

THE U.S. Energy DATABOOK

A summary of national and global energy indicators



AUGUST 3, 2020

FEDERAL RESERVE BANK of KANSAS CITY

SUMMARY OF CURRENT ENERGY CONDITIONS

Since the last edition of the U.S. energy databook, the energy sector decreased sharply following the worldwide outbreak of COVID-19, related shutdowns, and the rapid drop in transportation activity. In recent months, the market has stabilized somewhat, but remains below year-ago levels. In July, the number of total active drilling rigs in the United States continued to decrease, as total rig counts fell 4.6% from a month ago and 73.4% from a year ago. In May 2020, U.S. crude oil production dropped 16.6% and natural gas production declined 2.2%. For the week ending July 24th, West Texas Intermediate (WTI) crude oil averaged \$41.34 per barrel and North Sea Brent averaged \$43.57 per barrel, rising 5.4% and 4.5% in the last month, respectively. The Henry Hub natural gas spot price averaged \$1.72 per million Btu for the week ending July 24th, increasing 9.6% in the last month. U.S. crude oil and petroleum products exports grew 2.3% in the last month, while imports dropped 5.4%. Global demand for petroleum continued to deteriorate in the second quarter of 2020, falling 11.4%, and global petroleum production dipped 1.9% in June 2020.

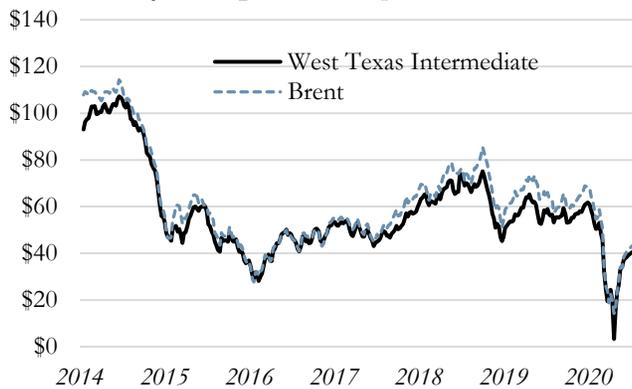
This databook provides current economic indicators to help monitor trends and allow comparison of past information. The 2020 quarter two databook is the first look at these indicators following the onset of the COVID-19 pandemic. These indicators include: oil and natural gas prices; global petroleum 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.



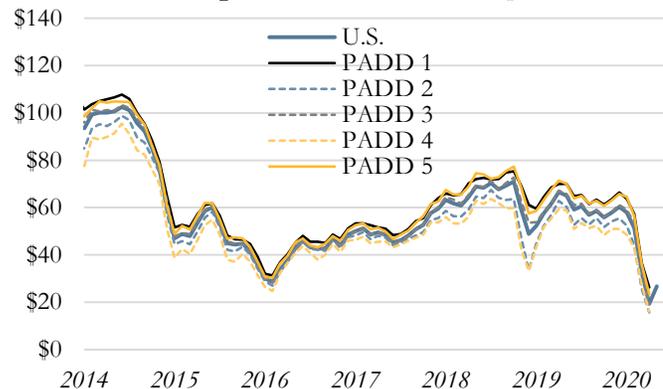
The Federal Reserve Bank of Kansas City's headquarters is located at 1 Memorial Drive in the heart of Kansas City, Missouri. The Federal Reserve Bank of Kansas City serves the Tenth Federal Reserve District, which includes Colorado, Kansas, western Missouri, Nebraska, northern New Mexico, Oklahoma and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

Weekly data through July 24, 2020

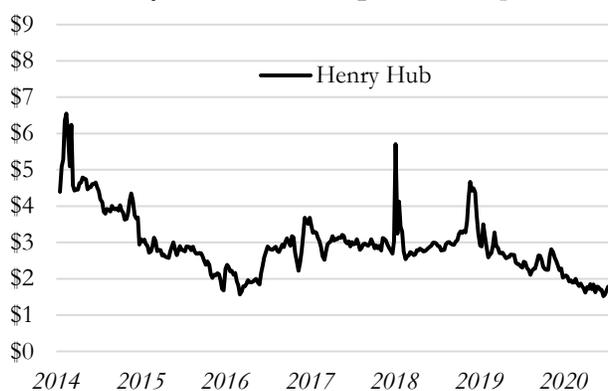
Weekly Oil Spot Prices, per barrel



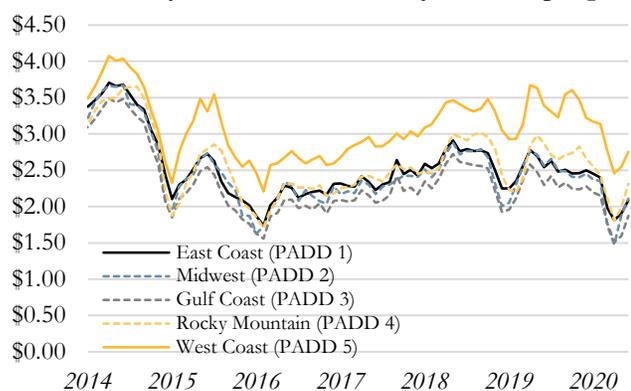
Refiner Acquisition Cost of Oil*, per barrel



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	7/24/20	Ago	Ago	Ago	Ago	Ago
West Texas Intermediate	\$41.34	\$0.77	\$2.12	\$38.02	-\$14.81	-\$14.71
Brent	\$43.57	\$0.17	\$1.88	\$29.33	-\$18.63	-\$19.23
Henry Hub	\$1.72	-\$0.05	\$0.15	-\$0.13	-\$0.21	-\$0.58

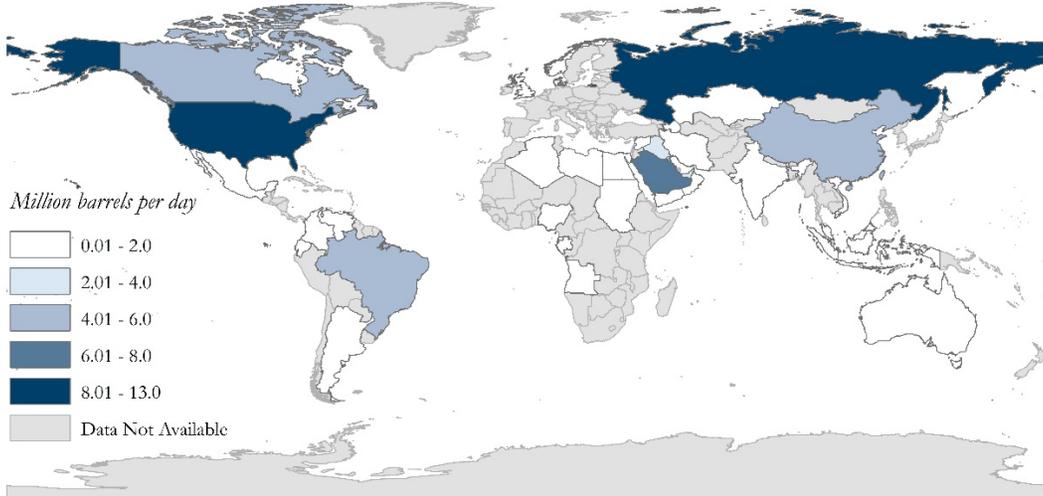
Monthly Gasoline Spot Prices, Change from

	Current	1 Month	3 months	6 Months	1 Year
Geographic Area	Jun-20	Ago	Ago	Ago	Ago
East Coast (PADD 1)	\$2.09	\$0.18	\$0.11	-\$0.42	-\$0.46
Midwest (PADD 2)	\$2.11	\$0.23	\$0.38	-\$0.34	-\$0.45
Gulf Coast (PADD 3)	\$1.87	\$0.27	\$0.11	-\$0.41	-\$0.43
Rocky Mountain (PADD 4)	\$2.32	\$0.32	\$0.21	-\$0.35	-\$0.55
West Coast (PADD 5)	\$2.75	\$0.20	\$0.00	-\$0.47	-\$0.64

