20,845	20,487	20,543	19,918	19,724
Motor Gasoline	9,385	9,276	8,904	9,345	9,317
Distillate Fuel Oil	4,197	3,899	4,077	3,720	4,283
Jet Kerosene	1,760	1,723	1,781	1,674	1,672
Residual Fuel Oil	310	322	241	399	284
Other Products	5,193	5,267	5,540	4,780	4,168

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

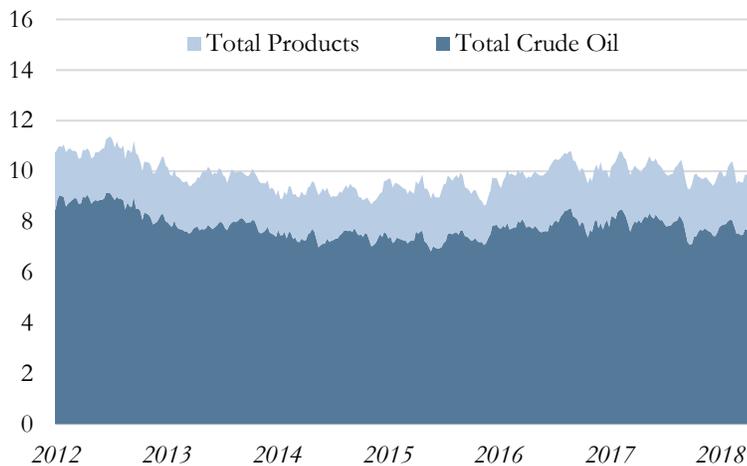
	Current 4/13/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	-	1.7%	1.5%	4.7%	5.7%
Motor Gasoline	-	1.2%	5.4%	0.4%	0.7%
Distillate Fuel Oil	-	7.6%	2.9%	12.8%	-2.0%
Jet Kerosene	-	2.1%	-1.2%	5.1%	5.3%
Residual Fuel Oil	-	-3.7%	28.6%	-22.3%	9.2%
Other Products	-	-1.4%	-6.3%	8.6%	24.6%

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

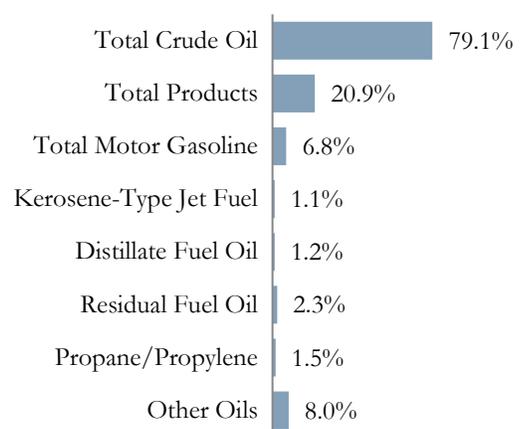
April 2018 Weekly U.S. Imports of Crude Oil & Petroleum Products

4-Week Averages

Imports, million barrels per day



Share of Total Imports



U.S. Imports by Product\*

Thousand barrels per day

	Current 4/13/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	<b>8,157</b>	<b>7,487</b>	<b>7,892</b>	<b>7,435</b>	<b>7,941</b>
<b>Total Products</b>	<b>2,154</b>	<b>2,065</b>	<b>1,890</b>	<b>2,473</b>	<b>1,998</b>
Total Motor Gasoline	702	555	349	863	615
Kerosene-Type Jet Fuel	118	121	158	182	163
Distillate Fuel Oil	119	204	173	87	133
Residual Fuel Oil	238	207	159	162	128
Propane/Propylene	158	157	180	126	125
Other Oils	820	821	871	1,053	834
<b>Total Imports</b>	<b>10,311</b>	<b>9,552</b>	<b>9,782</b>	<b>9,908</b>	<b>9,939</b>

