

THE U.S. Energy DATABOOK

A summary of national and global energy indicators



FEBRUARY 8, 2021

FEDERAL RESERVE BANK *of* KANSAS CITY

SUMMARY OF CURRENT ENERGY CONDITIONS

Since the last edition of the U.S. energy databook, the energy sector continued to stabilize. However, with the continuation of the global COVID-19 pandemic, energy demand, oil prices, and investment activity remain below a year ago. In October, the number of total active drilling rigs in the United States rose 9.4 percent from a month ago, but remain 51 percent below year ago levels. In November 2020, U.S. crude oil production fell 6.6 percent and natural gas production edged down 0.3 percent. For the week ending January 29th, West Texas Intermediate (WTI) crude oil averaged \$52.52 per barrel and North Sea Brent averaged \$55.18 per barrel, rising 9.4 percent and 8.6 percent in the last month, respectively. The Henry Hub natural gas spot price averaged \$2.71 per million Btu for the week ending January 29th, increasing 13.9 percent in the last month. U.S. crude oil and petroleum products exports grew 0.8 percent in the last month and imports decreased by 2.4 percent. Global demand for petroleum rebounded in the fourth quarter of 2020, increasing 2.2 percent, and global petroleum production rose a modest 0.4 percent in December 2020.

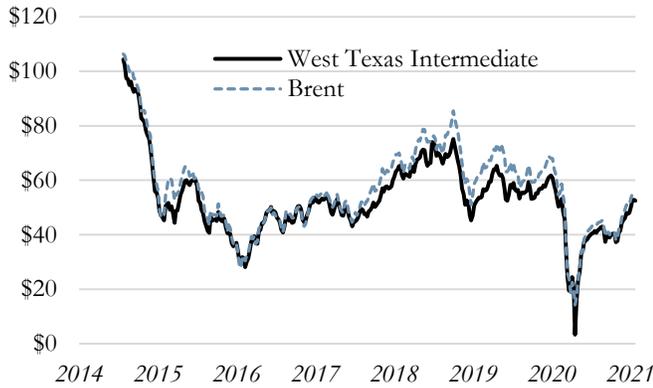
This databook provides current economic indicators to help monitor trends and allow comparison of past information. These indicators include: oil and natural gas prices; global petroleum production and demand; U.S. oil production and petroleum demand; U.S. crude oil stocks; OECD petroleum stocks; U.S.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



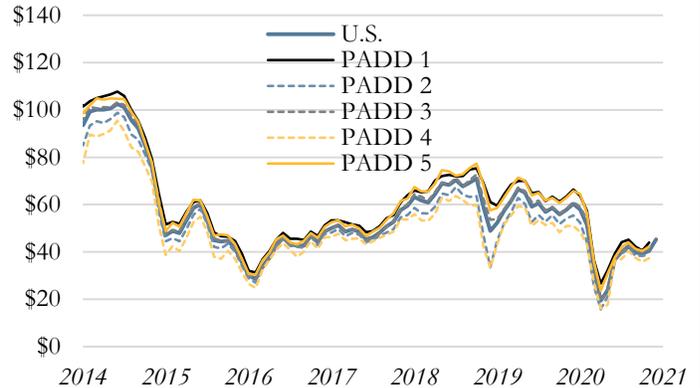
The Federal Reserve Bank of Kansas City's headquarters is located at 1 Memorial Drive in the heart of Kansas City, Missouri. The Federal Reserve Bank of Kansas City serves the Tenth Federal Reserve District, which includes Colorado, Kansas, western Missouri, Nebraska, northern New Mexico, Oklahoma and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

Weekly data through January 29, 2021

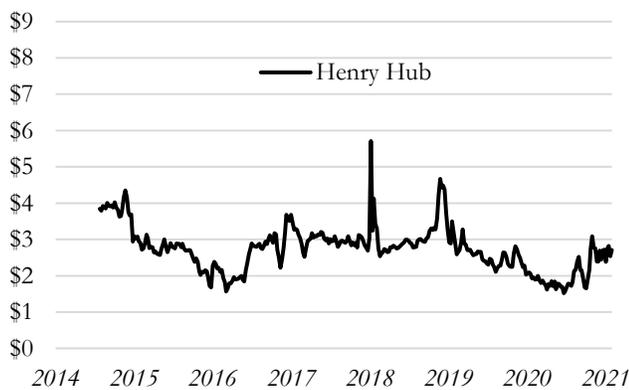
Weekly Oil Spot Prices, per barrel



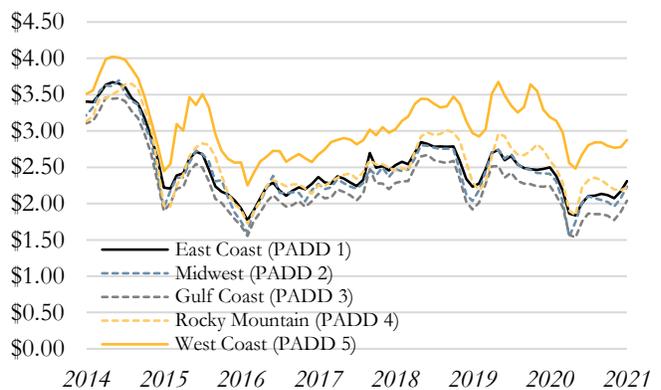
Refiner Acquisition Cost of Oil*, per barrel



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	1/29/21	Ago	Ago	Ago	Ago	Ago
West Texas Intermediate	\$52.52	-\$0.31	\$4.53	\$15.20	\$11.83	-\$0.18
Brent	\$55.18	-\$0.05	\$4.38	\$17.27	\$11.96	-\$3.39
Henry Hub	\$2.71	\$0.17	\$0.33	-\$0.38	\$0.89	\$0.76

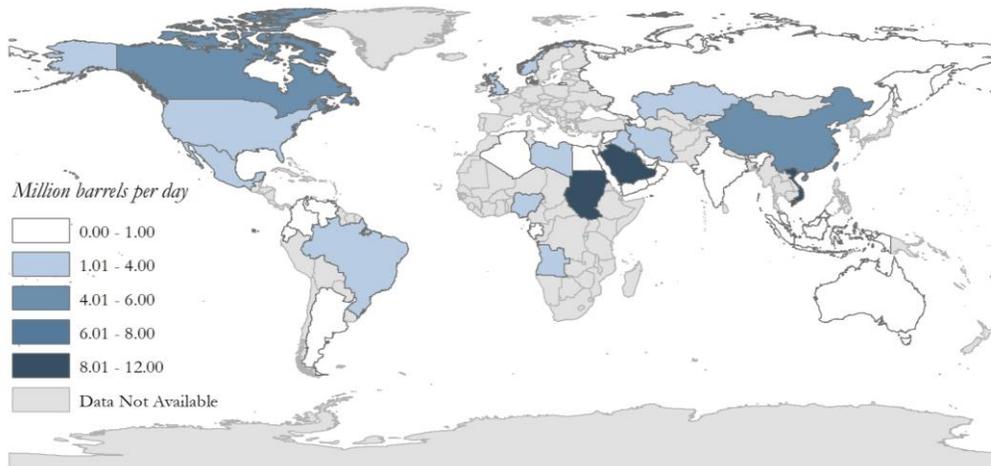
Monthly Gasoline Spot Prices, Change from

	Current	1 Month	3 months	6 Months	1 Year
Geographic Area	Jan-21	Ago	Ago	Ago	Ago
East Coast (PADD 1)	\$2.31	\$0.14	\$0.19	\$0.21	-\$0.19
Midwest (PADD 2)	\$2.23	\$0.16	\$0.21	\$0.13	-\$0.18
Gulf Coast (PADD 3)	\$2.04	\$0.16	\$0.21	\$0.18	-\$0.20
Rocky Mountain (PADD 4)	\$2.23	\$0.05	-\$0.03	-\$0.10	-\$0.37
West Coast (PADD 5)	\$2.88	\$0.10	\$0.08	\$0.07	-\$0.32