*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

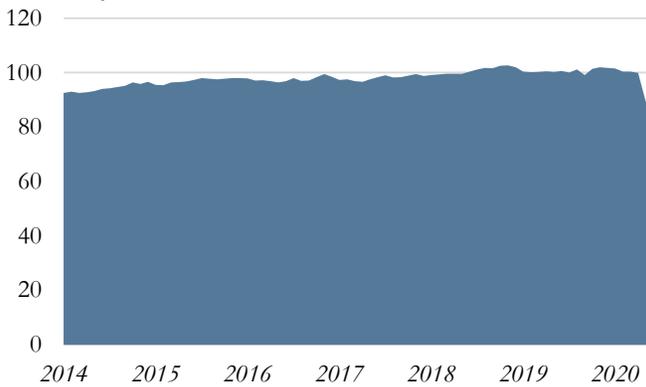
June 2020 Global Petroleum Production



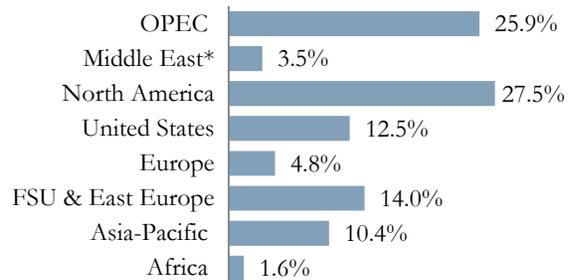
Source: Energy Information Administration/Haver Analytics

June 2020

Monthly Global Petroleum Production, million barrels per day

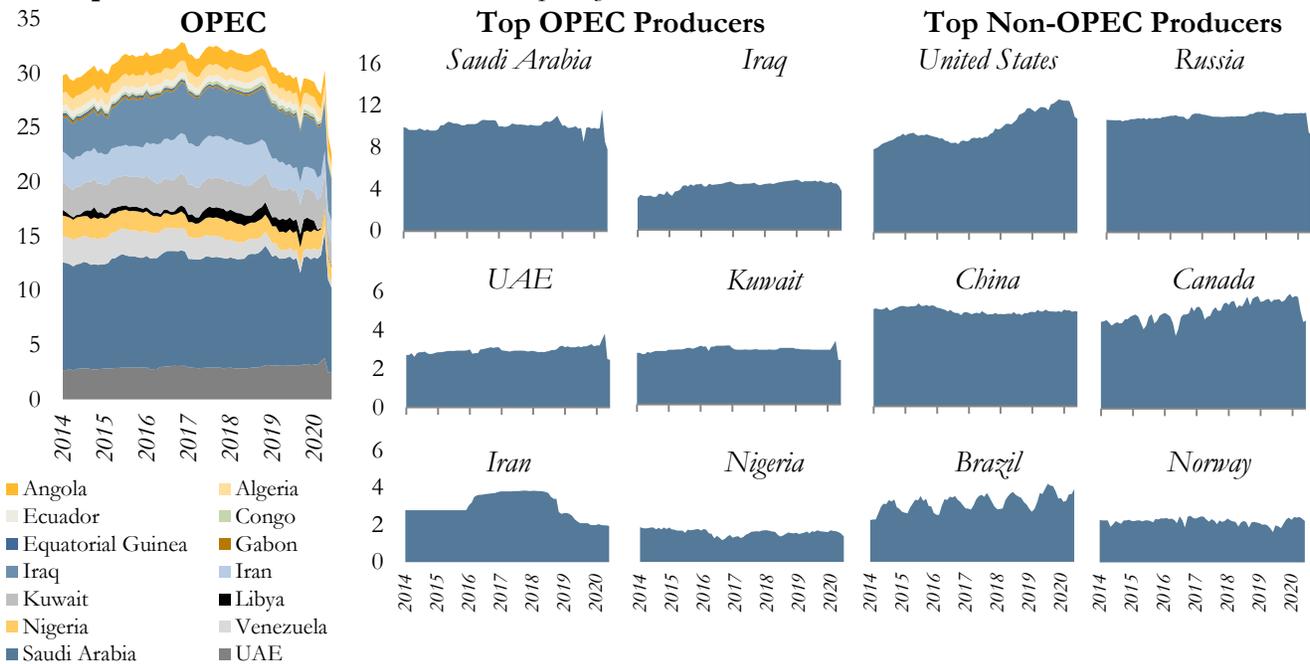


Regional Share of Production



*Excludes OPEC

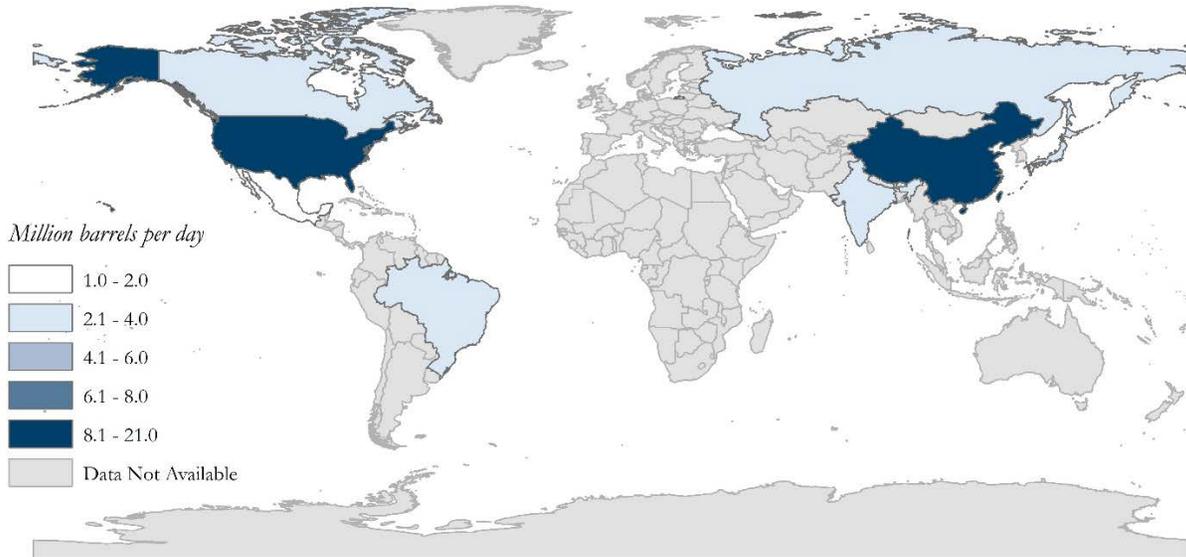
Top Crude Oil Producers, million barrels per day



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

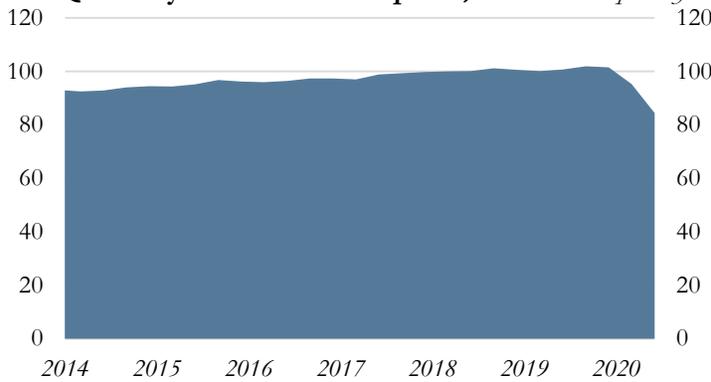
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

