

# THE U.S. Energy DATABOOK

*A summary of national and global energy indicators*



NOVEMBER 9, 2022

FEDERAL RESERVE BANK *of* KANSAS CITY

## SUMMARY OF CURRENT ENERGY CONDITIONS

Since the last edition of the U.S. Energy Databook, activity in the energy sector grew moderately. For the week ending October 28, West Texas Intermediate (WTI) crude oil averaged \$87.87 per barrel and North Sea Brent averaged \$93.01 per barrel, falling 11.8% and 14.9% respectively over the last quarter, driven by slowing demand growth. The Henry Hub natural gas spot price averaged \$5.12 per million Btu for the week ending October 28, falling 41.4% over the last three months, driven by higher production and weak exports. In October, the total number of active drilling rigs in the United States rose by 0.4% from a month ago and is up 0.1% from three months ago. U.S. crude oil production rose 0.9% from a month ago and is up 3.0% from three months ago but remains below pre-pandemic levels. U.S. crude oil and petroleum products exports increased 3.2% in the last quarter and imports fell by 8.8%. Global demand for petroleum increased by 0.8% and global petroleum production rose 0.7% over the last quarter.

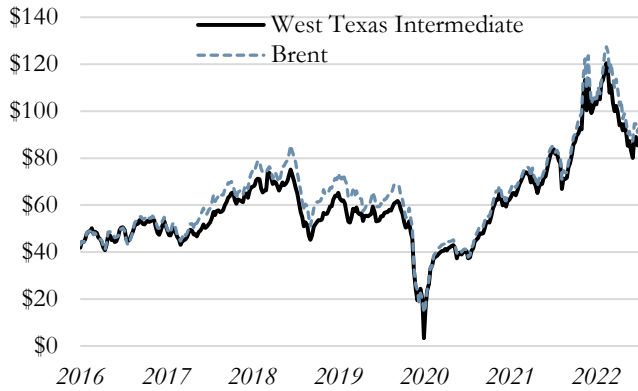
This databook provides current economic indicators to help monitor trends and allow comparison of past information. These indicators include: oil and natural gas prices; global petroleum production and demand; U.S. oil production and petroleum demand; U.S. crude oil stocks; OECD petroleum stocks; U.S.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



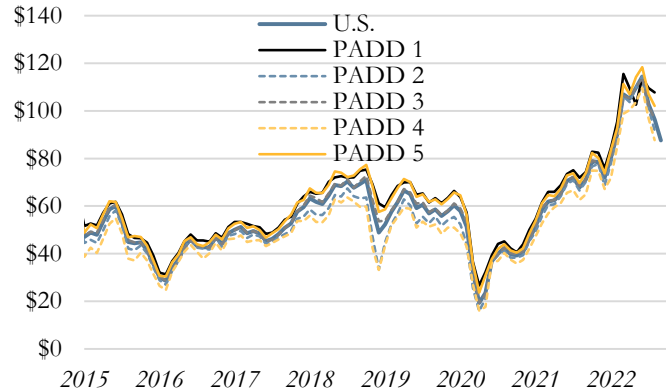
The Federal Reserve Bank of Kansas City's headquarters is located at 1 Memorial Drive in the heart of Kansas City, Missouri. The Federal Reserve Bank of Kansas City serves the Tenth Federal Reserve District, which includes Colorado, Kansas, western Missouri, Nebraska, northern New Mexico, Oklahoma and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

Weekly data through October 28, 2022

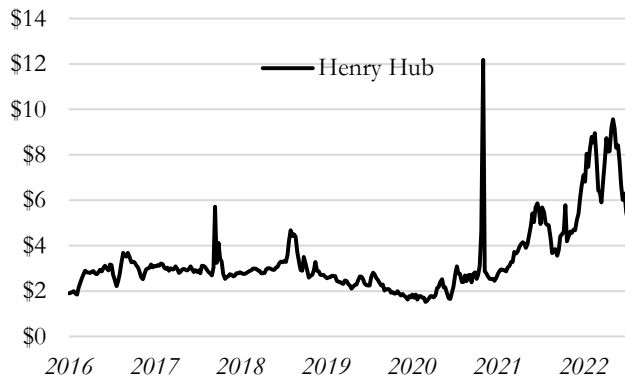
Weekly Oil Spot Prices, per barrel



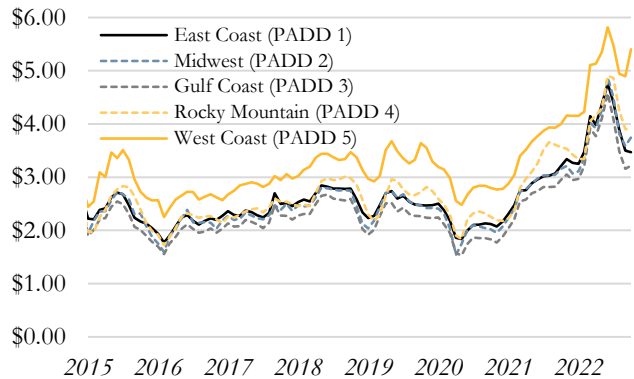
Refiner Acquisition Cost of Oil\*, per barrel



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	10/28/22	Ago	Ago	Ago	Ago	Ago
West Texas Intermediate	\$87.87	\$2.51	\$7.79	-\$11.73	-\$14.98	\$4.03
Brent	\$93.01	\$1.97	\$5.73	-\$16.27	-\$10.91	\$8.89
Henry Hub	\$5.12	-\$0.36	-\$1.51	-\$3.62	-\$1.69	-\$0.56

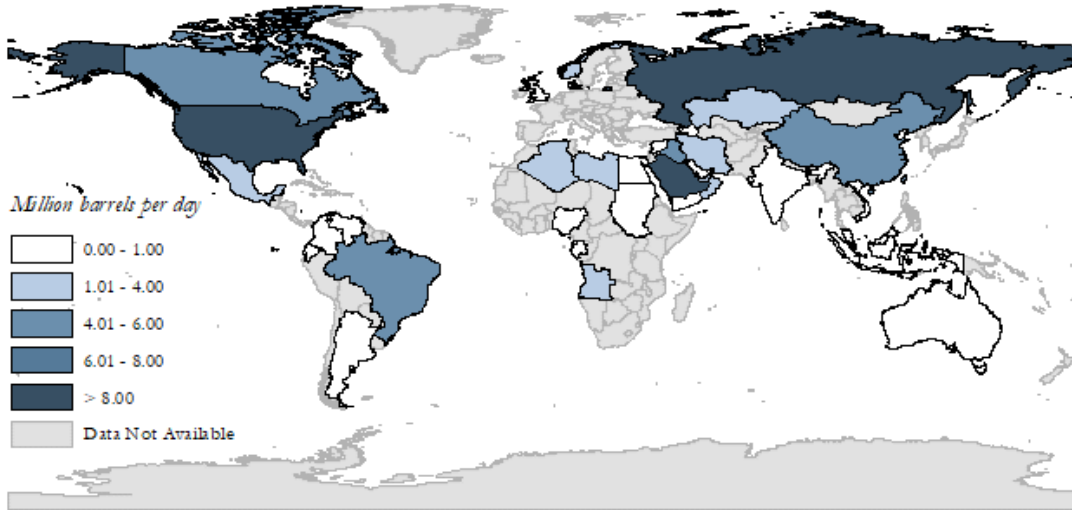
Monthly Gasoline Spot Prices, Change from

	Current	1 Month	3 months	6 Months	1 Year
Geographic Area	Oct-22	Ago	Ago	Ago	Ago
East Coast (PADD 1)	\$3.47	-\$0.03	-\$0.94	-\$0.51	\$0.26
Midwest (PADD 2)	\$3.74	\$0.15	-\$0.75	-\$0.17	\$0.59
Gulf Coast (PADD 3)	\$3.22	\$0.06	-\$0.88	-\$0.55	\$0.26
Rocky Mountain (PADD 4)	\$3.87	-\$0.03	-\$0.99	-\$0.28	\$0.31
West Coast (PADD 5)	\$5.40	\$0.51	-\$0.08	\$0.27	\$1.40

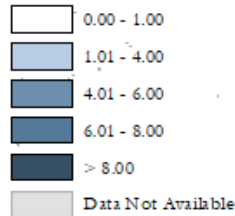
\*The cost of crude oil, including transportation and other fees paid by the refiner.

