

# THE U.S. Energy DATABOOK

*A summary of national and global energy indicators*



FEBRUARY 8, 2023

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 slowed slightly. For the week ending January 27, West Texas Intermediate (WTI) crude oil averaged \$80.33 per barrel and North Sea Brent averaged \$85.90 per barrel, falling 8.6% and 7.6% respectively over the last quarter. The Henry Hub natural gas spot price averaged \$3.08 per million Btu for the week ending January 27, falling 39.8% over the last three months. In January, the total number of active drilling rigs in the United States declined by 1.0% from a month ago and is up 0.4% from three months ago. U.S. crude oil production declined 0.3% from a month ago and is up 3.1% from three months ago but remains below pre-pandemic levels. U.S. crude oil and petroleum products exports decreased 4.0% in the last quarter and imports increased 7.8%. Global demand for petroleum decreased by 0.27% and global petroleum production declined 0.3% over the last quarter.

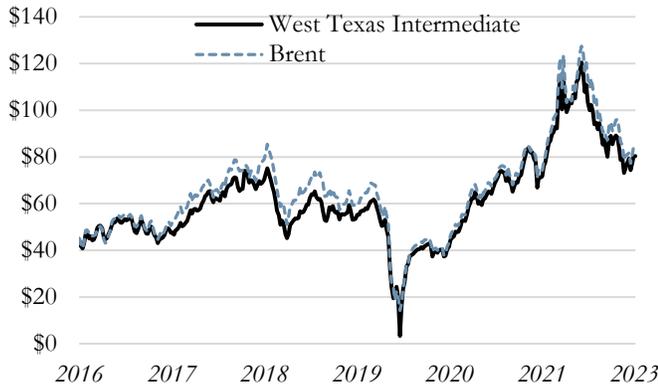
This databook provides current economic indicators to help monitor trends and allow comparison of past information. These indicators include: oil and natural gas prices; global petroleum production and demand; U.S. oil production and petroleum demand; U.S. crude oil stocks; OECD petroleum stocks; U.S.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



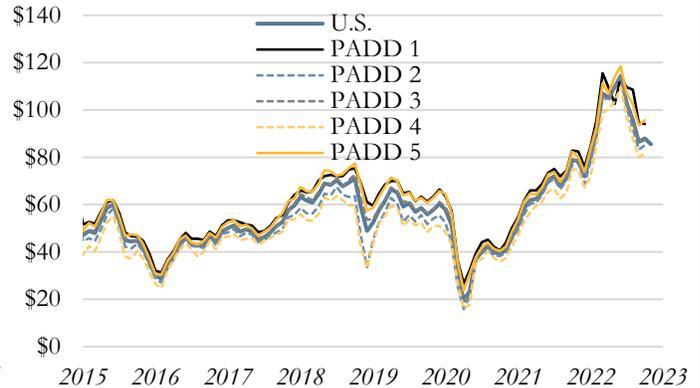
The Federal Reserve Bank of Kansas City's headquarters is located at 1 Memorial Drive in the heart of Kansas City, Missouri. The Federal Reserve Bank of Kansas City serves the Tenth Federal Reserve District, which includes Colorado, Kansas, western Missouri, Nebraska, northern New Mexico, Oklahoma and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

Weekly data through January 27, 2023

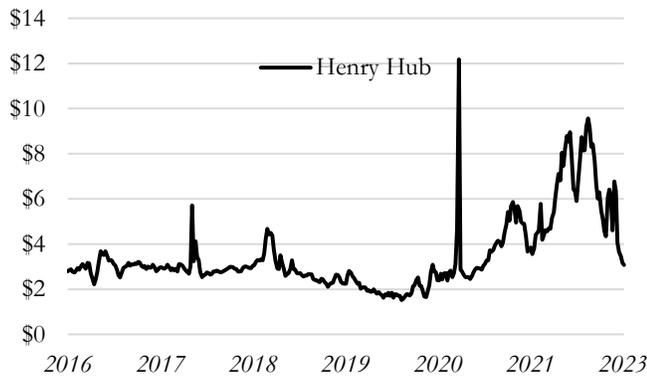
Weekly Oil Spot Prices, per barrel



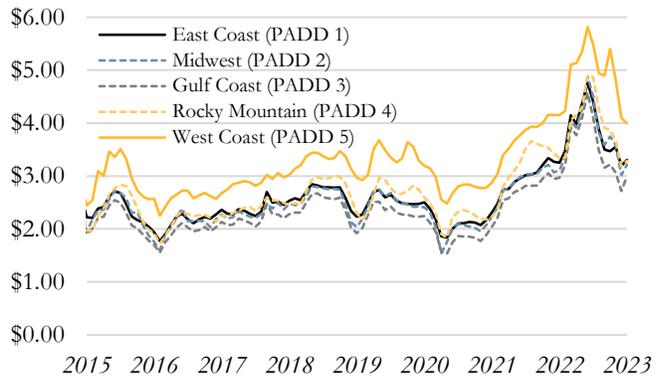
Refiner Acquisition Cost of Oil\*, per barrel