Second Quarter 2020 Global Petroleum Consumption

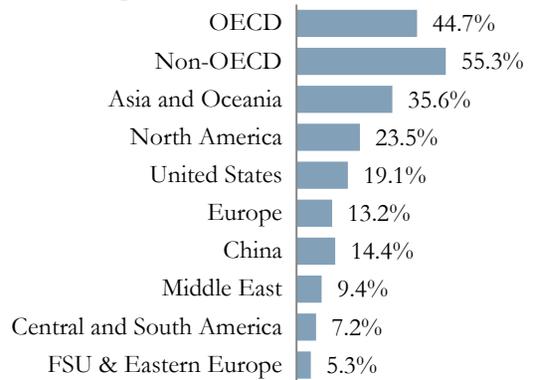


Source: Energy Information Administration/Haver Analytics

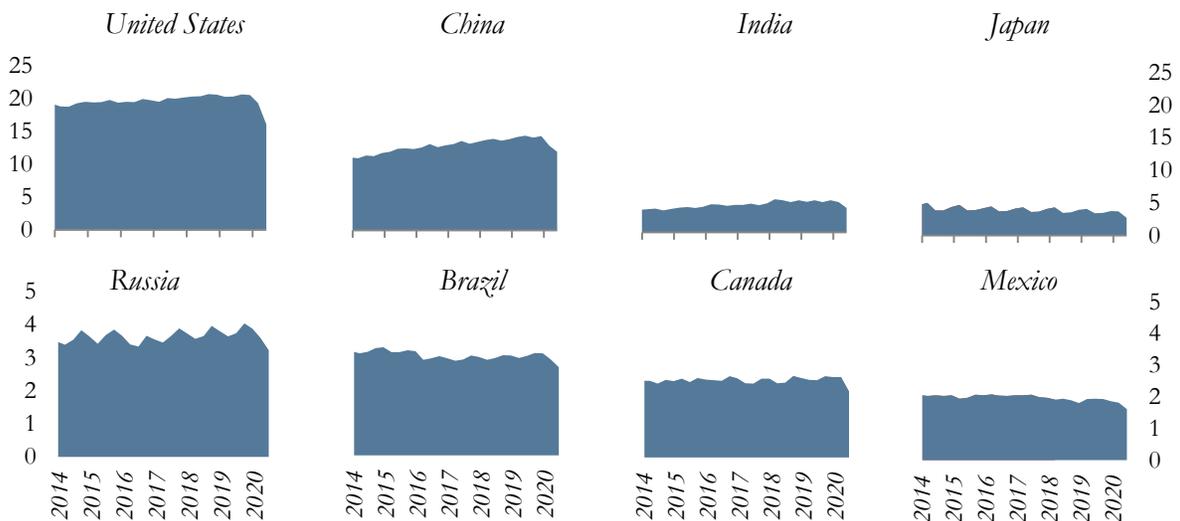
Quarterly Global Consumption, million barrels per day



Second Quarter 2020 Regional Share of Consumption

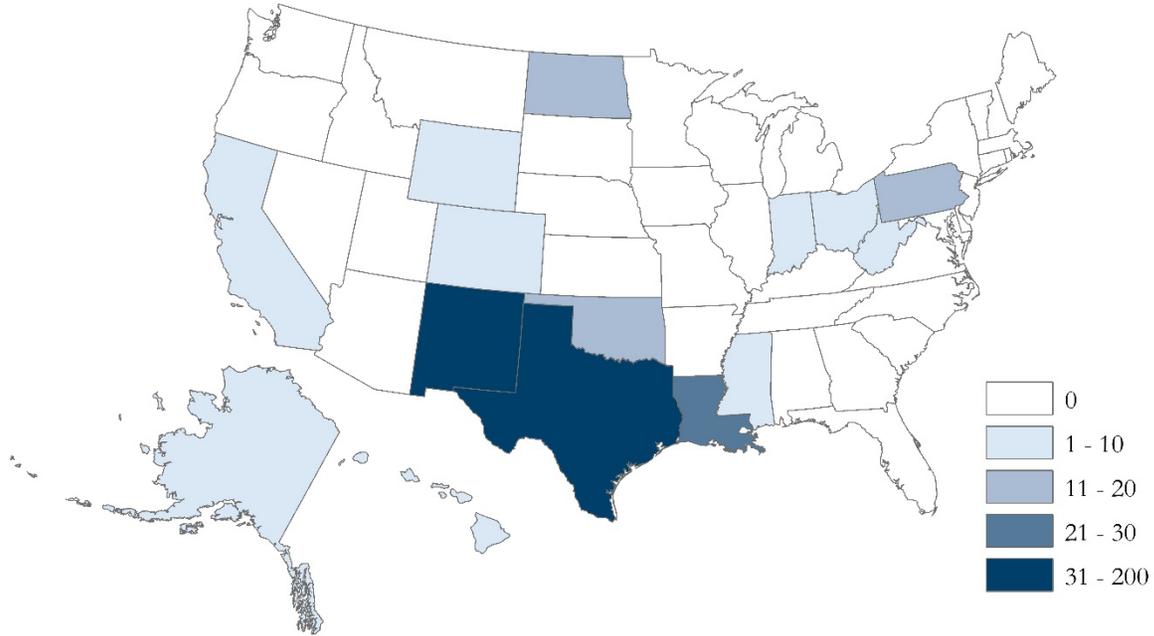


Top Petroleum Consumers, million barrels per day



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

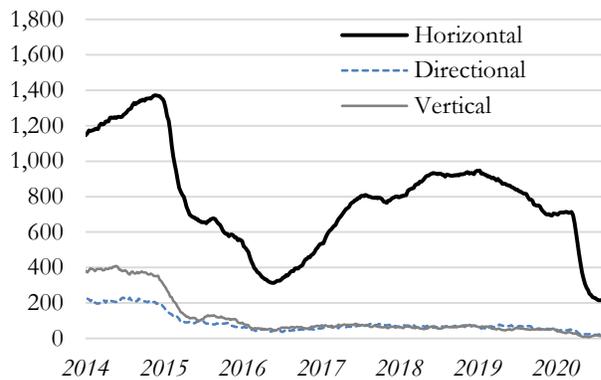
July 2020 Weekly Active Oil & Gas Drilling Rig Counts



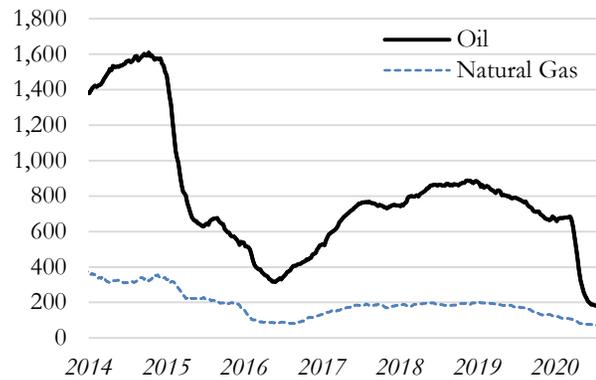
Source: Baker Hughes/Haver Analytics

July 31, 2020

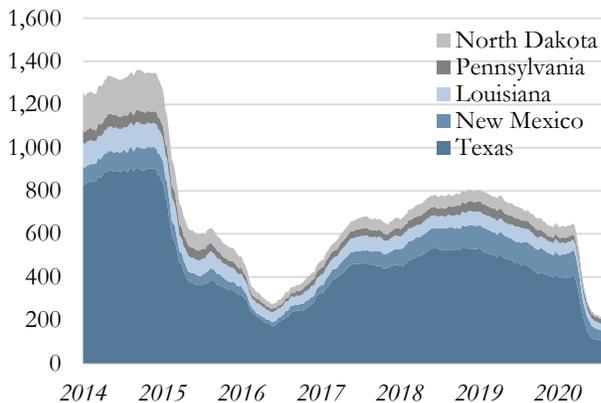
U.S. Active Drilling Rigs by Trajectory



U.S. Active Drilling Rigs by Type



Top Five States for Drilling Activity (Total Active Rigs)