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

September 2022 Global Petroleum Production



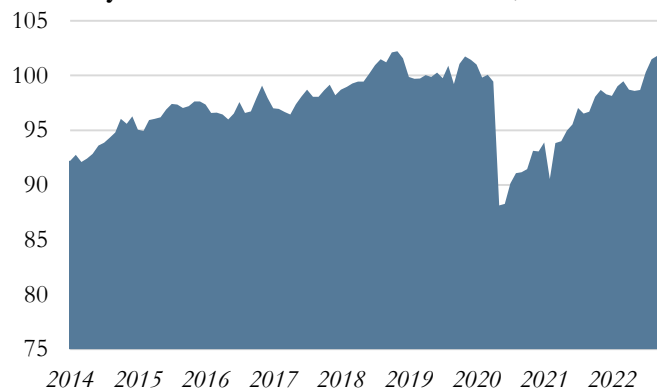
Million barrels per day



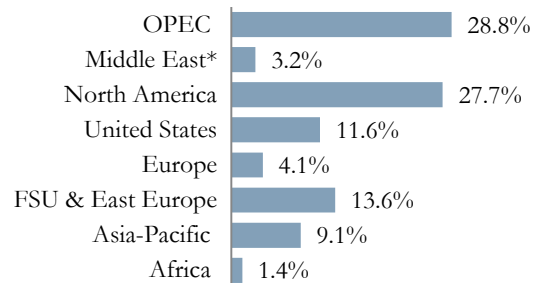
Source: Energy Information Administration / Haver Analytics

September 2022

Monthly Global Petroleum Production, million barrels per day

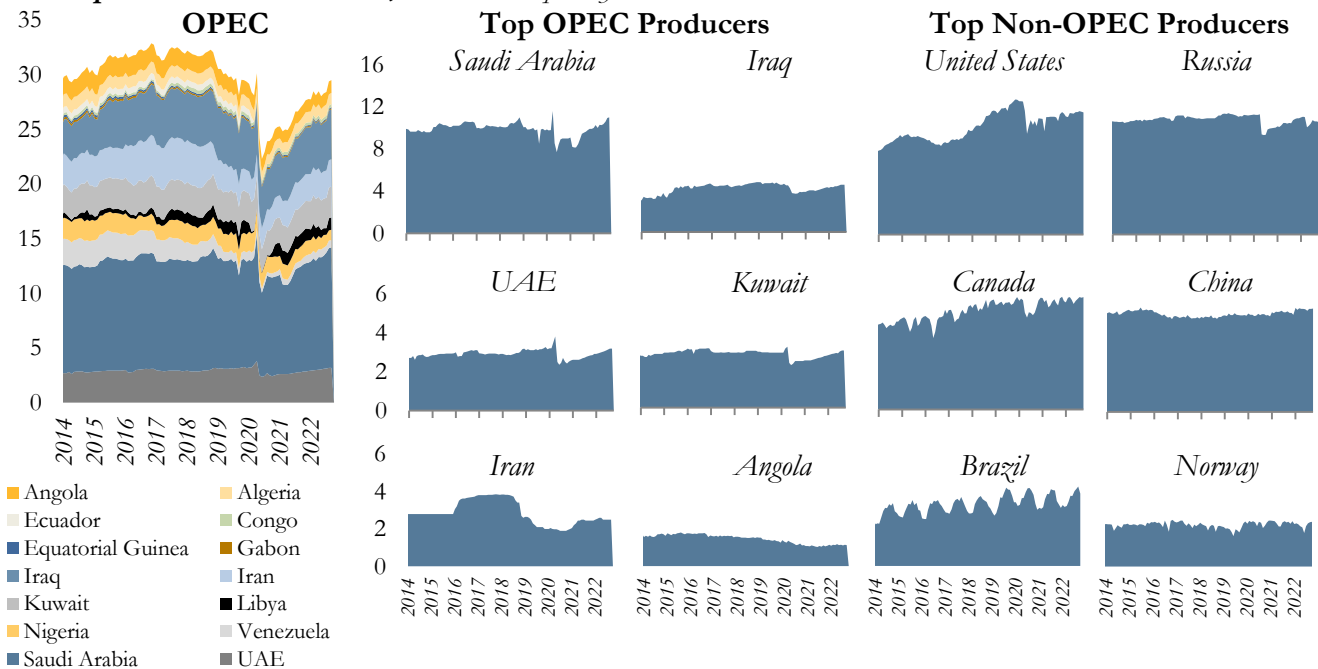


Regional Share of Production



\*Excludes OPEC

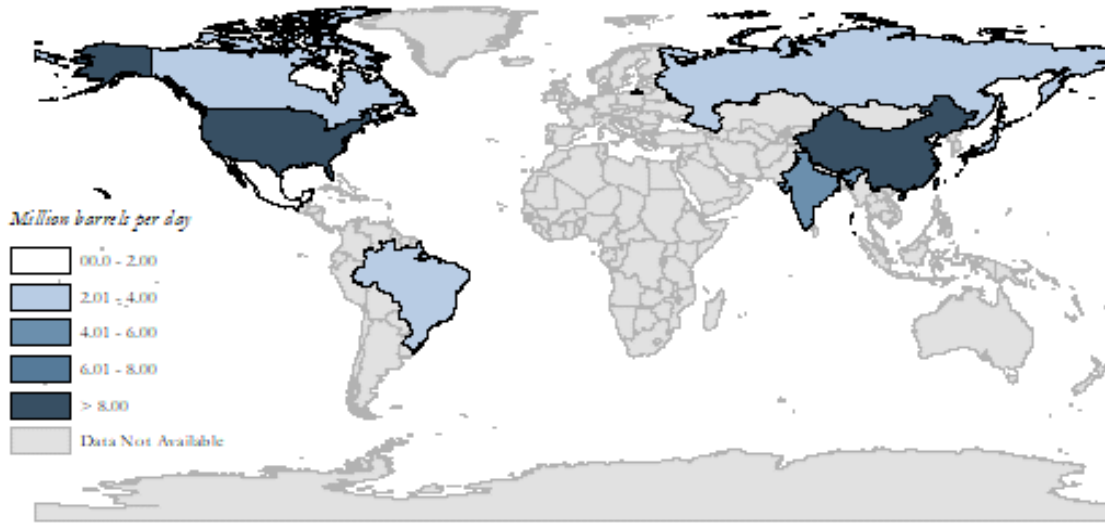
Top Crude Oil Producers, million barrels per day



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

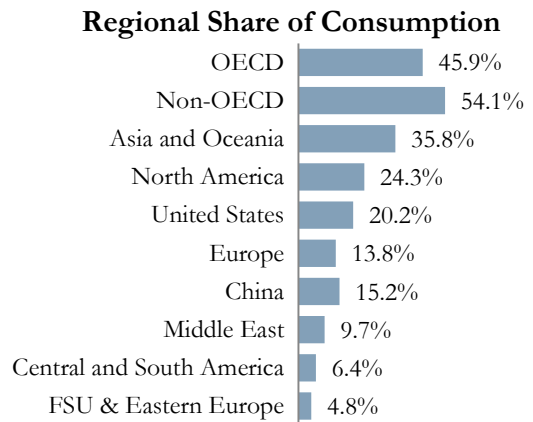
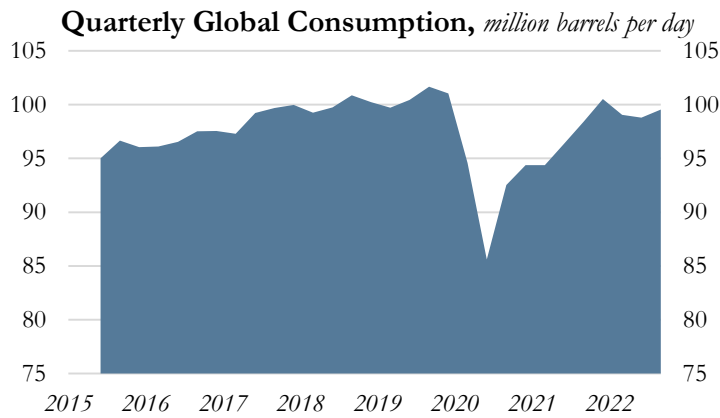
Source: U.S. Department of Energy, Energy Information Administration / Haver Analytics