*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

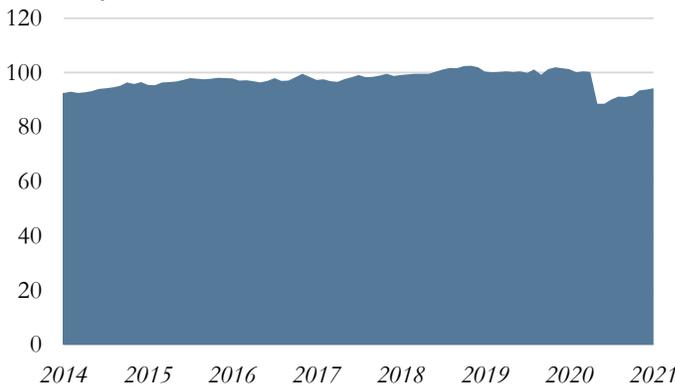
December 2020 Global Petroleum Production



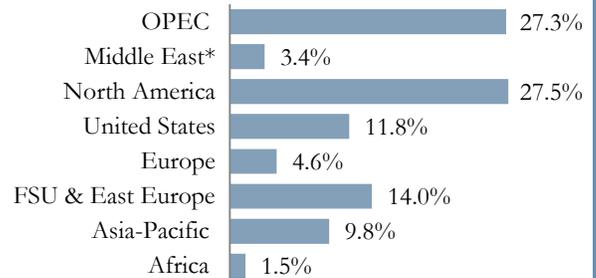
Source: Energy Information Administration/Haver Analytics

December 2020

Monthly Global Petroleum Production, million barrels per day

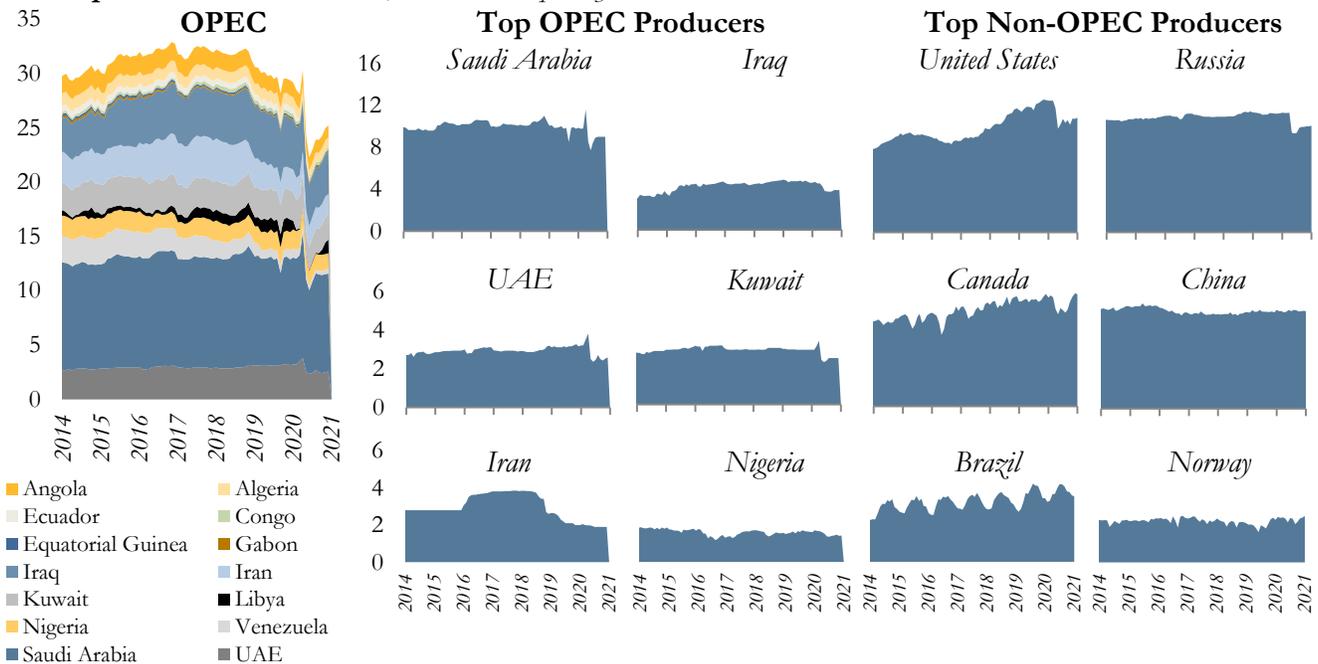


Regional Share of Production



*Excludes OPEC

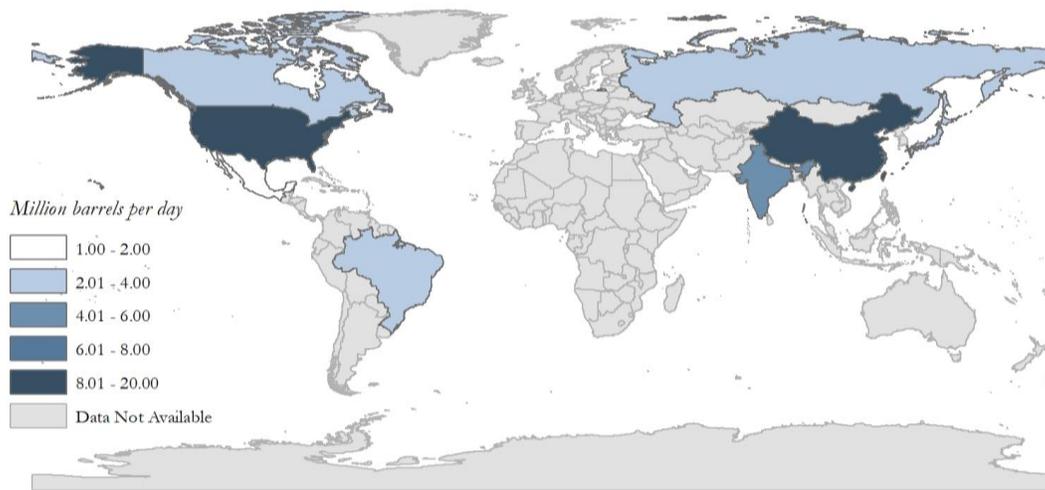
Top Crude Oil Producers, million barrels per day



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

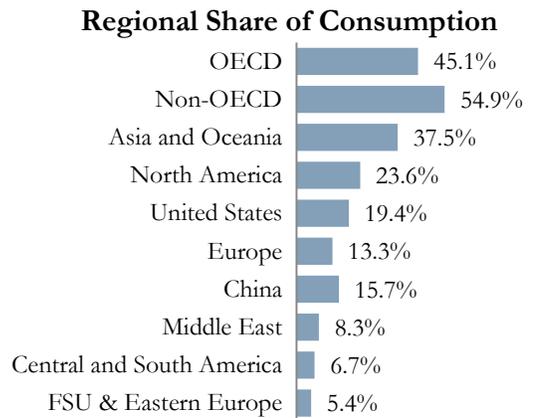
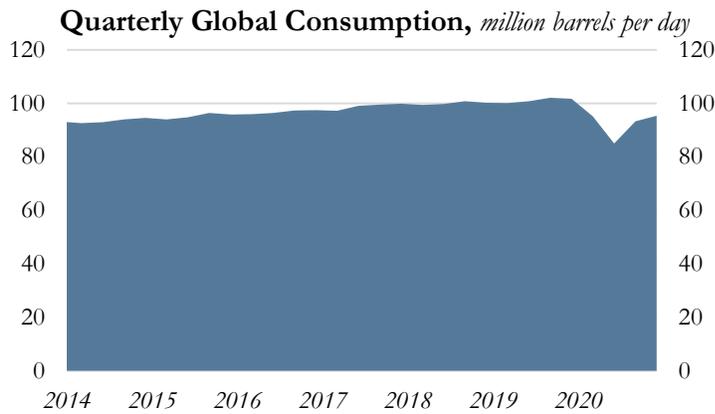
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