Rig Count By Type

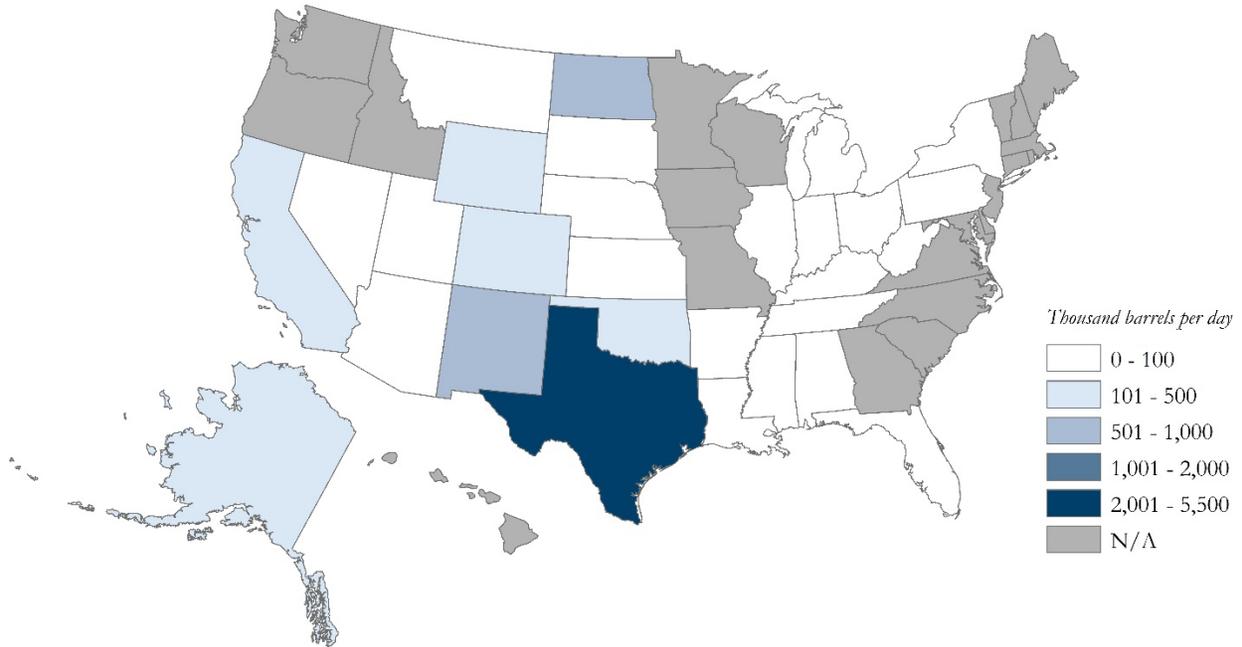
Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	180	185	325	770
Gas	69	76	81	171
Misc	2	2	2	1
Total	251	263	408	942

Rig Count By Type, Change from

Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	-	-2.7%	-44.6%	-76.6%
Gas	-	-9.2%	-14.8%	-59.6%
Misc	-	0.0%	0.0%	100.0%
Total	-	-4.6%	-38.5%	-73.4%

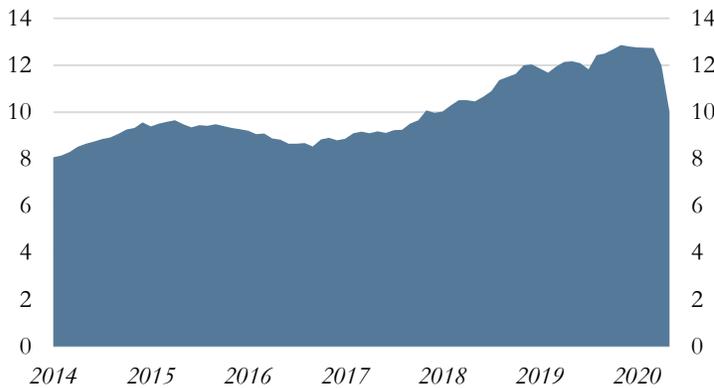
Source: Baker Hughes/Haver Analytics

May 2020 U.S. Crude Oil Production

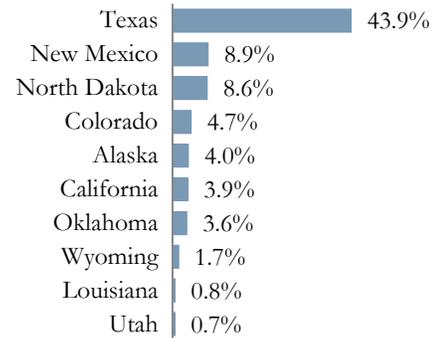


Source: Energy Information Administration/Haver Analytics

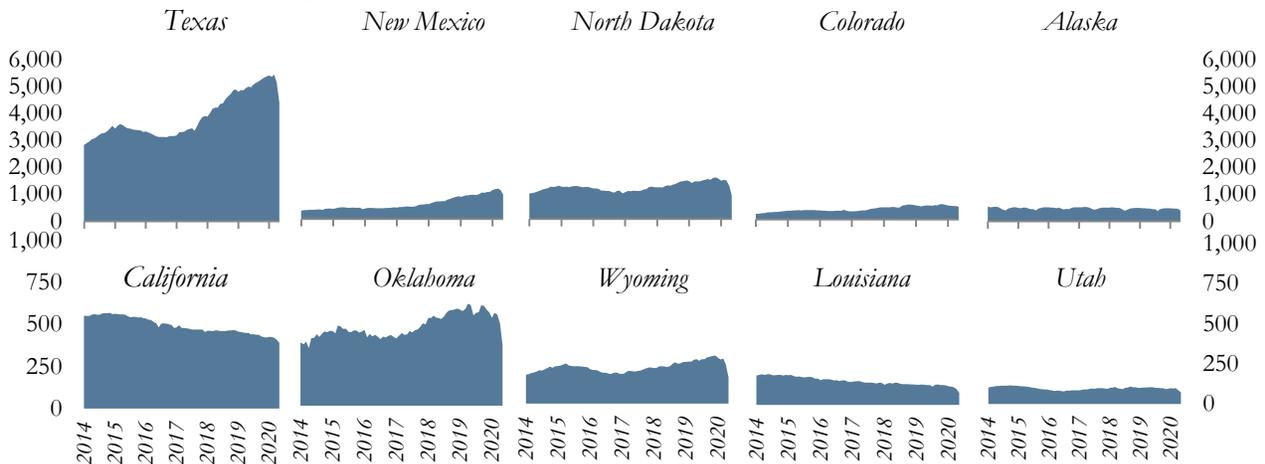
Monthly U.S. Production, million barrels per day



May 2020 Share of Production

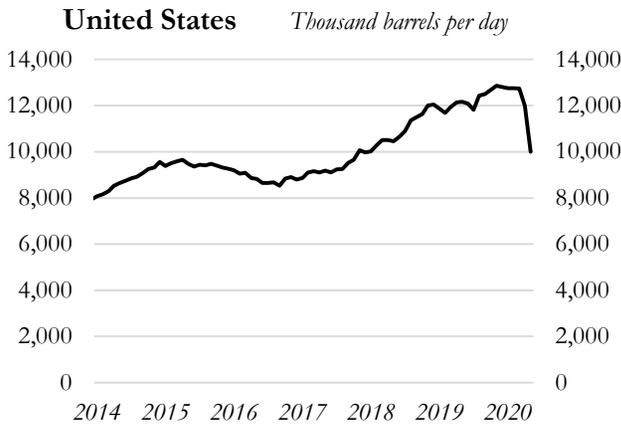


Top Producing States, thousand barrels per day

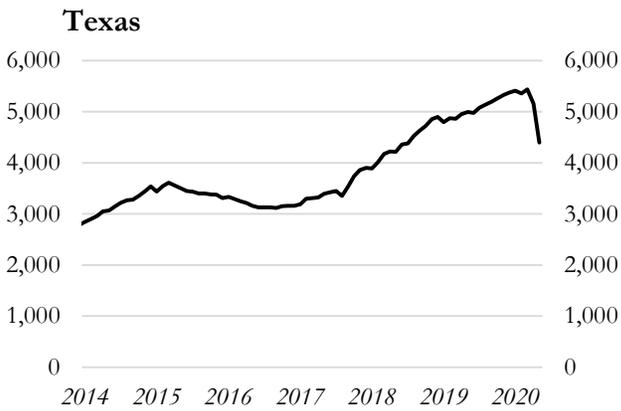


Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

Data through May 2020



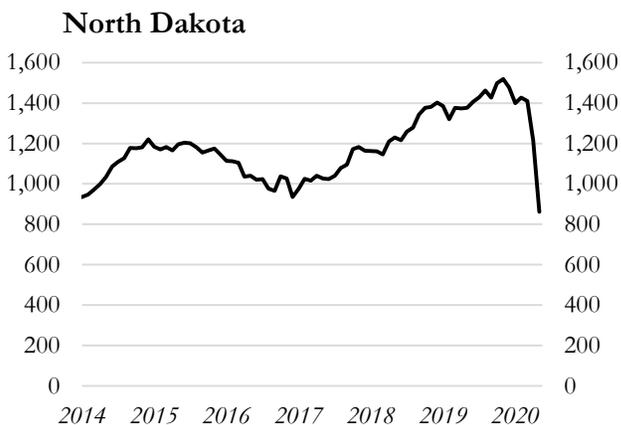
	United States	Change from
	Thousand barrels per day	
May-20	10,001	
Month Ago	11,990	-16.6%
3 Months Ago	12,746	-21.5%
6 Months Ago	12,860	-22.2%
1 Year Ago	12,163	-17.8%