Third Quarter 2022 Global Petroleum Consumption

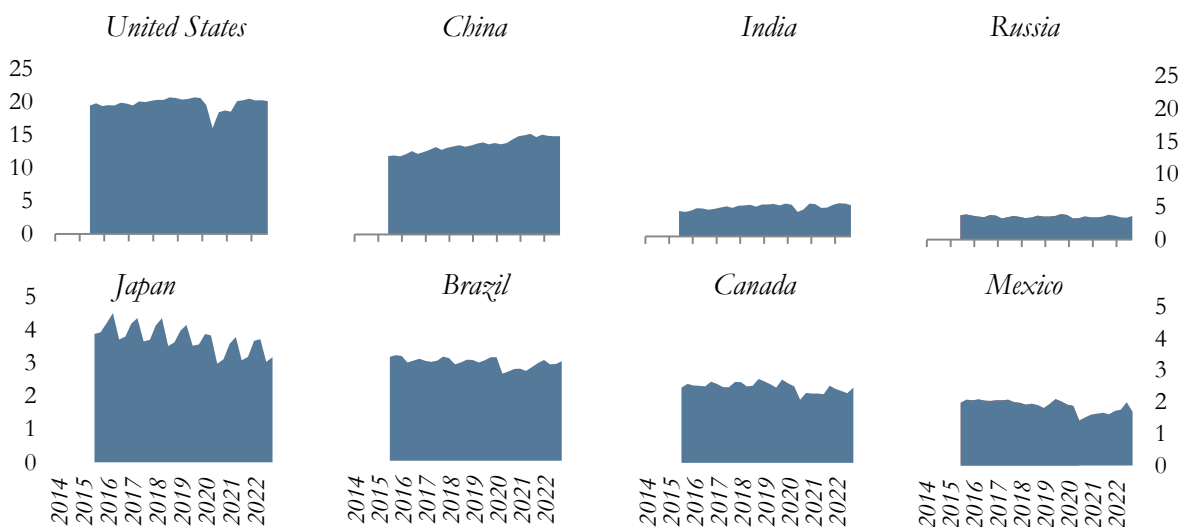


Source: Energy Information Administration / Haver Analytics

Third Quarter 2022

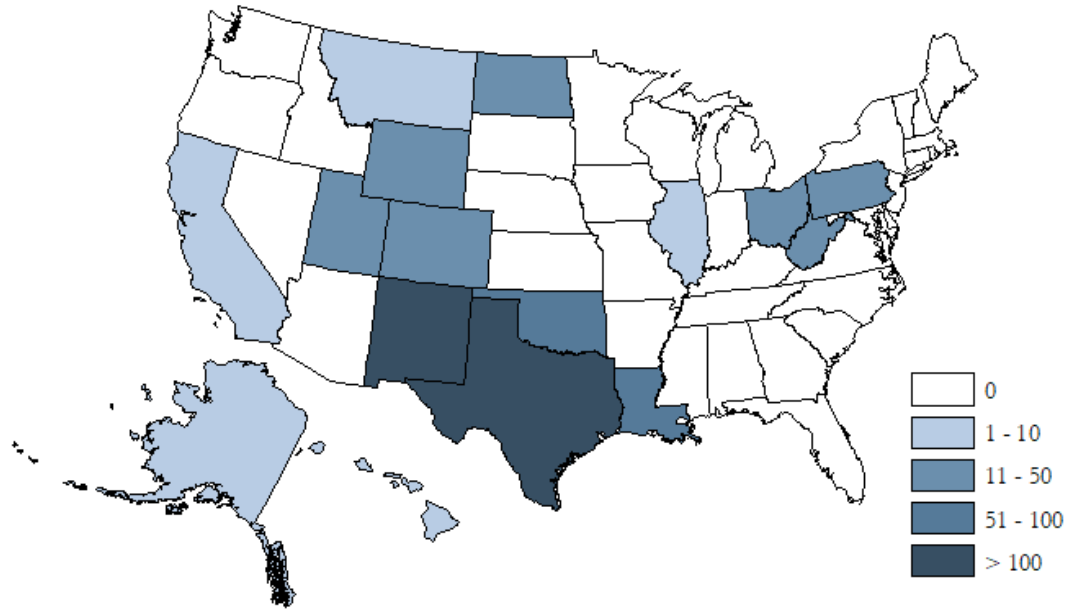


Top Petroleum Consumers, million barrels per day



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

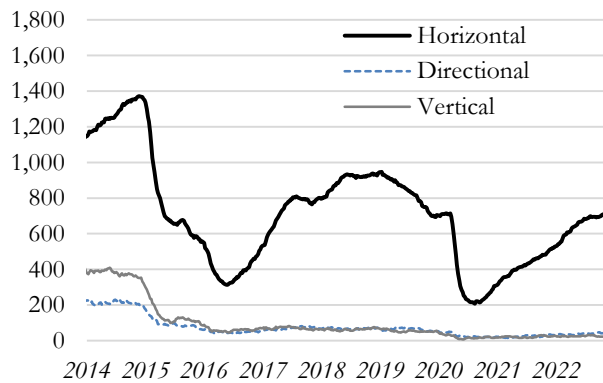
October 2022 Weekly Active Oil & Gas Drilling Rig Counts



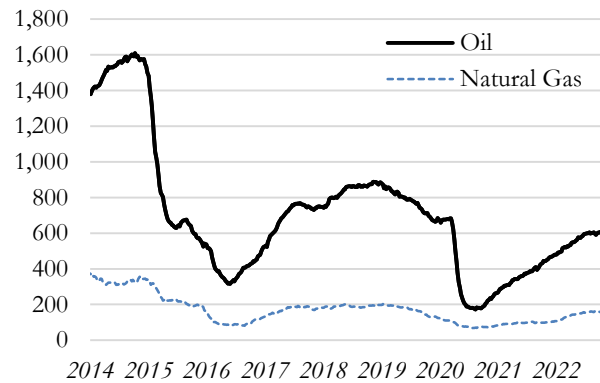
Source: Baker Hughes/Haver Analytics

October 28, 2022

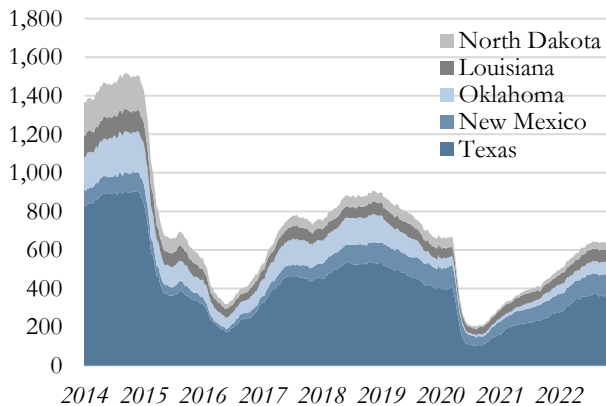
U.S. Active Drilling Rigs by Trajectory



U.S. Active Drilling Rigs by Type



Top Five States for Drilling Activity (Total Active Rigs)