Fourth Quarter 2020 Global Petroleum Consumption

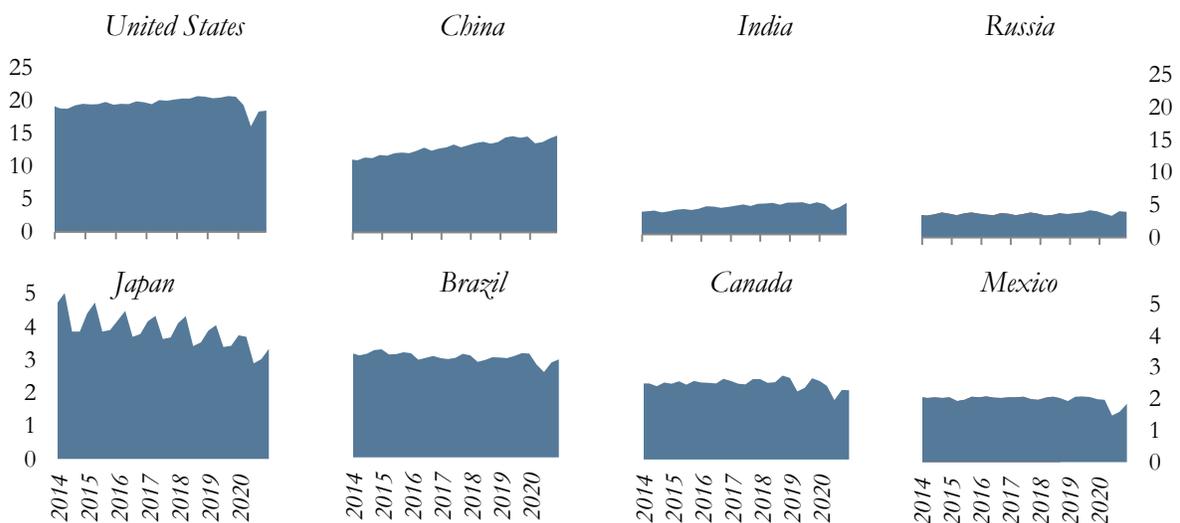


Source: Energy Information Administration/Haver Analytics

Fourth Quarter 2020

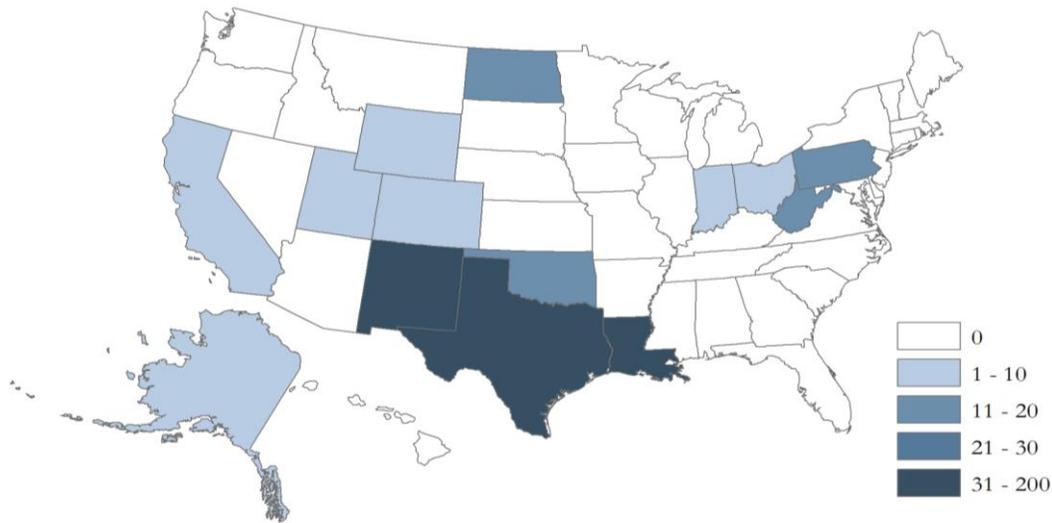


Top Petroleum Consumers, million barrels per day



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

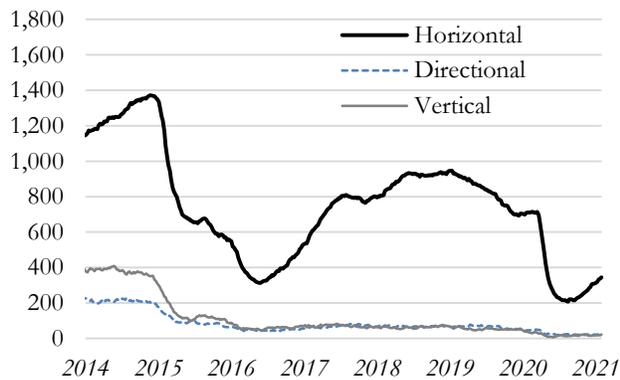
January 2021 Weekly Active Oil & Gas Drilling Rig Counts



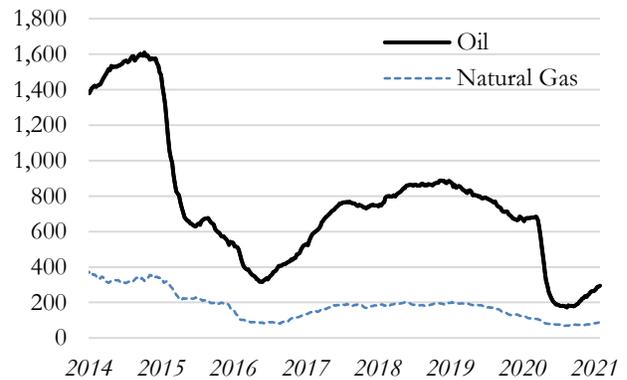
Source: Baker Hughes/Haver Analytics

January 29, 2021

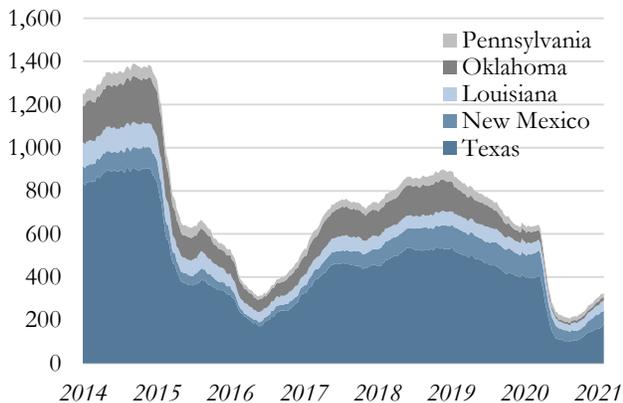
U.S. Active Drilling Rigs by Trajectory



U.S. Active Drilling Rigs by Type



Top Five States for Drilling Activity (Total Active Rigs)