	Texas	Change from
	Thousand barrels per day	
May-20	4,395	
Month Ago	5,159	-14.8%
3 Months Ago	5,359	-18.0%
6 Months Ago	5,327	-17.5%
1 Year Ago	4,992	-12.0%
Share of U.S. Production		43.9%



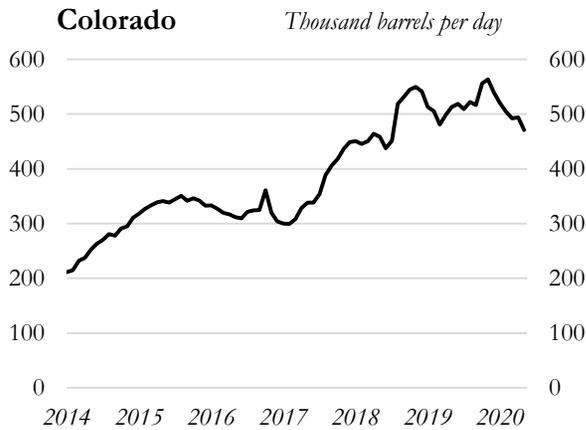
	New Mexico	Change from
	Thousand barrels per day	
May-20	885	
Month Ago	1,053	-15.9%
3 Months Ago	1,094	-19.1%
6 Months Ago	995	-11.0%
1 Year Ago	892	-0.7%
Share of U.S. Production		8.9%



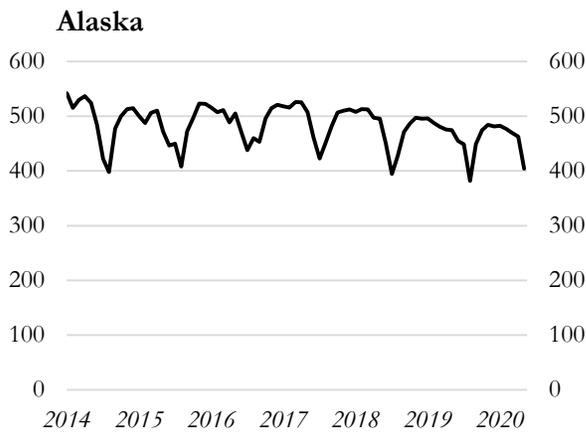
	North Dakota	Change from
	Thousand barrels per day	
May-20	862	
Month Ago	1,215	-29.1%
3 Months Ago	1,427	-39.6%
6 Months Ago	1,519	-43.2%
1 Year Ago	1,376	-37.4%
Share of U.S. Production		8.6%

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

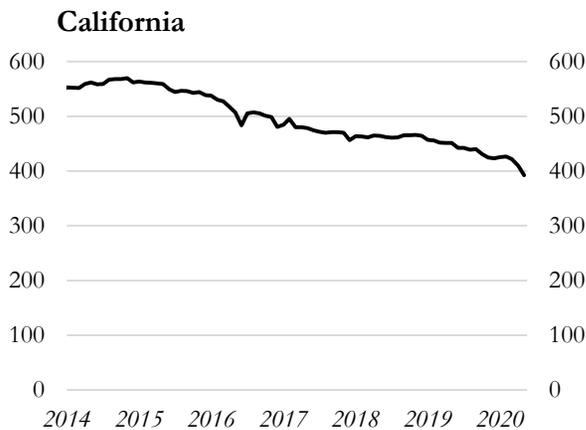
Data through May 2020



	Colorado <i>Thousand barrels per day</i>	<i>Change from</i>
May-20	471	
Month Ago	494	-4.7%
3 Months Ago	504	-6.6%
6 Months Ago	563	-16.5%
1 Year Ago	513	-8.3%
Share of U.S. Production	4.7%	



	Alaska <i>Thousand barrels per day</i>	<i>Change from</i>
May-20	404	
Month Ago	463	-12.7%
3 Months Ago	477	-15.2%
6 Months Ago	484	-16.5%
1 Year Ago	474	-14.8%
Share of U.S. Production	4.0%	



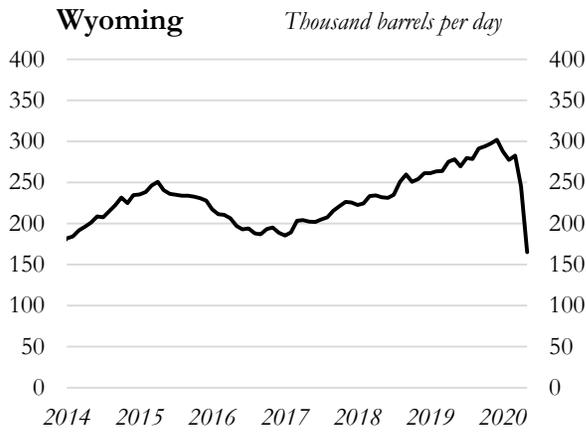
	California <i>Thousand barrels per day</i>	<i>Change from</i>
May-20	392	
Month Ago	409	-4.2%
3 Months Ago	427	-8.0%
6 Months Ago	425	-7.7%
1 Year Ago	451	-13.1%
Share of U.S. Production	3.9%	



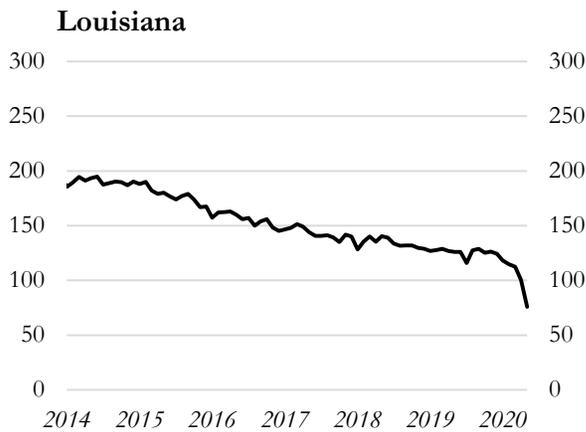
	Oklahoma <i>Thousand barrels per day</i>	<i>Change from</i>
May-20	363	
Month Ago	495	-26.7%
3 Months Ago	559	-35.1%
6 Months Ago	578	-37.1%
1 Year Ago	607	-40.2%
Share of U.S. Production	3.6%	

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

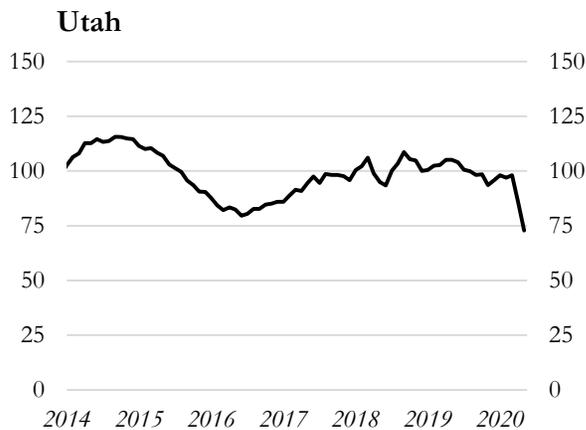
Data through May 2020



	Wyoming	Change from
	Thousand barrels per day	
May-20	165	
Month Ago	245	-32.7%
3 Months Ago	277	-40.5%
6 Months Ago	298	-44.5%
1 Year Ago	278	-40.7%
Share of U.S. Production	1.7%	