Rig Count By Type

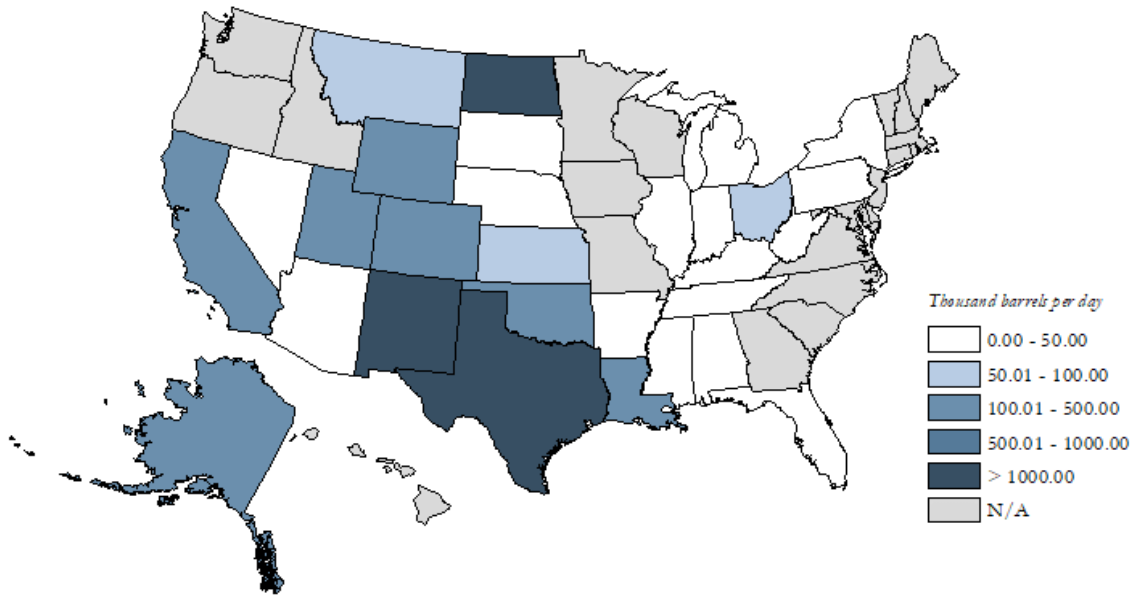
Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	610	604	605	444
Gas	156	159	157	100
Misc	2	2	5	0
<b>Total</b>	<b>768</b>	<b>765</b>	<b>767</b>	<b>544</b>

Rig Count By Type, Change from

Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	-	1.0%	0.8%	37.4%
Gas	-	-1.9%	-0.6%	56.0%
Misc	-	0.0%	-60.0%	-
<b>Total</b>	-	<b>0.4%</b>	<b>0.1%</b>	<b>41.2%</b>

Source: Baker Hughes/Haver Analytics

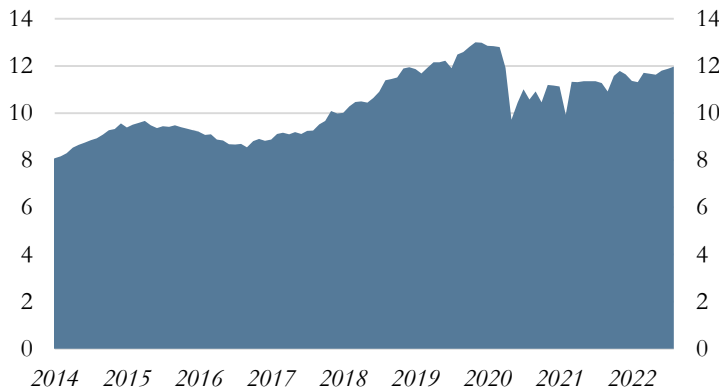
August 2022 U.S. Crude Oil Production



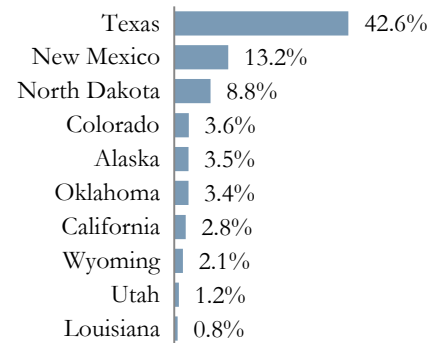
Source: Energy Information Administration/Haver Analytics

August 2022

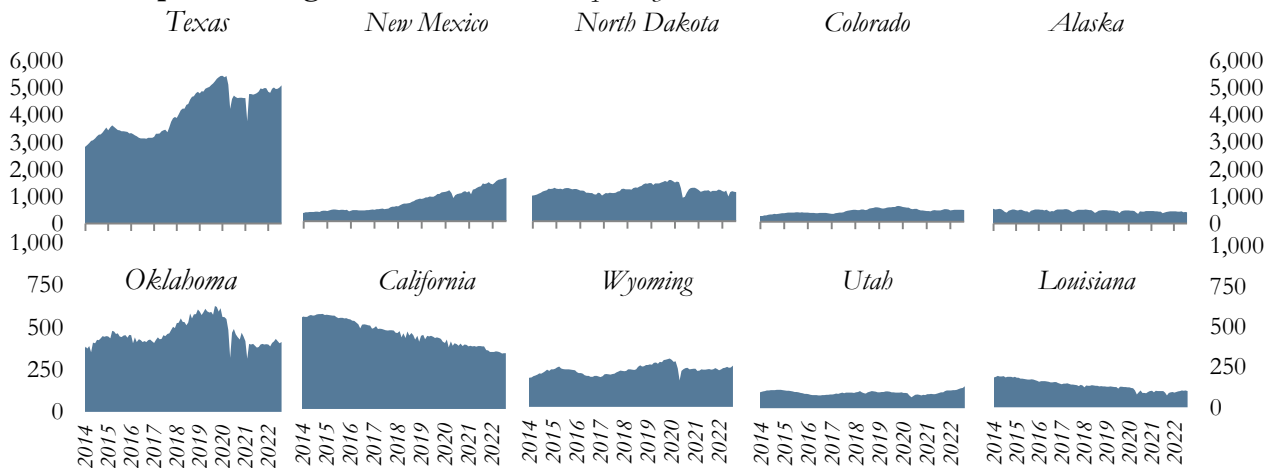
Monthly U.S. Production, million barrels per day