Rig Count By Type

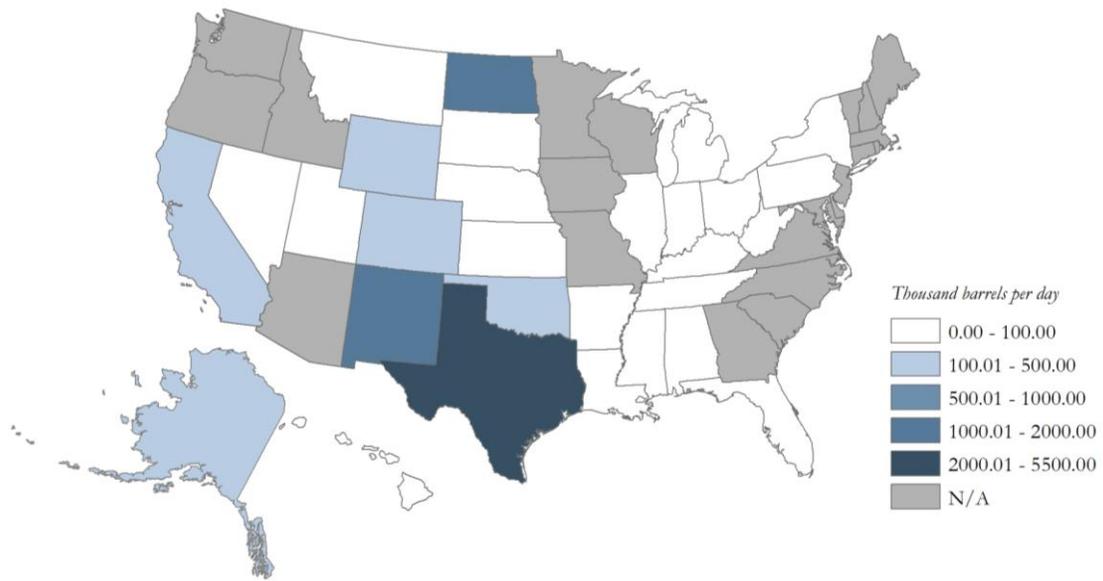
Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	295	267	221	675
Gas	88	83	72	112
Misc	1	1	3	3
Total	384	351	296	790

Rig Count By Type, Change from

Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	-	10.5%	33.5%	-56.3%
Gas	-	6.0%	22.2%	-21.4%
Misc	-	0.0%	-66.7%	-66.7%
Total	-	9.4%	29.7%	-51.4%

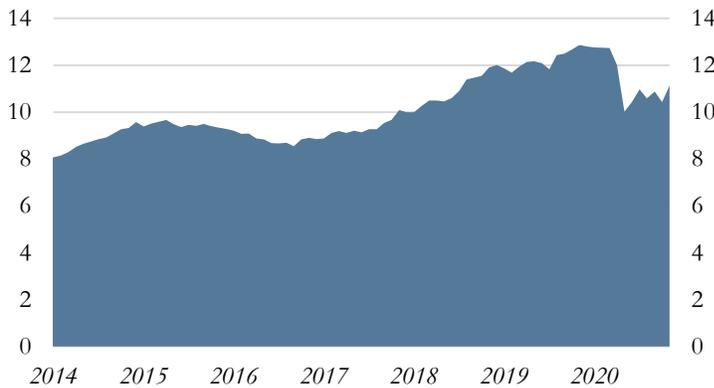
Source: Baker Hughes/Haver Analytics

November 2020 U.S. Crude Oil Production



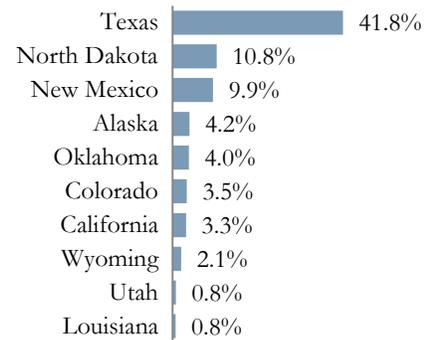
Source: Energy Information Administration/Haver Analytics

Monthly U.S. Production, million barrels per day

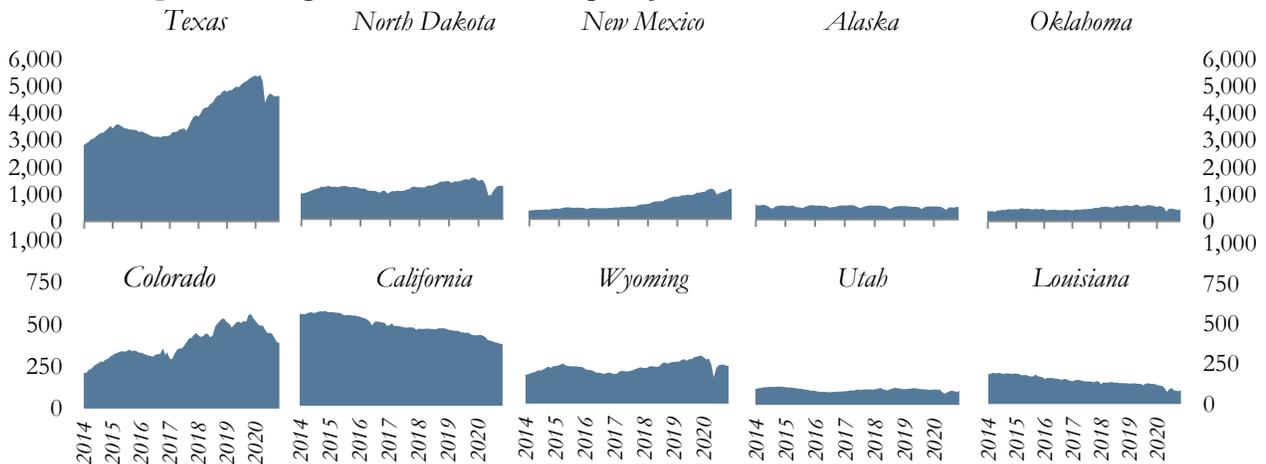


November 2020

Share of Production

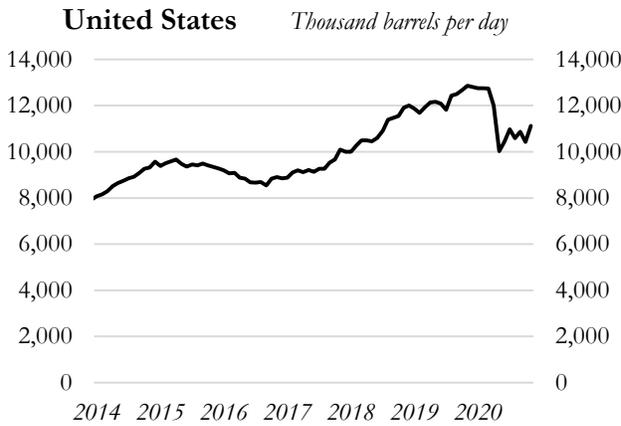


Top Producing States, thousand barrels per day

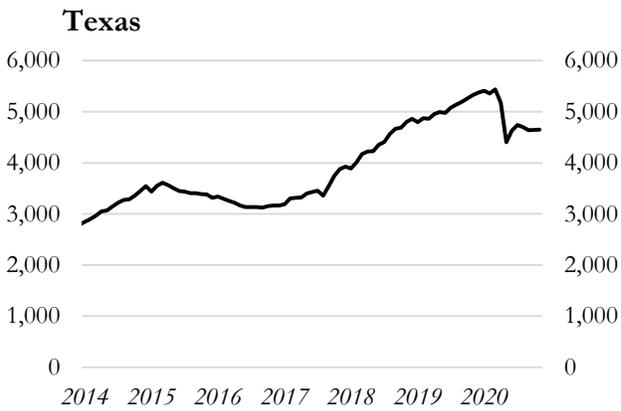


Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

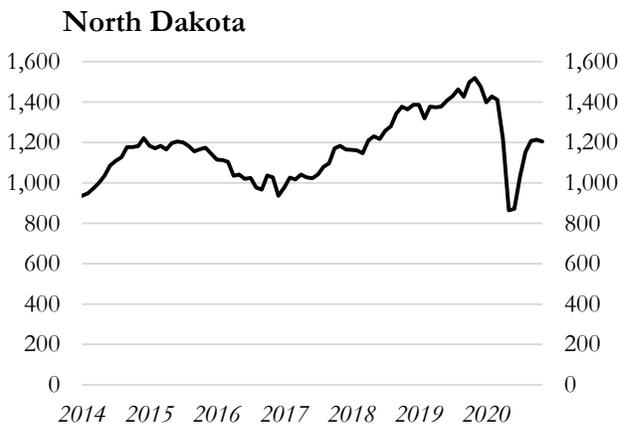
Data through November 2020



	United States <i>Thousand barrels per day</i>	<i>Change from</i>
Nov-20	11,124	
Month Ago	10,432	6.6%
3 Months Ago	10,584	5.1%
6 Months Ago	10,019	11.0%
1 Year Ago	12,860	-13.5%