	Louisiana	Change from
	Thousand barrels per day	
May-20	76	
Month Ago	100	-24.4%
3 Months Ago	115	-34.0%
6 Months Ago	126	-40.0%
1 Year Ago	126	-39.9%
Share of U.S. Production	0.8%	

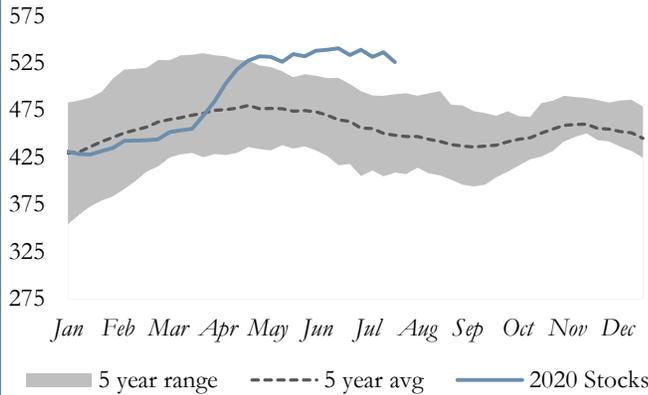


	Utah	Change from
	Thousand barrels per day	
May-20	73	
Month Ago	86	-14.9%
3 Months Ago	97	-24.9%
6 Months Ago	94	-22.2%
1 Year Ago	105	-30.8%
Share of U.S. Production	0.7%	

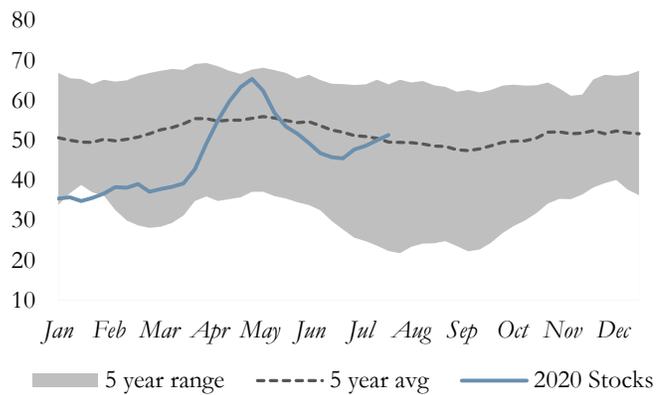
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

July 2020 Weekly U.S. Crude Oil Stocks

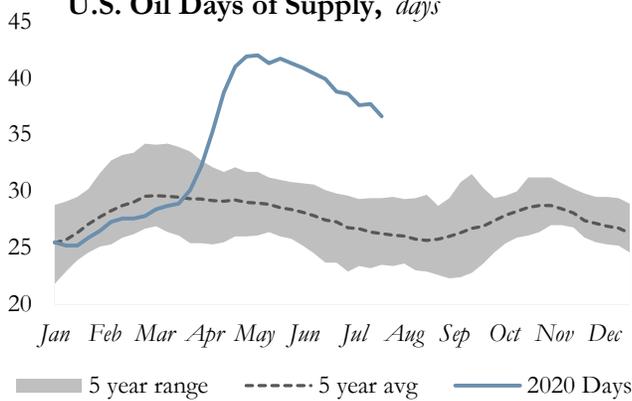
U.S. Oil Stocks, million barrels*



Cushing, OK Oil Stocks, million barrels



U.S. Oil Days of Supply, days



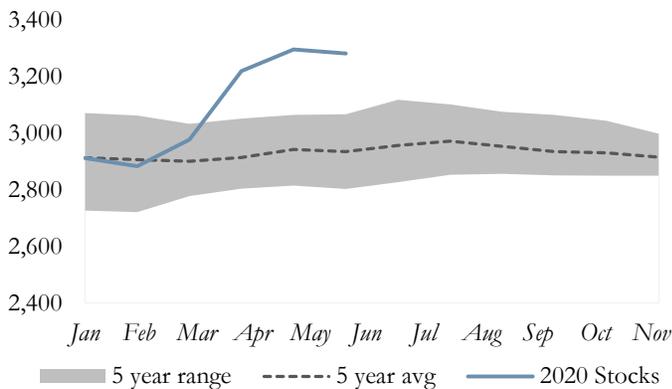
Crude Oil Stocks

	1 Week Change from Ago	1 Year Ago
U.S.	-2.0%	20.5%
Cushing, OK	2.6%	5.2%
Days of Supply	-2.9%	44.1%
East Coast (PADD 1)	-4.2%	-2.6%
Midwest (PADD 2)	1.6%	1.0%
Gulf Coast (PADD 3)	-3.4%	36.1%
Rocky Mountain (PADD 4)	-0.4%	27.3%
West Coast (PADD 5)	-3.2%	9.6%

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

June 2020 OECD Commercial Petroleum Inventory

OECD Commercial Petroleum Inventory, million barrels



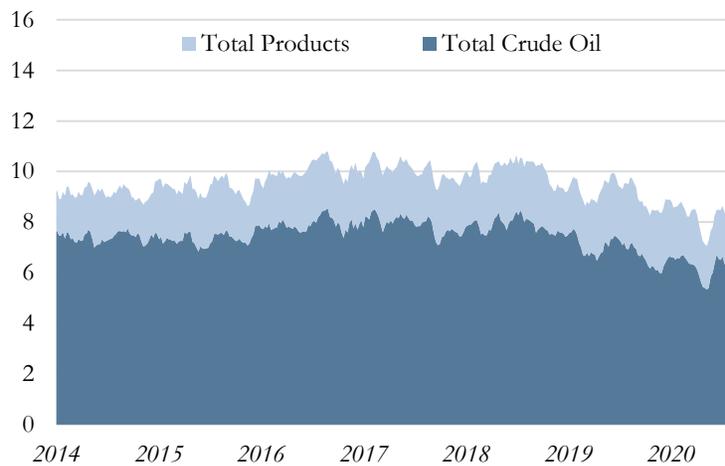
Petroleum Stocks	Million Barrels	Change from
Current Month	3,283	
1 Month Ago	3,297	-0.4%
3 Months Ago	2,978	10.2%
6 Months Ago	2,890	13.6%
1 Year Ago	2,921	12.4%

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

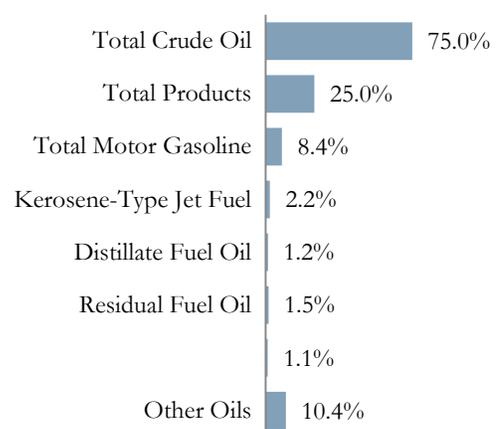
July 2020 Weekly U.S. Imports of Crude Oil & Petroleum Products

4-Week Averages

Imports, million barrels per day



Share of Total Imports



U.S. Imports by Product*

Thousand barrels per day

	Current 7/24/20	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
Total Crude Oil	6,012	6,504	5,448	6,594	6,956
Total Products	2,000	1,961	1,802	2,037	2,589
Total Motor Gasoline	672	718	373	488	956
Kerosene-Type Jet Fuel	178	157	152	113	206
Distillate Fuel Oil	93	136	210	224	130
Residual Fuel Oil	120	181	184	249	168
Propane/Propylene	90	73	101	146	110
Other Oils	832	696	783	811	1,008
Total Imports	8,012	8,465	7,250	8,631	9,545