U.S. Imports by Product, Change from

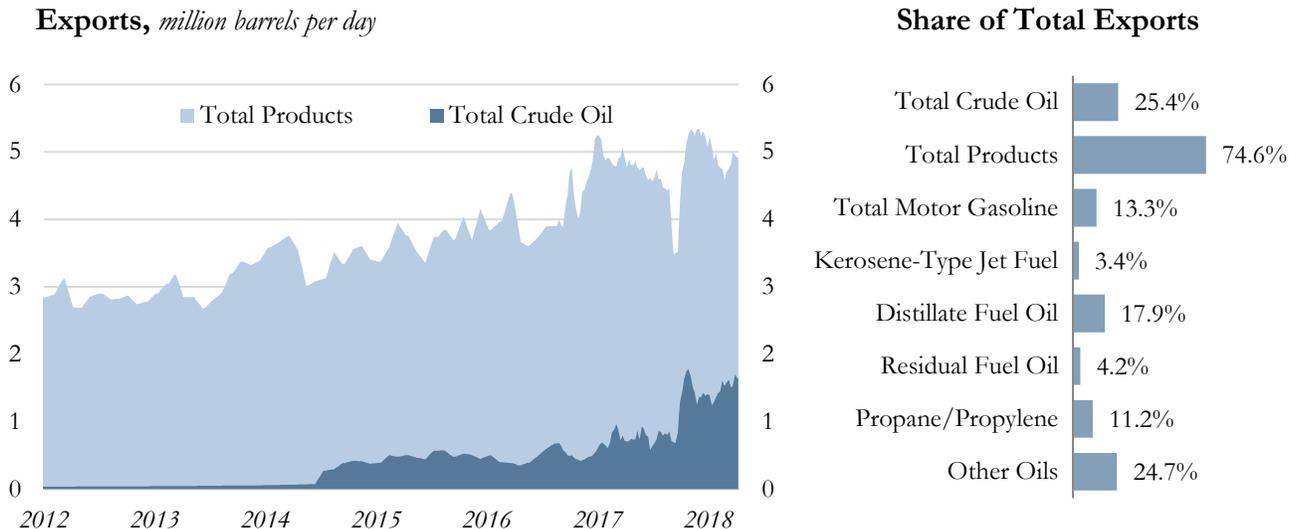
	Current 4/13/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	-	<b>8.9%</b>	<b>3.4%</b>	<b>9.7%</b>	2.7%
<b>Total Products</b>	-	<b>4.3%</b>	<b>14.0%</b>	<b>-12.9%</b>	<b>7.8%</b>
Total Motor Gasoline	-	26.5%	101.1%	-18.7%	14.1%
Kerosene-Type Jet Fuel	-	-2.5%	-25.3%	-35.2%	-27.6%
Distillate Fuel Oil	-	-41.7%	-31.2%	36.8%	-10.5%
Residual Fuel Oil	-	15.0%	49.7%	46.9%	85.9%
Propane/Propylene	-	0.6%	-12.2%	25.4%	26.4%
Other Oils	-	-0.1%	-5.9%	-22.1%	-1.7%
<b>Total Imports</b>	-	<b>7.9%</b>	<b>5.4%</b>	<b>4.1%</b>	<b>3.7%</b>

\*Totals may not sum due to component rounding

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

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

*4-Week Averages*



**U.S. Exports by Product\***

*Thousand barrels per day*

	<i>Current</i> 4/13/18	<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>1,677</b>	<b>1,501</b>	<b>1,237</b>	<b>1,636</b>	<b>710</b>
<b>Total Products</b>	<b>4,914</b>	<b>4,821</b>	<b>5,074</b>	<b>4,839</b>	<b>4,895</b>
<i>Total Motor Gasoline</i>	875	692	892	559	639
<i>Kerosene-Type Jet Fuel</i>	221	196	117	102	188
<i>Distillate Fuel Oil</i>	1,179	1,099	1,085	1,353	1,117
<i>Residual Fuel Oil</i>	276	268	300	299	258
<i>Propane/Propylene</i>	735	870	856	971	946
<i>Other Oils</i>	1,628	1,697	1,825	1,556	1,748
<b>Total Exports</b>	<b>6,591</b>	<b>6,322</b>	<b>6,311</b>	<b>6,475</b>	<b>5,605</b>

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

	<i>Current</i> 4/13/18	<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>11.7%</b>	<b>35.6%</b>	<b>2.5%</b>	136.2%
<b>Total Products</b>	-	<b>1.9%</b>	<b>-3.2%</b>	<b>1.5%</b>	<b>0.4%</b>
<i>Total Motor Gasoline</i>	-	26.4%	-1.9%	56.5%	36.9%
<i>Kerosene-Type Jet Fuel</i>	-	12.8%	88.9%	116.7%	17.6%
<i>Distillate Fuel Oil</i>	-	7.3%	8.7%	-12.9%	5.6%
<i>Residual Fuel Oil</i>	-	3.0%	-8.0%	-7.7%	7.0%
<i>Propane/Propylene</i>	-	-15.5%	-14.1%	-24.3%	-22.3%
<i>Other Oils</i>	-	-4.1%	-10.8%	4.6%	-6.9%
<b>Total Exports</b>	-	<b>4.3%</b>	<b>4.4%</b>	<b>1.8%</b>	<b>17.6%</b>