	Texas <i>Thousand barrels per day</i>	<i>Change from</i>
Nov-20	4,653	
Month Ago	4,644	0.2%
3 Months Ago	4,696	-0.9%
6 Months Ago	4,403	5.7%
1 Year Ago	5,327	-12.7%
Share of U.S. Production		41.8%



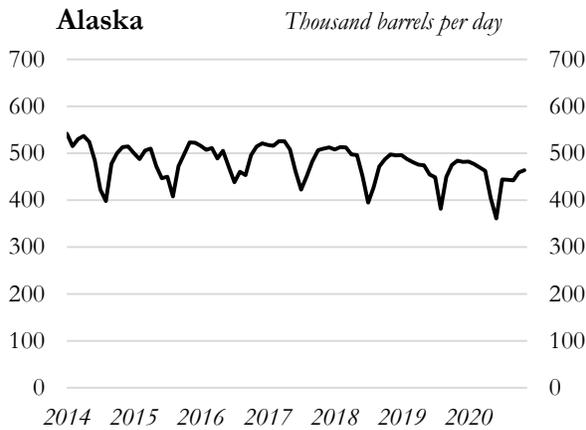
	North Dakota <i>Thousand barrels per day</i>	<i>Change from</i>
Nov-20	1,205	
Month Ago	1,214	-0.7%
3 Months Ago	1,152	4.6%
6 Months Ago	864	39.5%
1 Year Ago	1,519	-20.7%
Share of U.S. Production		10.8%



	New Mexico <i>Thousand barrels per day</i>	<i>Change from</i>
Nov-20	1,106	
Month Ago	1,087	1.8%
3 Months Ago	1,005	10.1%
6 Months Ago	890	24.3%
1 Year Ago	995	11.2%
Share of U.S. Production		9.9%

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

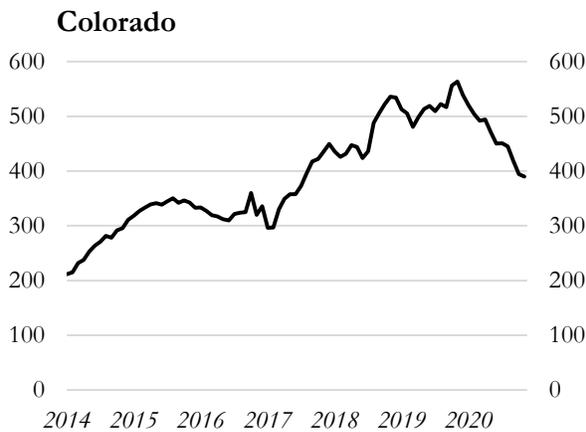
Data through November 2020



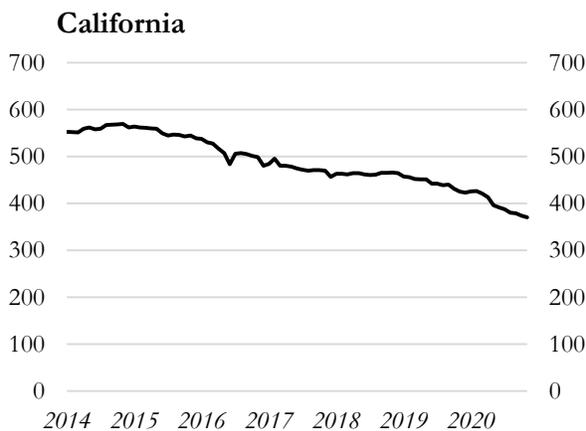
	Alaska	Change from
	Thousand barrels per day	
Nov-20	464	
Month Ago	459	1.0%
3 Months Ago	444	4.6%
6 Months Ago	404	14.8%
1 Year Ago	484	-4.2%
Share of U.S. Production		4.2%



	Oklahoma	Change from
	Thousand barrels per day	
Nov-20	449	
Month Ago	420	6.9%
3 Months Ago	459	-2.2%
6 Months Ago	359	24.9%
1 Year Ago	578	-22.3%
Share of U.S. Production		4.0%



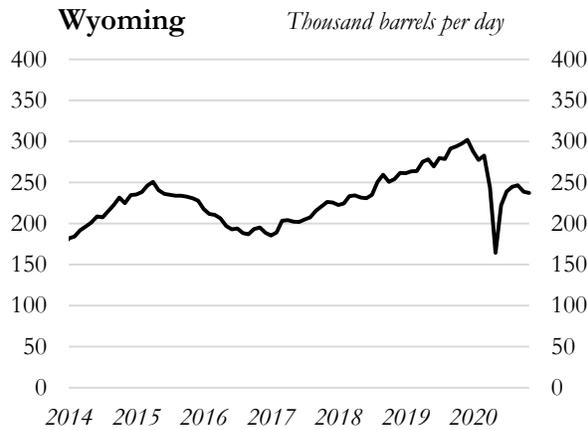
	Colorado	Change from
	Thousand barrels per day	
Nov-20	390	
Month Ago	394	-1.1%
3 Months Ago	445	-12.4%
6 Months Ago	471	-17.2%
1 Year Ago	563	-30.8%
Share of U.S. Production		3.5%



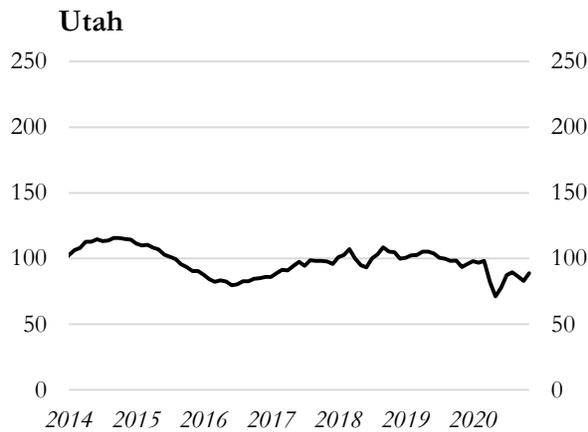
	California	Change from
	Thousand barrels per day	
Nov-20	370	
Month Ago	374	-0.9%
3 Months Ago	380	-2.6%
6 Months Ago	396	-6.5%
1 Year Ago	425	-12.9%
Share of U.S. Production		3.3%

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

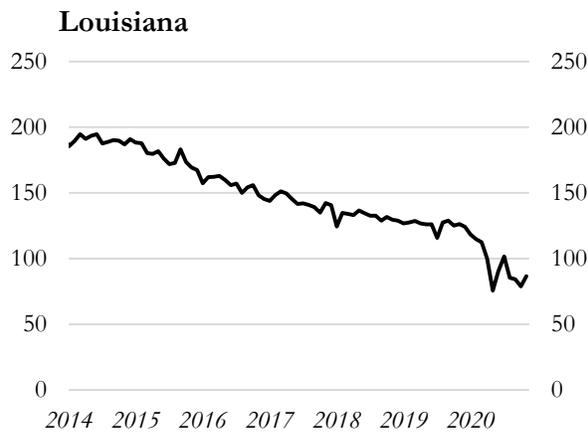
Data through November 2020



	Wyoming	Change from
	Thousand barrels per day	
Nov-20	237	
Month Ago	239	-0.6%
3 Months Ago	245	-3.0%
6 Months Ago	164	44.4%
1 Year Ago	298	-20.2%
Share of U.S. Production	2.1%	