Share of Production

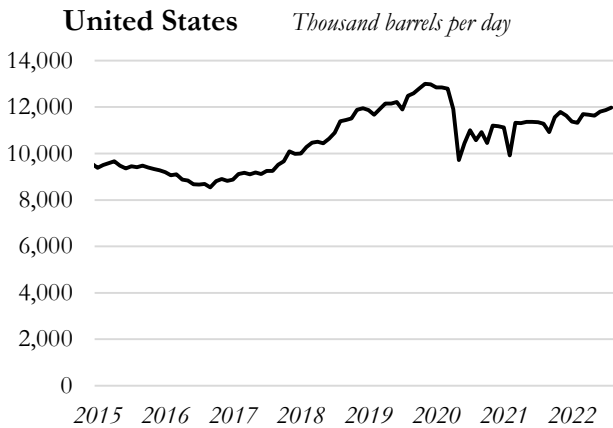


Top Producing States, thousand barrels per day

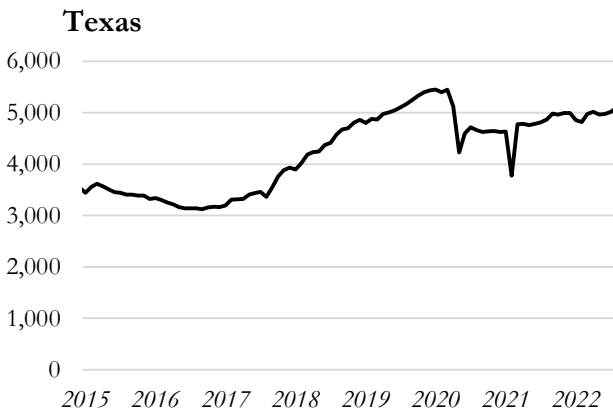


Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

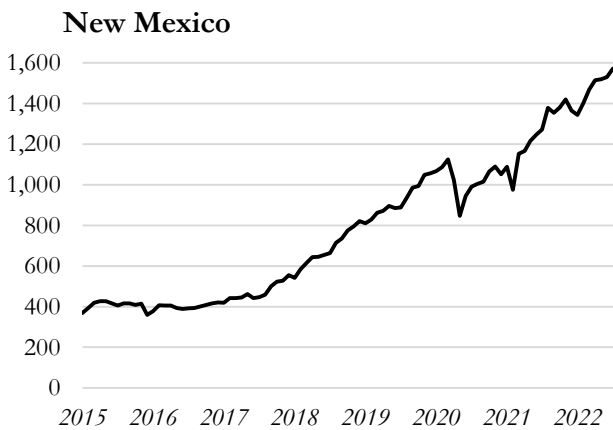
Data through August 2022



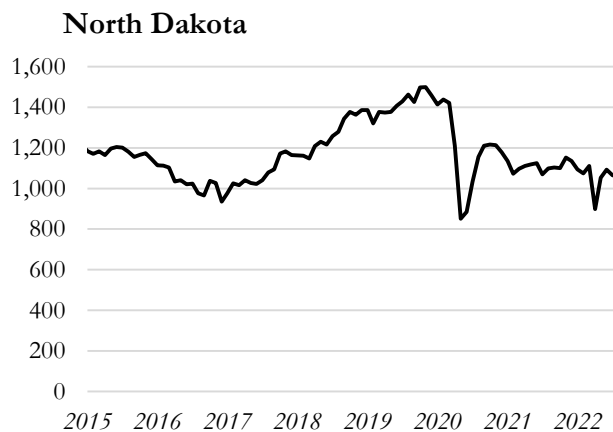
<b>United States</b>		<i>Change</i>
<i>Thousand barrels per day</i>		<i>from</i>
Aug-22	11,975	
Month Ago	11,873	0.9%
3 Months Ago	11,629	3.0%
6 Months Ago	11,316	5.8%
1 Year Ago	11,277	6.2%



<b>Texas</b>		<i>Change</i>
<i>Thousand barrels per day</i>		<i>from</i>
Aug-22	5,096	
Month Ago	5,018	1.6%
3 Months Ago	4,966	2.6%
6 Months Ago	4,821	5.7%
1 Year Ago	4,865	4.8%
Share of U.S. Production		42.6%



<b>New Mexico</b>		<i>Change</i>
<i>Thousand barrels per day</i>		<i>from</i>
Aug-22	1,581	
Month Ago	1,572	0.6%
3 Months Ago	1,519	4.1%
6 Months Ago	1,401	12.8%
1 Year Ago	1,378	14.7%
Share of U.S. Production		13.2%



<b>North Dakota</b>		<i>Change</i>
<i>Thousand barrels per day</i>		<i>from</i>
Aug-22	1,059	
Month Ago	1,065	-0.5%
3 Months Ago	1,053	0.6%
6 Months Ago	1,074	-1.4%
1 Year Ago	1,098	-3.5%
Share of U.S. Production		8.8%

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

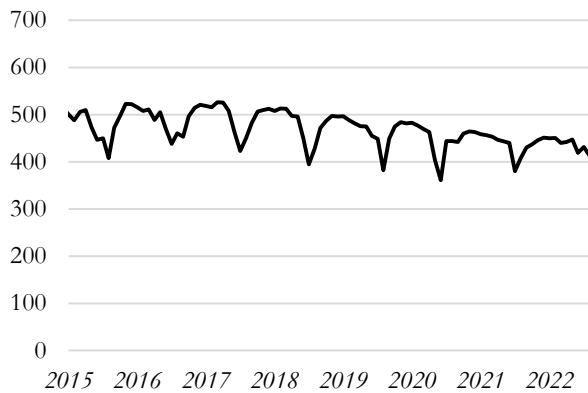
Data through August 2022

**Colorado** *Thousand barrels per day*



	<b>Colorado</b>	<i>Change from</i>
	<i>Thousand barrels per day</i>	
Aug-22	425	
Month Ago	431	-1.4%
3 Months Ago	438	-2.8%
6 Months Ago	430	-1.1%
1 Year Ago	418	1.8%
Share of U.S. Production	3.6%	

**Alaska**



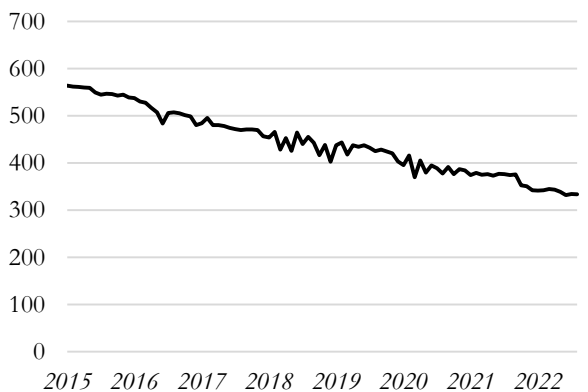
	<b>Alaska</b>	<i>Change from</i>
	<i>Thousand barrels per day</i>	
Aug-22	413	
Month Ago	432	-4.3%
3 Months Ago	447	-7.6%
6 Months Ago	450	-8.2%
1 Year Ago	409	1.1%
Share of U.S. Production	3.5%	

**Oklahoma**



	<b>Oklahoma</b>	<i>Change from</i>
	<i>Thousand barrels per day</i>	
Aug-22	413	
Month Ago	406	1.7%
3 Months Ago	433	-4.5%
6 Months Ago	387	6.7%
1 Year Ago	385	7.3%
Share of U.S. Production	3.4%	

**California**



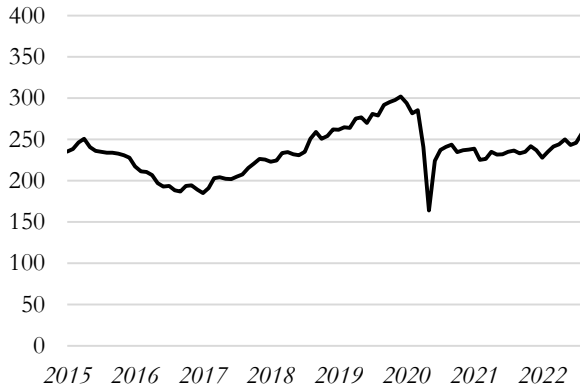
	<b>California</b>	<i>Change from</i>
	<i>Thousand barrels per day</i>	
Aug-22	333	
Month Ago	334	-0.2%
3 Months Ago	339	-1.7%
6 Months Ago	342	-2.7%
1 Year Ago	374	-11.0%
Share of U.S. Production	2.8%	

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



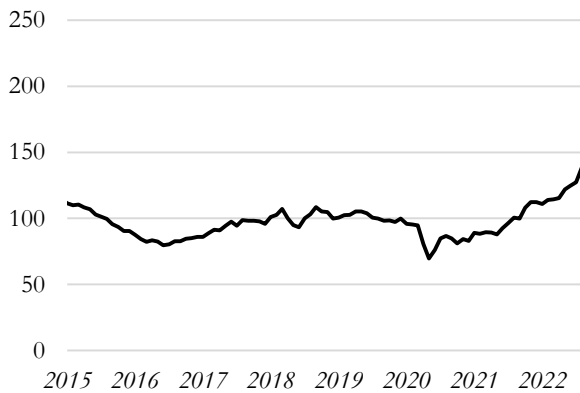
Data through August 2022

**Wyoming** *Thousand barrels per day*



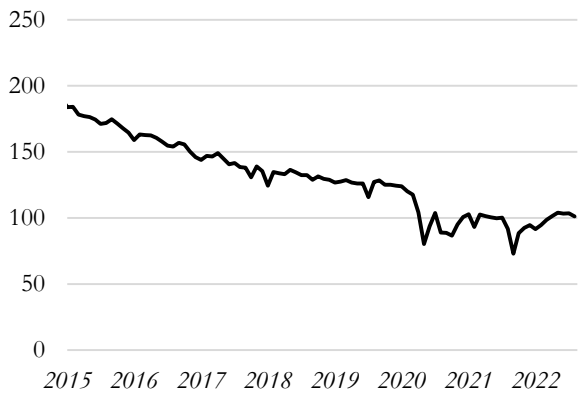
<b>Wyoming</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Aug-22	257	
Month Ago	246	4.5%
3 Months Ago	250	2.8%
6 Months Ago	235	9.3%
1 Year Ago	237	8.7%
Share of U.S. Production		2.1%

**Utah**



<b>Utah</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Aug-22	138	
Month Ago	127	8.7%
3 Months Ago	122	13.5%
6 Months Ago	114	21.3%
1 Year Ago	101	37.6%
Share of U.S. Production		1.2%