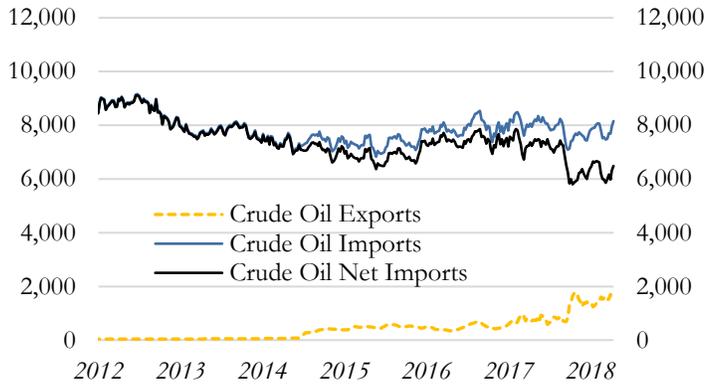
\*Totals may not sum due to rounding

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

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

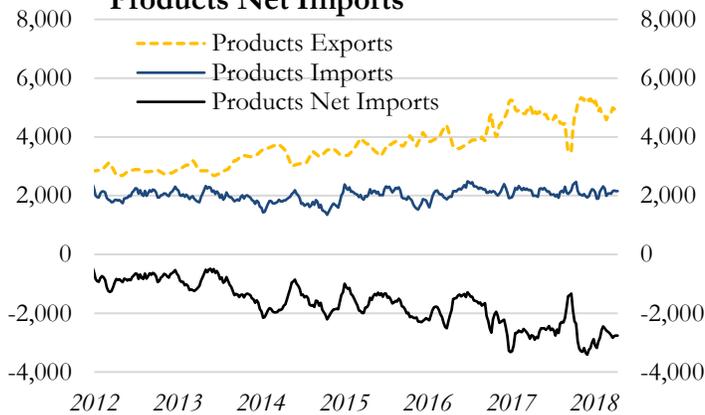
4-Week Averages, Thousand barrels per day

#### Crude Oil Net Imports



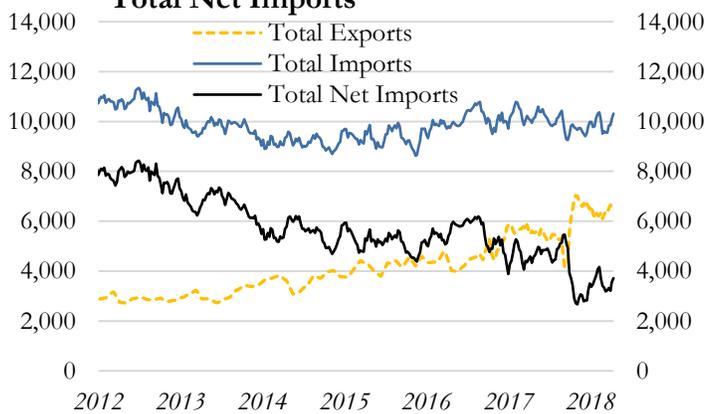
Crude Oil Net Imports		Change
Thousand barrels per day		from
4/13/18	6,480	
Month Ago	5,986	8.3%
3 Months Ago	6,655	-2.6%
6 Months Ago	5,800	11.7%
1 Year Ago	7,231	-10.4%

#### Products Net Imports



Products Net Imports		Change
Thousand barrels per day		from
4/13/18	-2,760	
Month Ago	-2,756	-
3 Months Ago	-3,184	-
6 Months Ago	-2,366	-
1 Year Ago	-2,898	-