	Utah	Change from
	Thousand barrels per day	
Nov-20	89	
Month Ago	83	7.1%
3 Months Ago	90	-0.9%
6 Months Ago	71	24.9%
1 Year Ago	94	-5.1%
Share of U.S. Production	0.8%	

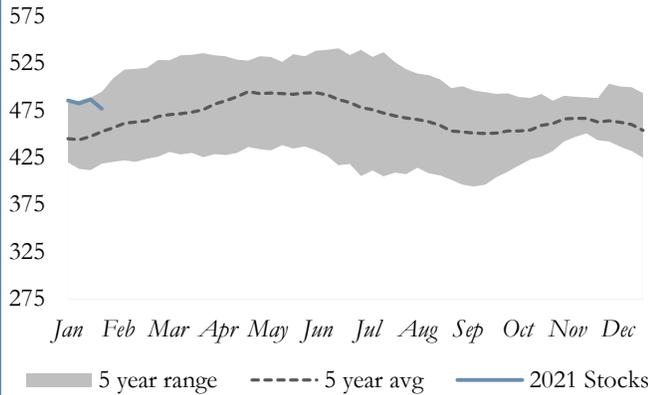


	Louisiana	Change from
	Thousand barrels per day	
Nov-20	87	
Month Ago	79	9.8%
3 Months Ago	85	1.5%
6 Months Ago	76	14.5%
1 Year Ago	126	-31.5%
Share of U.S. Production	0.8%	

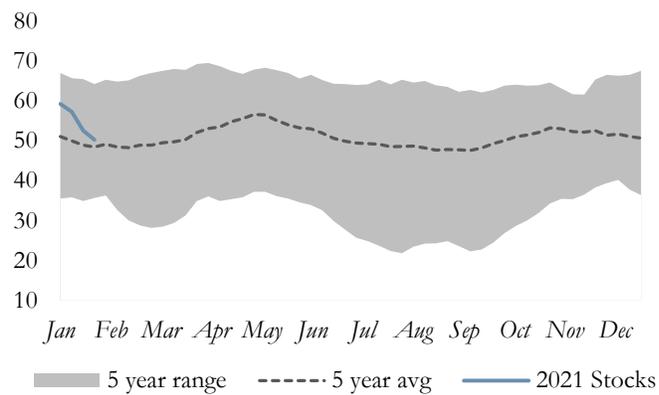
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

January 2021 Weekly U.S. Crude Oil Stocks

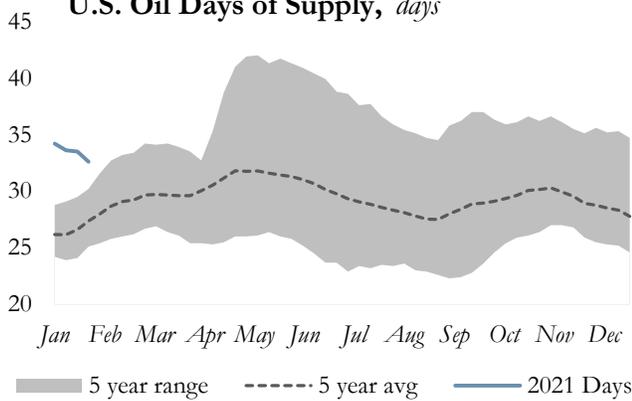
U.S. Oil Stocks, million barrels*



Cushing, OK Oil Stocks, million barrels



U.S. Oil Days of Supply, days



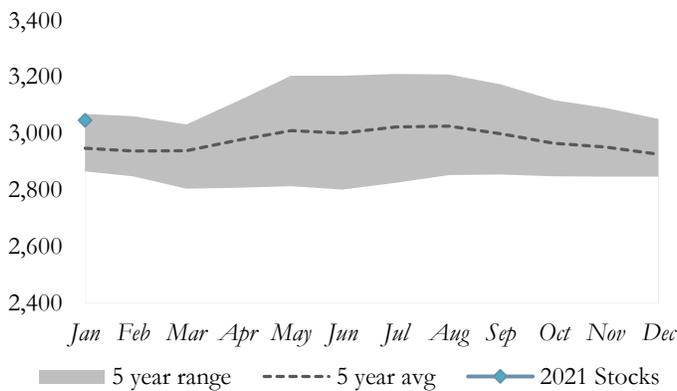
Crude Oil Stocks

	1 Week Change from Ago	1 Year Ago
U.S.	-2.0%	10.4%
Cushing, OK	-4.3%	40.9%
Days of Supply	-2.7%	25.9%
East Coast (PADD 1)	-2.9%	8.0%
Midwest (PADD 2)	-1.9%	8.9%
Gulf Coast (PADD 3)	-2.4%	15.8%
Rocky Mountain (PADD 4)	0.3%	10.7%
West Coast (PADD 5)	-1.1%	-8.5%

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

January 2021 OECD Commercial Petroleum Inventory

OECD Commercial Petroleum Inventory, million barrels



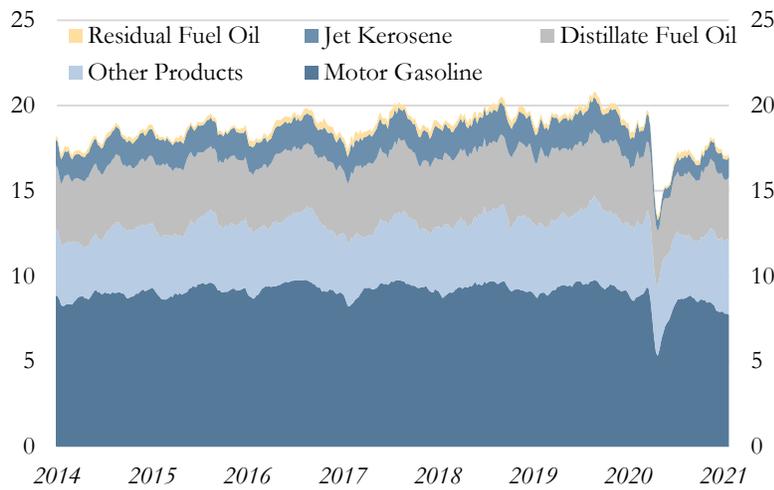
Petroleum Stocks

	Million Barrels	Change from
Current Month	3,047	
1 Month Ago	3,051	-0.1%
3 Months Ago	3,117	-2.2%
6 Months Ago	3,210	-5.1%
1 Year Ago	2,903	5.0%

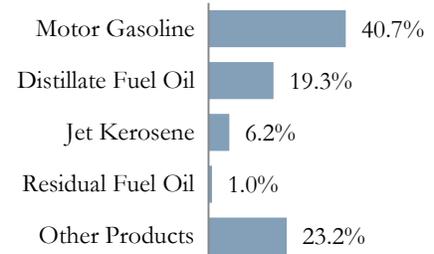
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

January 2021 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 1/22/21	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	18,996	19,068	18,891	18,337	19,871
Motor Gasoline	7,729	7,931	8,576	8,693	8,537
Distillate Fuel Oil	3,668	3,790	3,968	3,392	3,712
Jet Kerosene	1,178	1,218	1,017	1,074	1,640
Residual Fuel Oil	198	190	263	381	334
Other Products	4,404	4,338	3,834	3,799	4,193