**Louisiana**

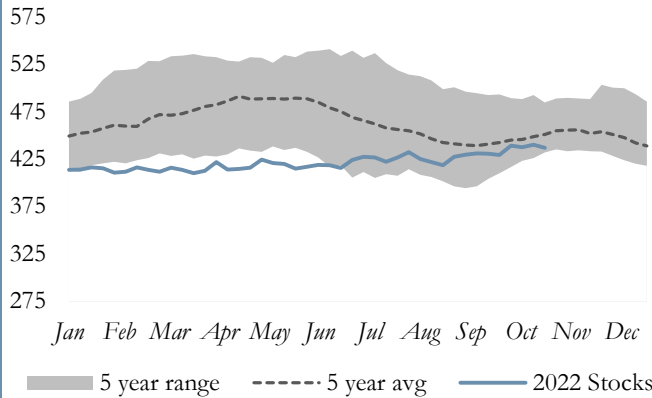


<b>Louisiana</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Aug-22	101	
Month Ago	104	-2.3%
3 Months Ago	104	-2.6%
6 Months Ago	95	7.0%
1 Year Ago	92	10.4%
Share of U.S. Production		0.8%

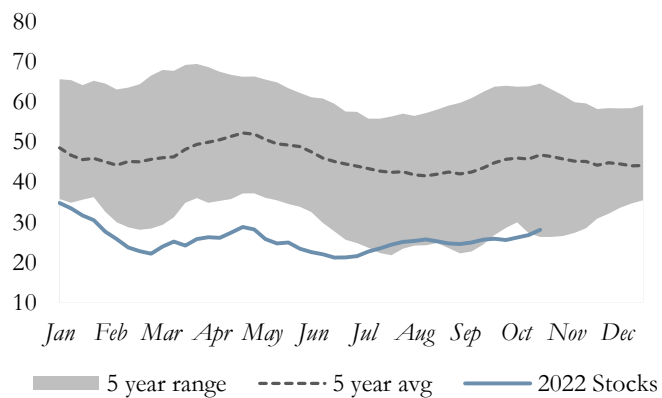
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

October 2022 Weekly U.S. Crude Oil Stocks

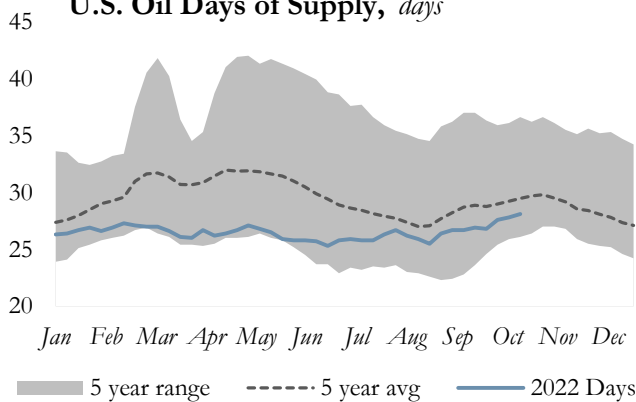
U.S. Oil Stocks, million barrels\*



Cushing, OK Oil Stocks, million barrels



U.S. Oil Days of Supply, days



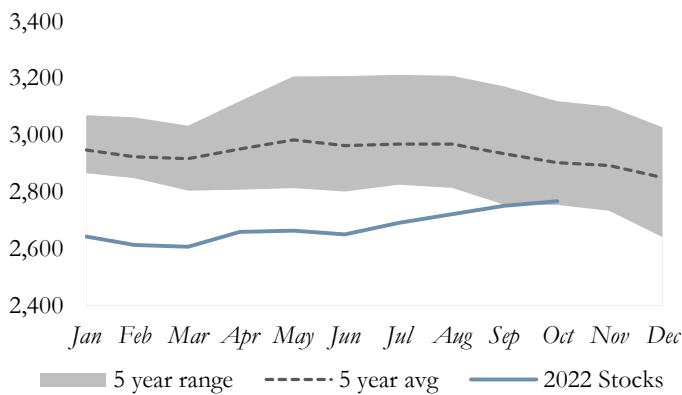
Crude Oil Stocks

	1 Week Change from Ago	1 Year Ago
U.S.	-0.7%	0.6%
Cushing, OK	4.7%	6.6%
Days of Supply	-0.4%	-3.1%
East Coast (PADD 1)	-3.1%	-9.0%
Midwest (PADD 2)	1.9%	5.5%
Gulf Coast (PADD 3)	-1.4%	-1.3%
Rocky Mountain (PADD 4)	-1.0%	-1.7%
West Coast (PADD 5)	-2.6%	2.8%

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

October 2022 OECD Commercial Petroleum Inventory

OECD Commercial Petroleum Inventory, million barrels



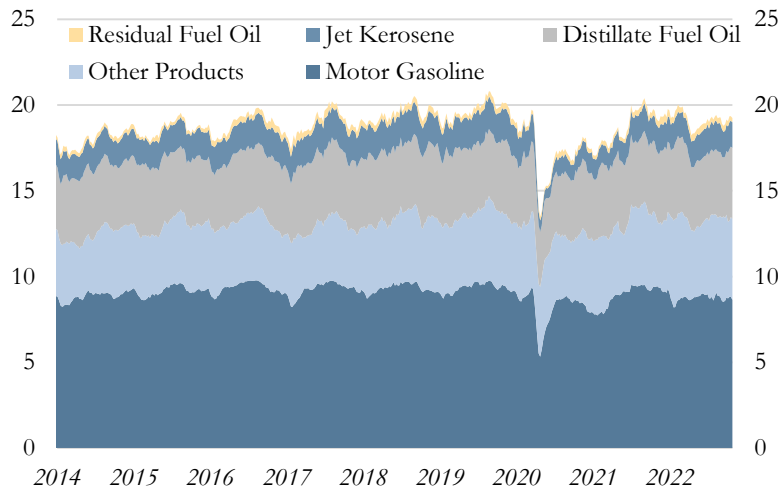
Petroleum Stocks	Million Barrels	Change from
Current Month	2,767	
1 Month Ago	2,751	0.6%
3 Months Ago	2,691	2.8%
6 Months Ago	2,659	4.1%
1 Year Ago	2,754	0.5%

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

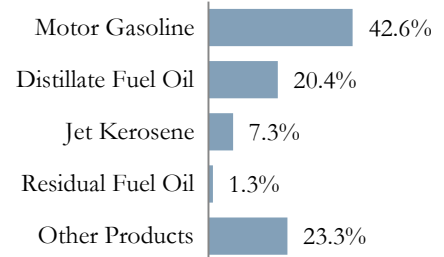
**October 2022 Weekly U.S. Demand for Petroleum Products**

*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**

	<i>Current</i> 10/28/22	<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>
All Products	20,275	19,963	19,917	19,273	20,384
Motor Gasoline	8,636	8,777	8,592	8,799	9,412
Distillate Fuel Oil	4,144	3,706	3,673	3,774	3,941
Jet Kerosene	1,481	1,526	1,555	1,540	1,471
Residual Fuel Oil	260	315	334	409	350
Other Products	4,721	4,836	4,998	3,811	4,094