U.S. Imports by Product, Change from

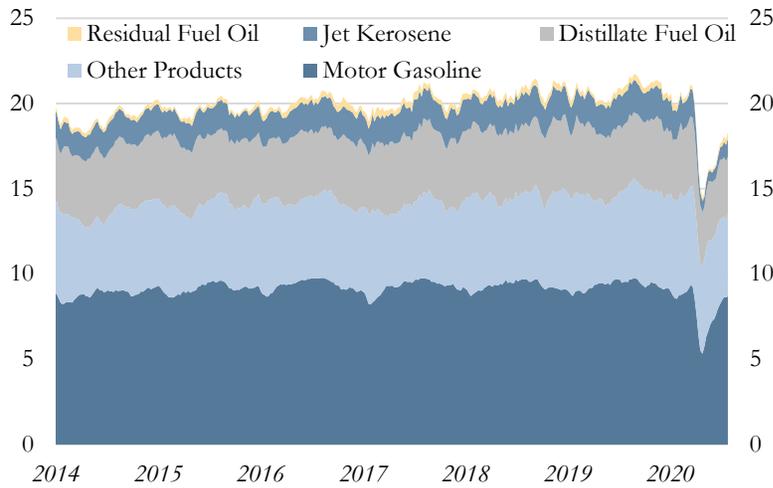
	Current 7/24/20	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
Total Crude Oil	-	-7.6%	10.4%	-8.8%	-13.6%
Total Products	-	2.0%	11.0%	-1.8%	-22.8%
Total Motor Gasoline	-	-6.4%	80.2%	37.7%	-29.7%
Kerosene-Type Jet Fuel	-	13.4%	17.1%	57.5%	-13.6%
Distillate Fuel Oil	-	-31.6%	-55.7%	-58.5%	-28.5%
Residual Fuel Oil	-	-33.7%	-34.8%	-51.8%	-28.6%
Propane/Propylene	-	23.3%	-10.9%	-38.4%	-18.2%
Other Oils	-	19.5%	6.3%	2.6%	-17.5%
Total Imports	-	-5.4%	10.5%	-7.2%	-16.1%

*Totals may not sum due to component rounding

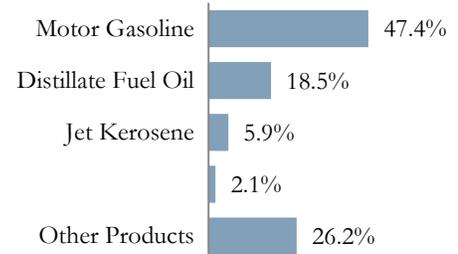
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

July 2020 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 7/24/20	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	18,337	17,641	14,525	19,871	21,089
Motor Gasoline	8,693	8,234	5,329	8,537	9,550
Distillate Fuel Oil	3,392	3,525	3,214	3,712	3,816
Jet Kerosene	1,074	724	658	1,640	1,853
Residual Fuel Oil	381	211	235	334	373
Other Products	4,797	4,947	5,089	5,648	5,497

U.S. Consumption by Product, Change from

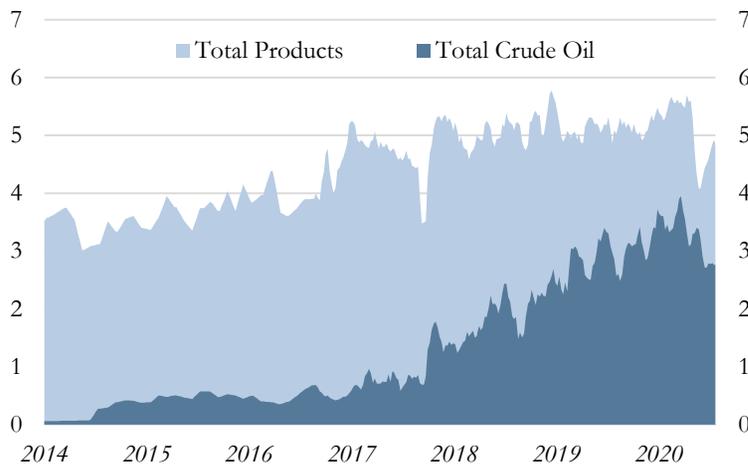
	Current 7/24/20	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	-	3.9%	26.2%	-7.7%	-13.0%
Motor Gasoline	-	5.6%	63.1%	1.8%	-9.0%
Distillate Fuel Oil	-	-3.8%	5.5%	-8.6%	-11.1%
Jet Kerosene	-	48.3%	63.2%	-34.5%	-42.0%
Residual Fuel Oil	-	80.6%	62.1%	14.1%	2.1%
Other Products	-	-3.0%	-5.7%	-15.1%	-12.7%

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

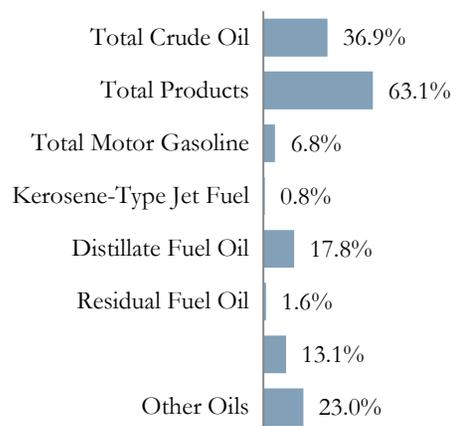
July 2020 Weekly U.S. Exports of Crude Oil & Petroleum Products

4-Week Averages

Exports, million barrels per day



Share of Total Exports



U.S. Exports by Product*

Thousand barrels per day

	Current 7/24/20	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
Total Crude Oil	2,784	2,788	3,115	3,367	2,862
Total Products	4,757	4,586	5,597	5,302	5,086
Total Motor Gasoline	511	393	804	718	671
Kerosene-Type Jet Fuel	62	79	152	233	204
Distillate Fuel Oil	1,339	1,227	1,266	1,230	1,263
Residual Fuel Oil	118	116	99	106	161
Propane/Propylene	991	1,037	1,199	1,254	1,123
Other Oils	1,737	1,735	2,078	1,762	1,664
Total Exports	7,541	7,374	8,712	8,669	7,948

U.S. Exports by Product, Change from

	Current 7/24/20	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
Total Crude Oil	-	-0.1%	-10.6%	-17.3%	-2.7%
Total Products	-	3.7%	-15.0%	-10.3%	-6.5%
Total Motor Gasoline	-	30.0%	-36.4%	-28.8%	-23.8%
Kerosene-Type Jet Fuel	-	-21.5%	-59.2%	-73.4%	-69.6%
Distillate Fuel Oil	-	9.1%	5.8%	8.9%	6.0%
Residual Fuel Oil	-	1.7%	19.2%	11.3%	-26.7%
Propane/Propylene	-	-4.4%	-17.3%	-21.0%	-11.8%
Other Oils	-	0.1%	-16.4%	-1.4%	4.4%
Total Exports	-	2.3%	-13.4%	-13.0%	-5.1%