U.S. Consumption by Product, Change from

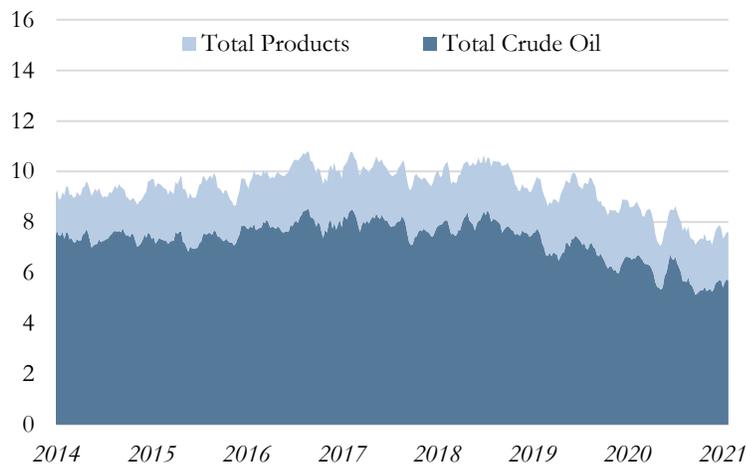
	Current 1/22/21	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	-	-0.4%	0.6%	3.6%	-4.4%
Motor Gasoline	-	-2.5%	-9.9%	-11.1%	-9.5%
Distillate Fuel Oil	-	-3.2%	-7.6%	8.1%	-1.2%
Jet Kerosene	-	-3.3%	15.8%	9.7%	-28.2%
Residual Fuel Oil	-	4.2%	-24.7%	-48.0%	-40.7%
Other Products	-	1.5%	14.9%	15.9%	5.0%

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

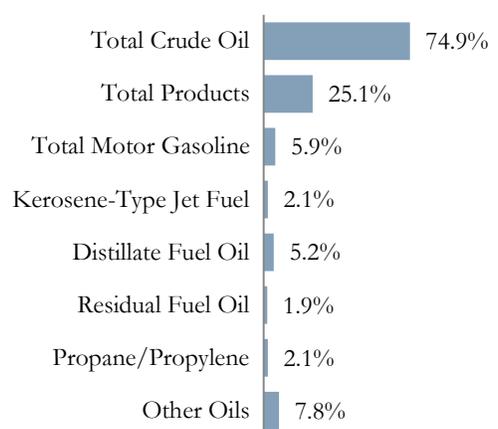
January 2021 Weekly U.S. Imports of Crude Oil & Petroleum Products

4-Week Averages

Imports, million barrels per day



Share of Total Imports



U.S. Imports by Product*

Thousand barrels per day

	Current 1/22/21	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
Total Crude Oil	5,679	5,698	5,450	6,012	6,594
Total Products	1,901	2,071	2,086	2,000	2,037
Total Motor Gasoline	449	643	554	672	488
Kerosene-Type Jet Fuel	159	136	200	178	113
Distillate Fuel Oil	396	459	221	93	224
Residual Fuel Oil	142	149	181	120	249
Propane/Propylene	162	152	112	90	146
Other Oils	593	524	810	832	811
Total Imports	7,580	7,769	7,536	8,012	8,631

U.S. Imports by Product, Change from

	Current 1/22/21	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
Total Crude Oil	-	-0.3%	4.2%	-5.5%	-13.9%
Total Products	-	-8.2%	-8.9%	-5.0%	-6.7%
Total Motor Gasoline	-	-30.2%	-19.0%	-33.2%	-8.0%
Kerosene-Type Jet Fuel	-	16.9%	-20.5%	-10.7%	40.7%
Distillate Fuel Oil	-	-13.7%	79.2%	325.8%	76.8%
Residual Fuel Oil	-	-4.7%	-21.5%	18.3%	-43.0%
Propane/Propylene	-	6.6%	44.6%	80.0%	11.0%
Other Oils	-	13.2%	-26.8%	-28.7%	-26.9%
Total Imports	-	-2.4%	0.6%	-5.4%	-12.2%

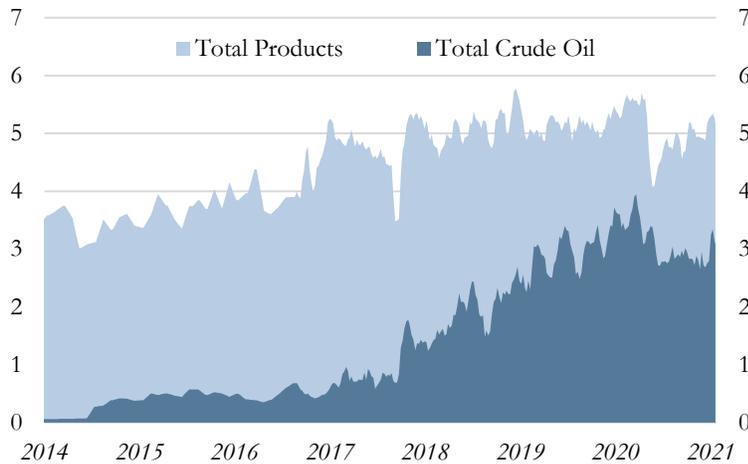
*Totals may not sum due to component rounding

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

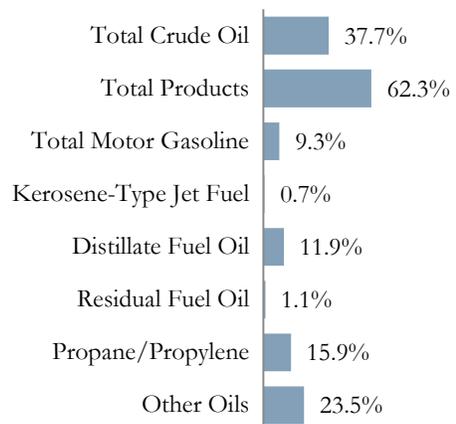
January 2021 Weekly U.S. Exports of Crude Oil & Petroleum Products

4-Week Averages

Exports, million barrels per day



Share of Total Exports



U.S. Exports by Product*

Thousand barrels per day

	Current 1/22/21	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
Total Crude Oil	3,062	2,796	2,823	2,784	3,367
Total Products	5,065	5,266	5,061	4,757	5,302
Total Motor Gasoline	754	839	714	511	718
Kerosene-Type Jet Fuel	55	84	56	62	233
Distillate Fuel Oil	964	1,075	1,109	1,339	1,230
Residual Fuel Oil	90	87	109	118	106
Propane/Propylene	1,291	1,460	1,198	991	1,254
Other Oils	1,911	1,721	1,876	1,737	1,762
Total Exports	8,127	8,062	7,884	7,541	8,669

U.S. Exports by Product, Change from

	Current 1/22/21	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
Total Crude Oil	-	9.5%	8.5%	10.0%	-9.1%
Total Products	-	-3.8%	0.1%	6.5%	-4.5%
Total Motor Gasoline	-	-10.1%	5.6%	47.6%	5.0%
Kerosene-Type Jet Fuel	-	-34.5%	-1.8%	-11.3%	-76.4%
Distillate Fuel Oil	-	-10.3%	-13.1%	-28.0%	-21.6%
Residual Fuel Oil	-	3.4%	-17.4%	-23.7%	-15.1%
Propane/Propylene	-	-11.6%	7.8%	30.3%	3.0%
Other Oils	-	11.0%	1.9%	10.0%	8.5%
Total Exports	-	0.8%	3.1%	7.8%	-6.3%

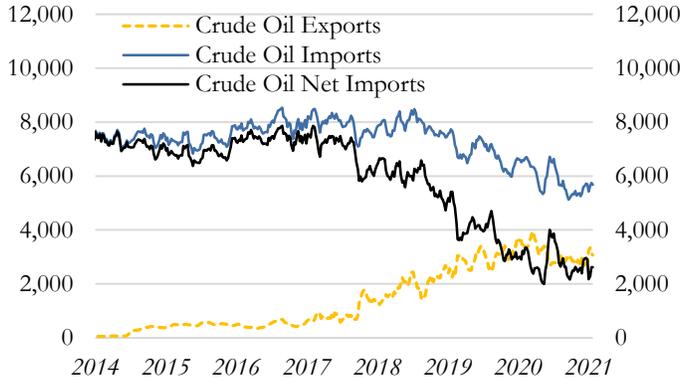
*Totals may not sum due to rounding

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

January 2021 Weekly U.S. Net Imports of Crude Oil & Petroleum Products

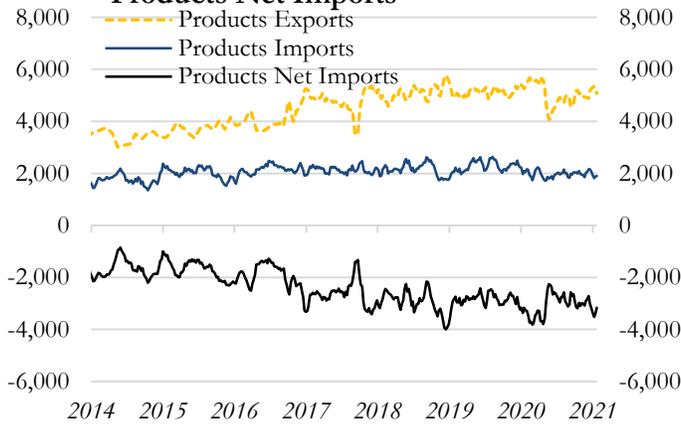
4-Week Averages, Thousand barrels per day