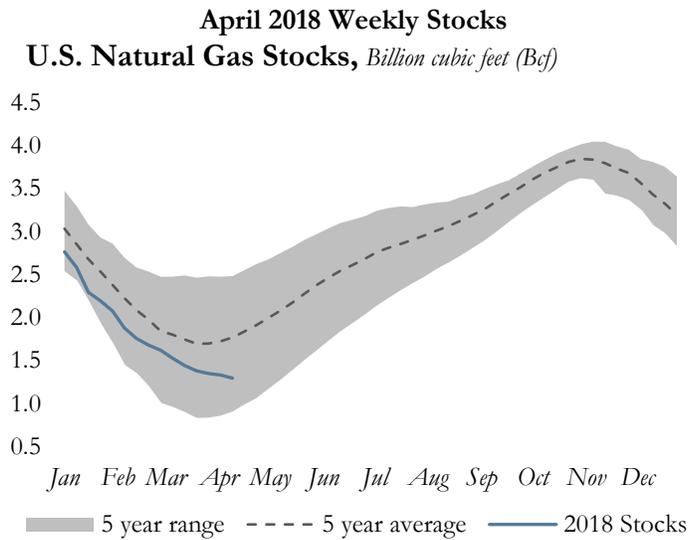
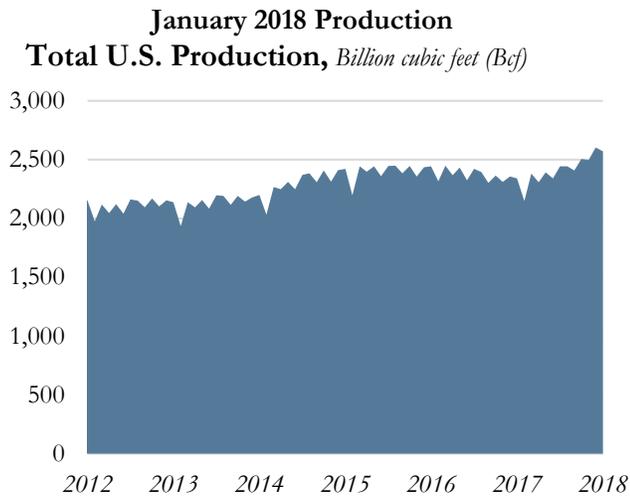
#### Total Net Imports



Total Net Imports		Change
Thousand barrels per day		from
4/13/18	3,720	
Month Ago	3,230	15.2%
3 Months Ago	3,471	7.2%
6 Months Ago	3,434	8.3%
1 Year Ago	4,333	-14.1%

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

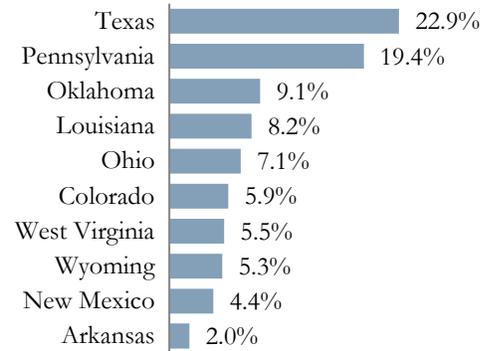
U.S. Natural Gas Production & Stocks



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	2,570	2,603	2,507	2,443	2,339
U.S. Stocks	1,299	1,446	2,584	3,645	2,115

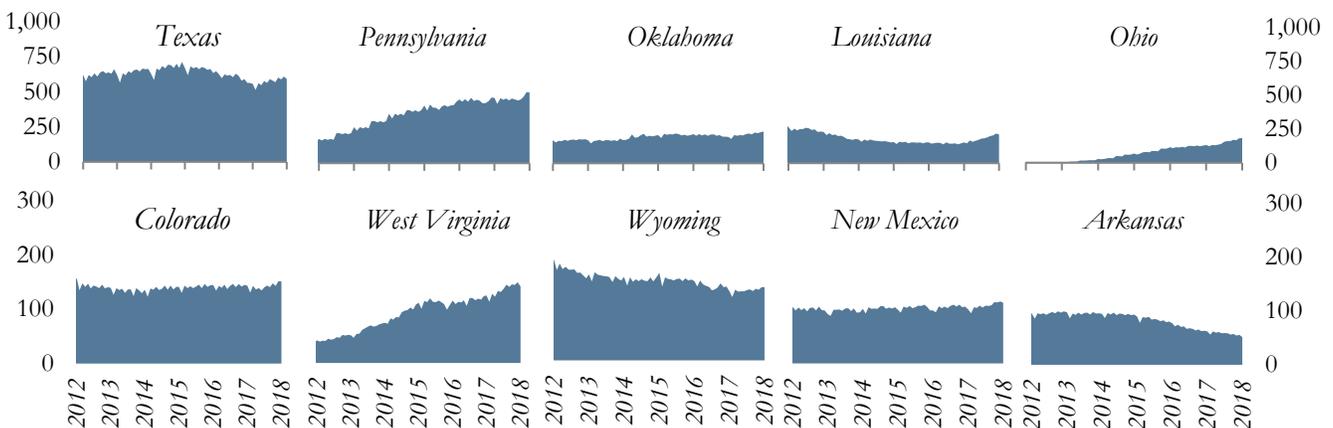
Share of Production



U.S. Natural Gas, Change from

	Current Period*	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
U.S. Production	-	-1.3%	2.5%	5.2%	9.9%
U.S. Stocks	-	-10.2%	-49.7%	-64.4%	-38.6%

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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