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

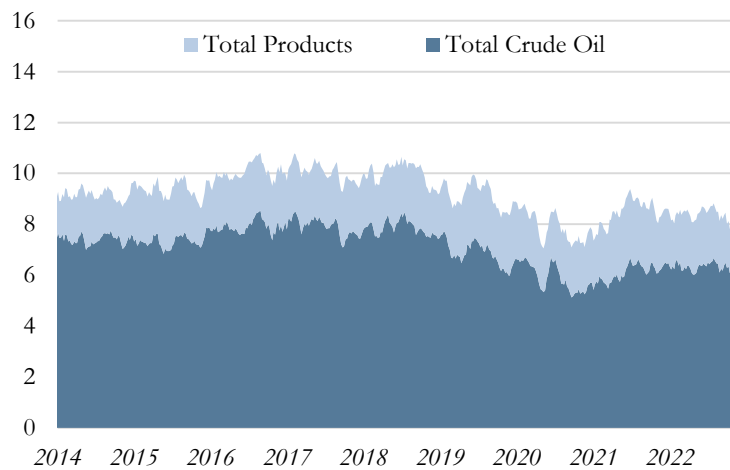
	<i>Current</i> 10/28/22	<i>1 Month</i> <i>Ago</i>	<i>3 Months</i> <i>Ago</i>	<i>6 Months</i> <i>Ago</i>	<i>1 Year</i> <i>Ago</i>
All Products	-	1.6%	1.8%	5.2%	-0.5%
Motor Gasoline	-	-1.6%	0.5%	-1.9%	-8.2%
Distillate Fuel Oil	-	11.8%	12.8%	9.8%	5.2%
Jet Kerosene	-	-2.9%	-4.8%	-3.8%	0.7%
Residual Fuel Oil	-	-17.5%	-22.2%	-36.4%	-25.7%
Other Products	-	-2.4%	-5.5%	23.9%	15.3%

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

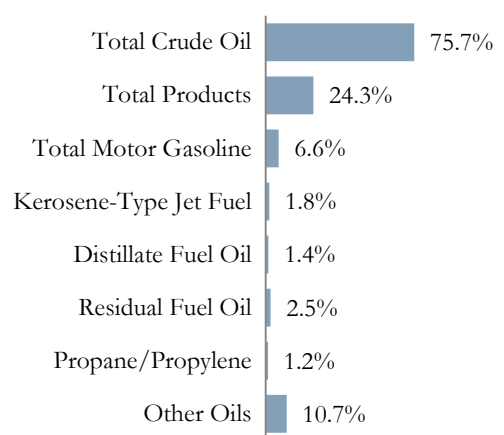
October 2022 Weekly U.S. Imports of Crude Oil & Petroleum Products

4-Week Averages

Imports, million barrels per day



Share of Total Imports



U.S. Imports by Product\*

Thousand barrels per day

	Current 10/28/22	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	<b>6,089</b>	<b>6,284</b>	<b>6,675</b>	<b>6,025</b>	<b>6,061</b>
<b>Total Products</b>	<b>1,954</b>	<b>1,718</b>	<b>2,142</b>	<b>2,129</b>	<b>2,073</b>
Total Motor Gasoline	529	576	697	752	578
Kerosene-Type Jet Fuel	146	78	116	131	210
Distillate Fuel Oil	113	102	154	118	227
Residual Fuel Oil	204	162	214	300	244
Propane/Propylene	94	84	89	104	106
Other Oils	862	717	871	724	701
<b>Total Imports</b>	<b>8,043</b>	<b>8,002</b>	<b>8,817</b>	<b>8,154</b>	<b>8,134</b>

U.S. Imports by Product, Change from

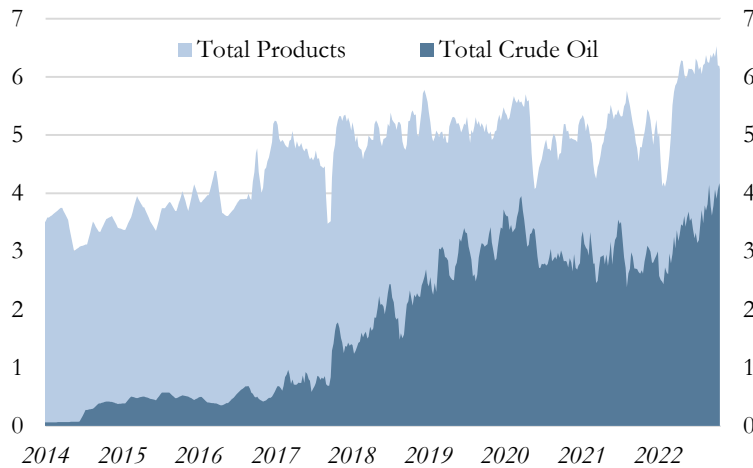
	Current 10/28/22	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	-	<b>-3.1%</b>	<b>-8.8%</b>	<b>1.1%</b>	0.5%
<b>Total Products</b>	-	<b>13.7%</b>	<b>-8.8%</b>	<b>-8.2%</b>	<b>-5.7%</b>
Total Motor Gasoline	-	-8.2%	-24.1%	-29.7%	-8.5%
Kerosene-Type Jet Fuel	-	87.2%	25.9%	11.5%	-30.5%
Distillate Fuel Oil	-	10.8%	-26.6%	-4.2%	-50.2%
Residual Fuel Oil	-	25.9%	-4.7%	-32.0%	-16.4%
Propane/Propylene	-	11.9%	5.6%	-9.6%	-11.3%
Other Oils	-	20.2%	-1.0%	19.1%	23.0%
<b>Total Imports</b>	-	<b>0.5%</b>	<b>-8.8%</b>	<b>-1.4%</b>	<b>-1.1%</b>

\*Totals may not sum due to component rounding

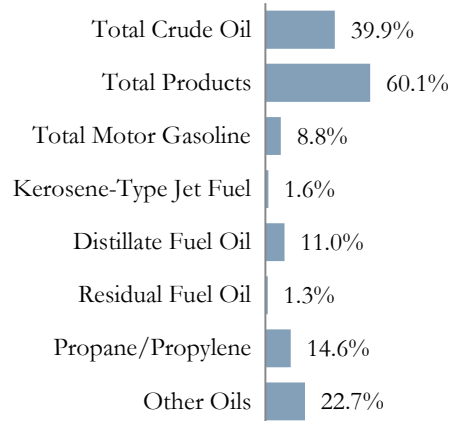
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

**October 2022 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 10/28/22	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	<b>4,016</b>	<b>4,063</b>	<b>3,711</b>	<b>3,436</b>	<b>2,822</b>
<b>Total Products</b>	<b>6,055</b>	<b>6,339</b>	<b>6,049</b>	<b>6,270</b>	<b>5,052</b>
Total Motor Gasoline	887	1,010	814	900	701
Kerosene-Type Jet Fuel	164	205	185	204	115
Distillate Fuel Oil	1,112	1,528	1,573	1,422	999
Residual Fuel Oil	131	90	78	111	89
Propane/Propylene	1,471	1,378	1,393	1,344	1,149
Other Oils	2,291	2,129	2,007	2,290	1,999
<b>Total Exports</b>	<b>10,071</b>	<b>10,402</b>	<b>9,759</b>	<b>9,707</b>	<b>7,874</b>

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

	Current 10/28/22	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	-	<b>-1.2%</b>	<b>8.2%</b>	<b>16.9%</b>	42.3%
<b>Total Products</b>	-	<b>-4.5%</b>	<b>0.1%</b>	<b>-3.4%</b>	<b>19.9%</b>
Total Motor Gasoline	-	-12.2%	9.0%	-1.4%	26.5%
Kerosene-Type Jet Fuel	-	-20.0%	-11.4%	-19.6%	42.6%
Distillate Fuel Oil	-	-27.2%	-29.3%	-21.8%	11.3%
Residual Fuel Oil	-	45.6%	67.9%	18.0%	47.2%
Propane/Propylene	-	6.7%	5.6%	9.4%	28.0%
Other Oils	-	7.6%	14.2%	0.0%	14.6%
<b>Total Exports</b>	-	<b>-3.2%</b>	<b>3.2%</b>	<b>3.7%</b>	<b>27.9%</b>