Crude Oil Net Imports



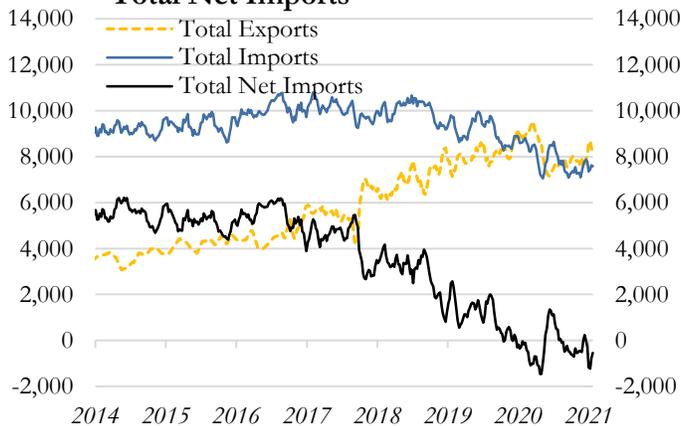
Crude Oil Net Imports		<i>Change from</i>
<i>Thousand barrels per day</i>		
1/22/21	2,617	
Month Ago	2,902	-9.8%
3 Months Ago	2,627	-0.4%
6 Months Ago	3,229	-19.0%
1 Year Ago	3,227	-18.9%

Products Net Imports



Products Net Imports		<i>Change from</i>
<i>Thousand barrels per day</i>		
1/22/21	-3,164	
Month Ago	-3,194	-
3 Months Ago	-2,975	-
6 Months Ago	-2,757	-
1 Year Ago	-3,265	-

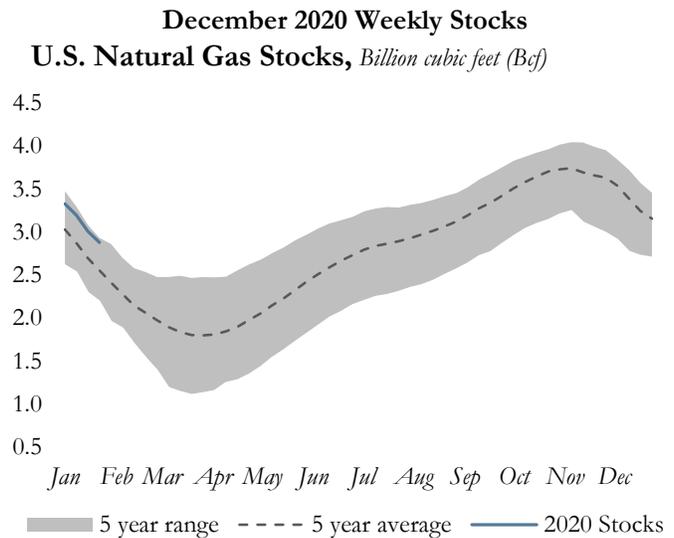
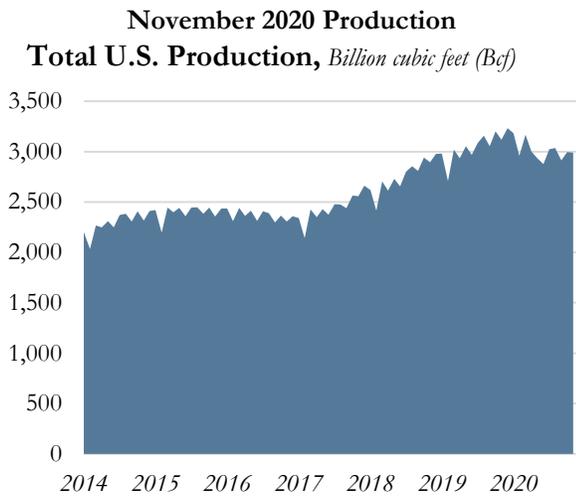
Total Net Imports



Total Net Imports		<i>Change from</i>
<i>Thousand barrels per day</i>		
1/22/21	(547)	
Month Ago	(292)	-
3 Months Ago	(347)	-
6 Months Ago	472	-
1 Year Ago	(38)	-

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

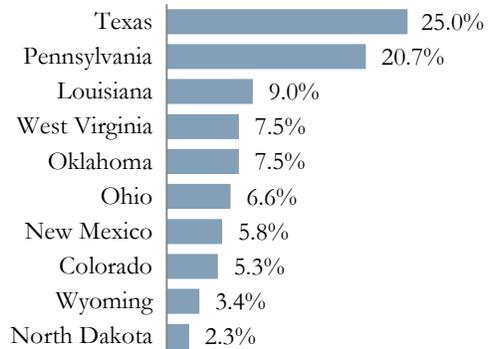
U.S. Natural Gas Production & Stocks



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	2,988	2,996	3,037	2,934	3,182
U.S. Stocks	2,881	3,460	3,955	3,241	2,746

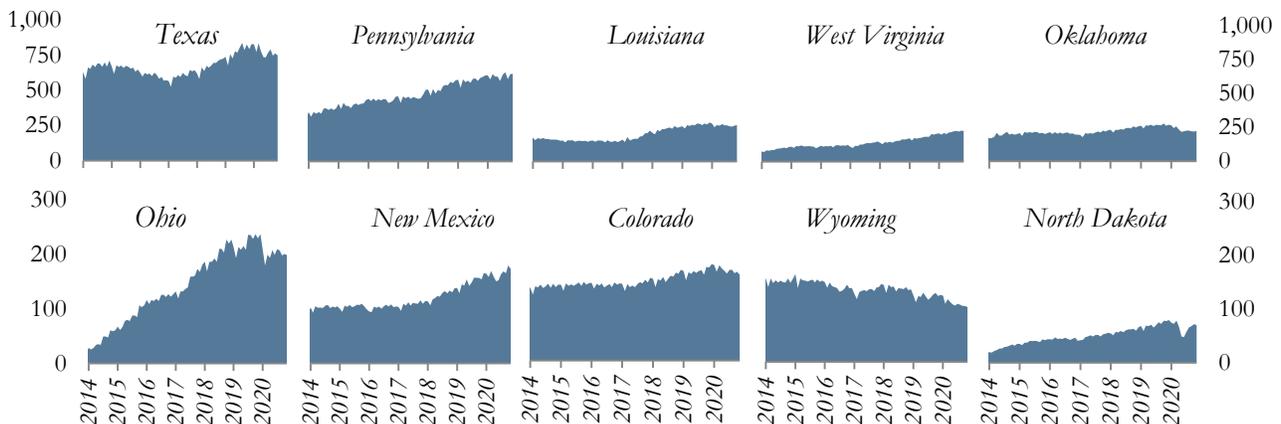
Share of Production



U.S. Natural Gas, Change from

	Current Period*	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
U.S. Production	-	-0.3%	-1.6%	1.9%	-6.1%
U.S. Stocks	-	-16.7%	-27.2%	-11.1%	4.9%

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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