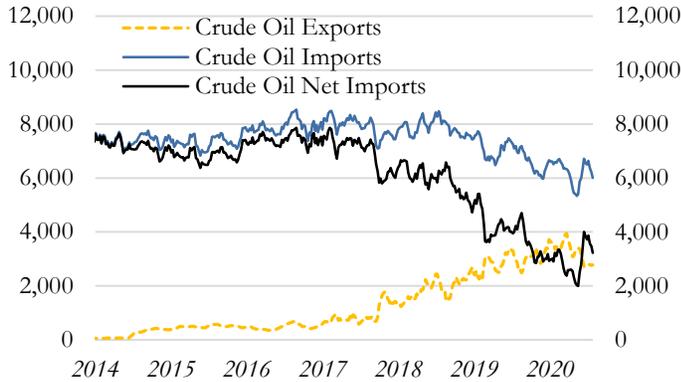
*Totals may not sum due to rounding

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

July 2020 Weekly U.S. Net Imports of Crude Oil & Petroleum Products

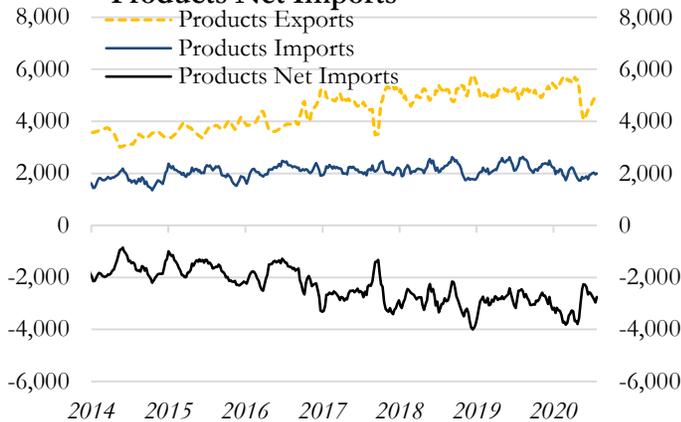
4-Week Averages, Thousand barrels per day

Crude Oil Net Imports



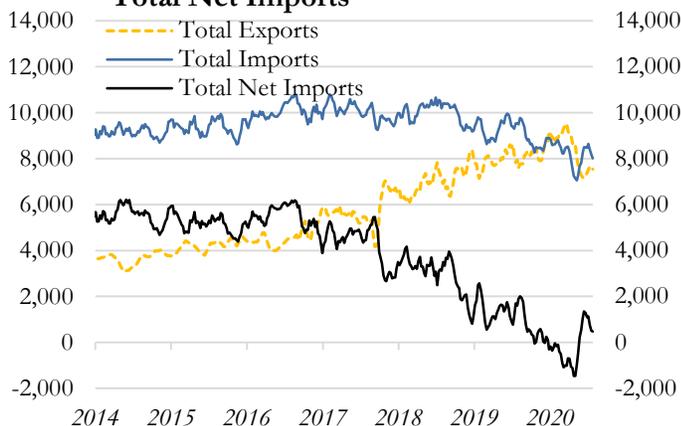
Crude Oil Net Imports		<i>Change from</i>
<i>Thousand barrels per day</i>		
7/24/20	3,229	
Month Ago	3,716	-13.1%
3 Months Ago	2,333	38.4%
6 Months Ago	3,227	0.1%
1 Year Ago	4,094	-21.1%

Products Net Imports



Products Net Imports		<i>Change from</i>
<i>Thousand barrels per day</i>		
7/24/20	-2,757	
Month Ago	-2,625	-
3 Months Ago	-3,795	-
6 Months Ago	-3,265	-
1 Year Ago	-2,497	-

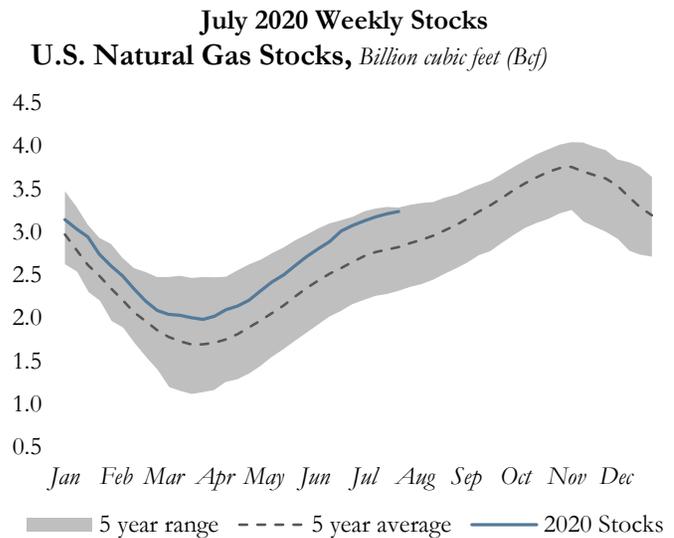
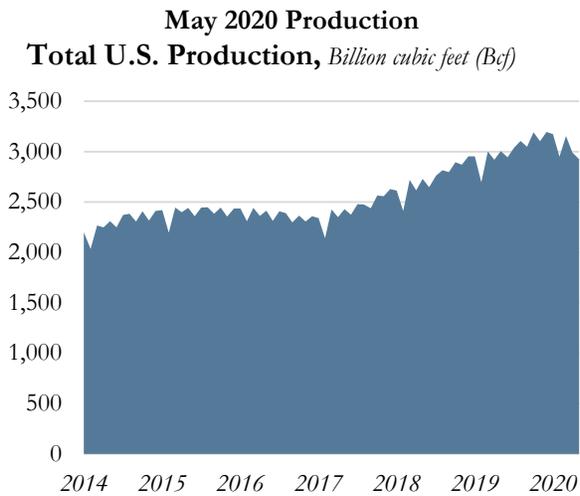
Total Net Imports



Total Net Imports		<i>Change from</i>
<i>Thousand barrels per day</i>		
7/24/20	472	
Month Ago	1,092	-
3 Months Ago	(1,462)	-
6 Months Ago	(38)	-
1 Year Ago	1,597	-

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

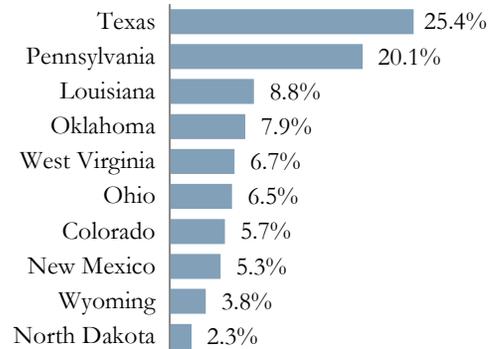
U.S. Natural Gas Production & Stocks



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	2,925	2,991	2,950	3,103	3,004
U.S. Stocks	3,241	3,077	2,210	2,746	2,634

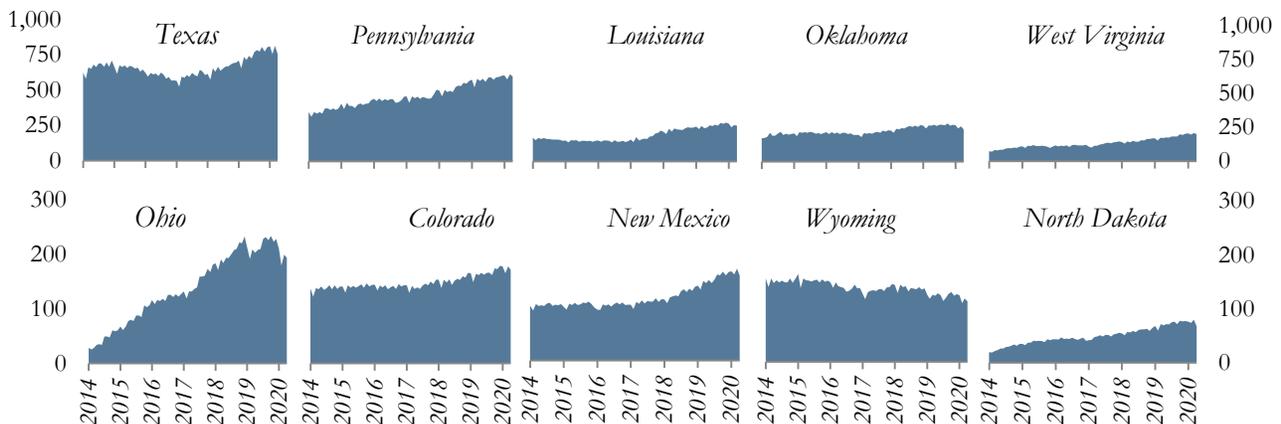
Share of Production



U.S. Natural Gas, Change from

	Current Period*	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
U.S. Production	-	-2.2%	-0.8%	-5.7%	-2.6%
U.S. Stocks	-	5.3%	46.7%	18.0%	23.0%

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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