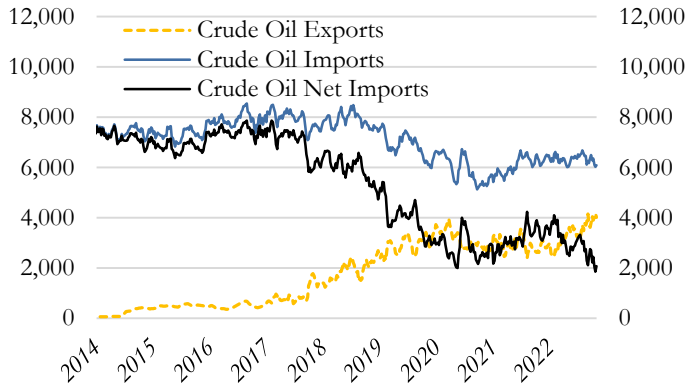
\*Totals may not sum due to rounding

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

**October 2022 Weekly U.S. Net Imports of Crude Oil & Petroleum Products**

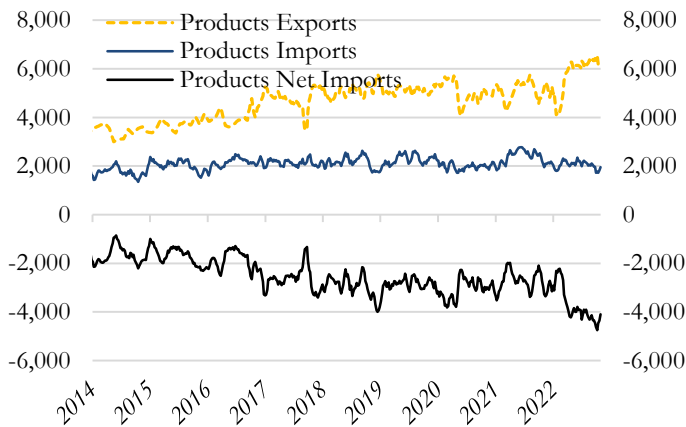
*4-Week Averages, Thousand barrels per day*

**Crude Oil Net Imports**



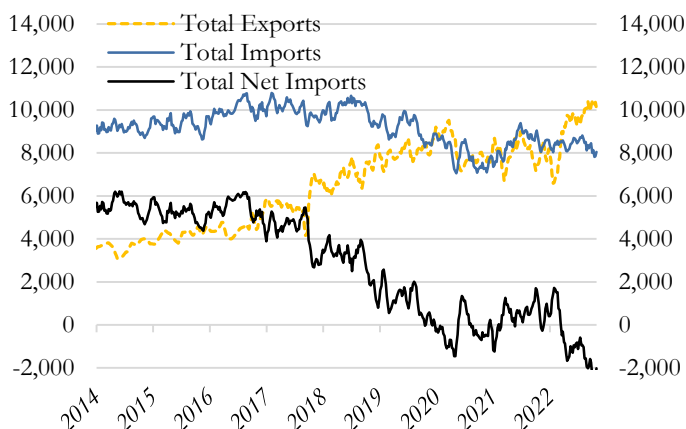
<b>Crude Oil Net Imports</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
10/28/22	2,073	
Month Ago	2,221	-6.7%
3 Months Ago	2,964	-30.1%
6 Months Ago	2,588	-19.9%
1 Year Ago	3,240	-36.0%

**Products Net Imports**



<b>Products Net Imports</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
10/28/22	-4,101	
Month Ago	-4,621	-
3 Months Ago	-3,907	-
6 Months Ago	-4,141	-
1 Year Ago	-2,979	-

**Total Net Imports**



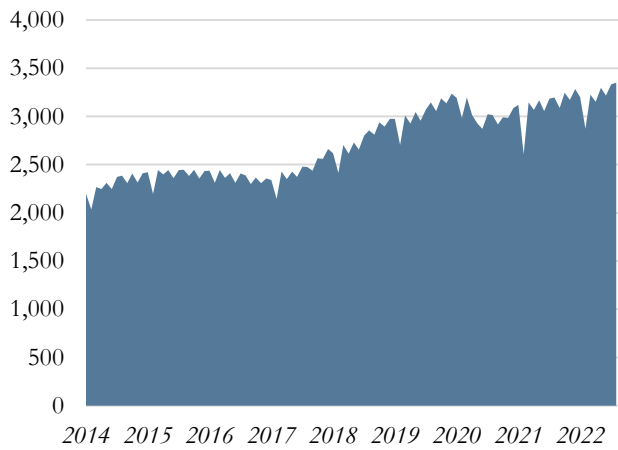
<b>Total Net Imports</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
10/28/22	-2,028	
Month Ago	-2,400	-
3 Months Ago	-943	-
6 Months Ago	-1,553	-
1 Year Ago	261	-

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

U.S. Natural Gas Production & Stocks

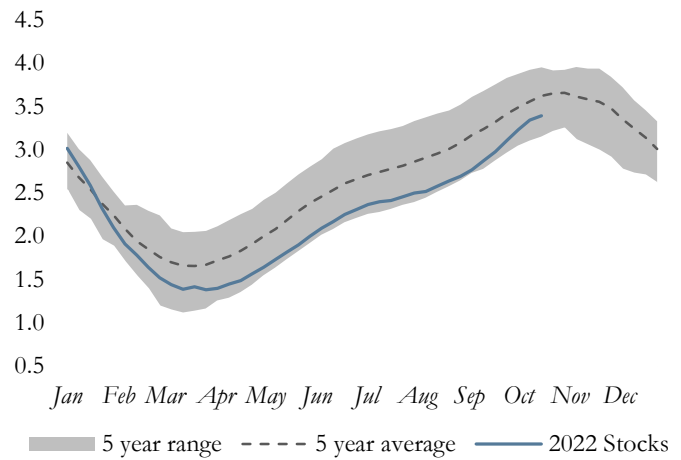
August 2022 Production

Total U.S. Production, Billion cubic feet (Bcf)



October 2022 Weekly Stocks

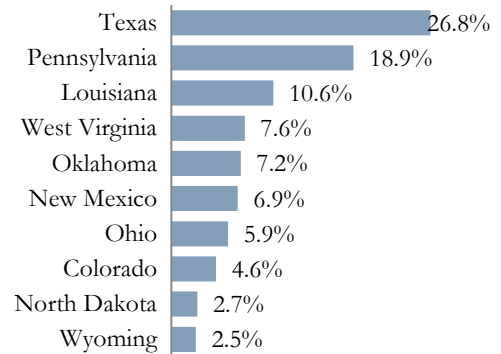
U.S. Natural Gas Stocks, Billion cubic feet (Bcf)



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	3,350	3,333	3,296	2,870	3,245
U.S. Stocks	3,501	3,106	2,457	1,567	3,611

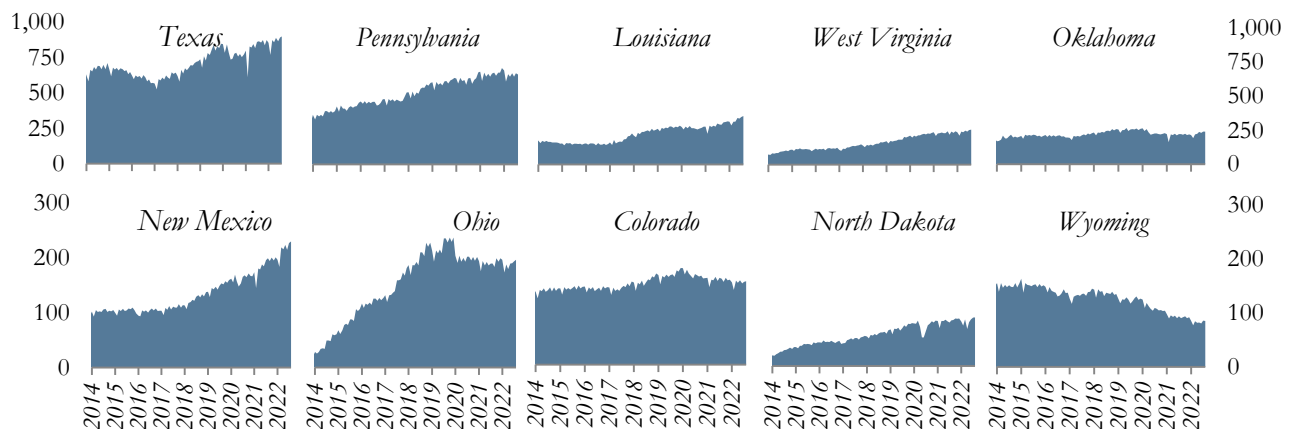
Share of Production



U.S. Natural Gas, Change from

	Current Period*	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
U.S. Production	-	0.5%	1.6%	16.7%	3.2%
U.S. Stocks	-	12.7%	42.5%	123.4%	-3.0%

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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