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	1/27/23	Ago	Ago	Ago	Ago	Ago
West Texas Intermediate	\$80.33	-\$0.01	\$1.10	-\$7.54	-\$19.27	-\$6.61
Brent	\$85.90	\$1.33	\$4.07	-\$7.11	-\$23.38	-\$4.22
Henry Hub	\$3.08	-\$0.09	-\$0.98	-\$2.04	-\$5.66	-\$1.52

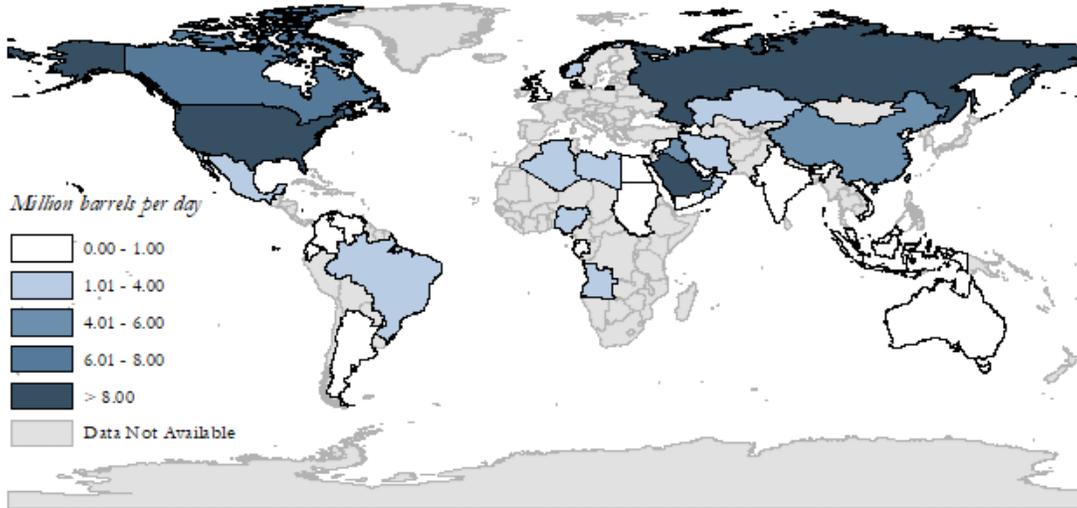
Monthly Gasoline Spot Prices, Change from

	Current	1 Month	3 months	6 Months	1 Year
Geographic Area	Jan-23	Ago	Ago	Ago	Ago
East Coast (PADD 1)	\$3.31	\$0.12	-\$0.16	-\$1.10	\$0.05
Midwest (PADD 2)	\$3.22	\$0.20	-\$0.53	-\$1.28	\$0.11
Gulf Coast (PADD 3)	\$3.00	\$0.28	-\$0.22	-\$1.10	\$0.02
Rocky Mountain (PADD 4)	\$3.29	\$0.11	-\$0.59	-\$1.58	-\$0.05
West Coast (PADD 5)	\$3.99	-\$0.11	-\$1.41	-\$1.49	-\$0.16

\*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

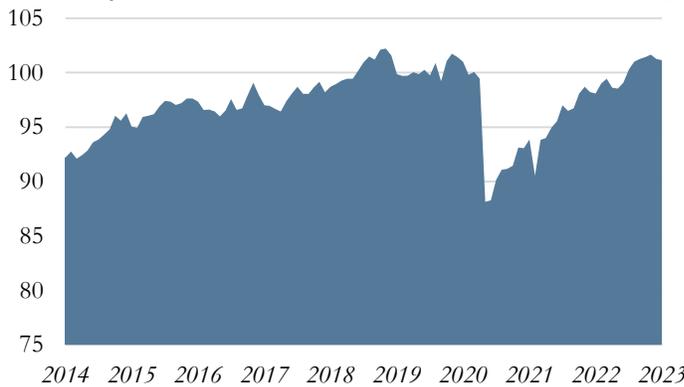
December 2022 Global Petroleum Production



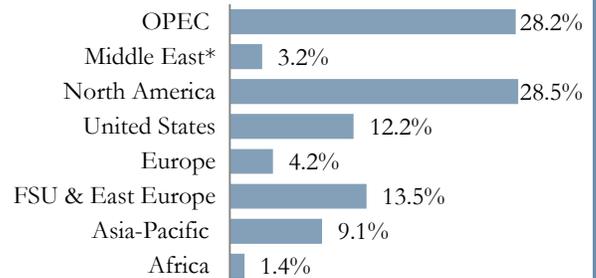
Source: Energy Information Administration/Haver Analytics

December 2022

Monthly Global Petroleum Production, million barrels per day

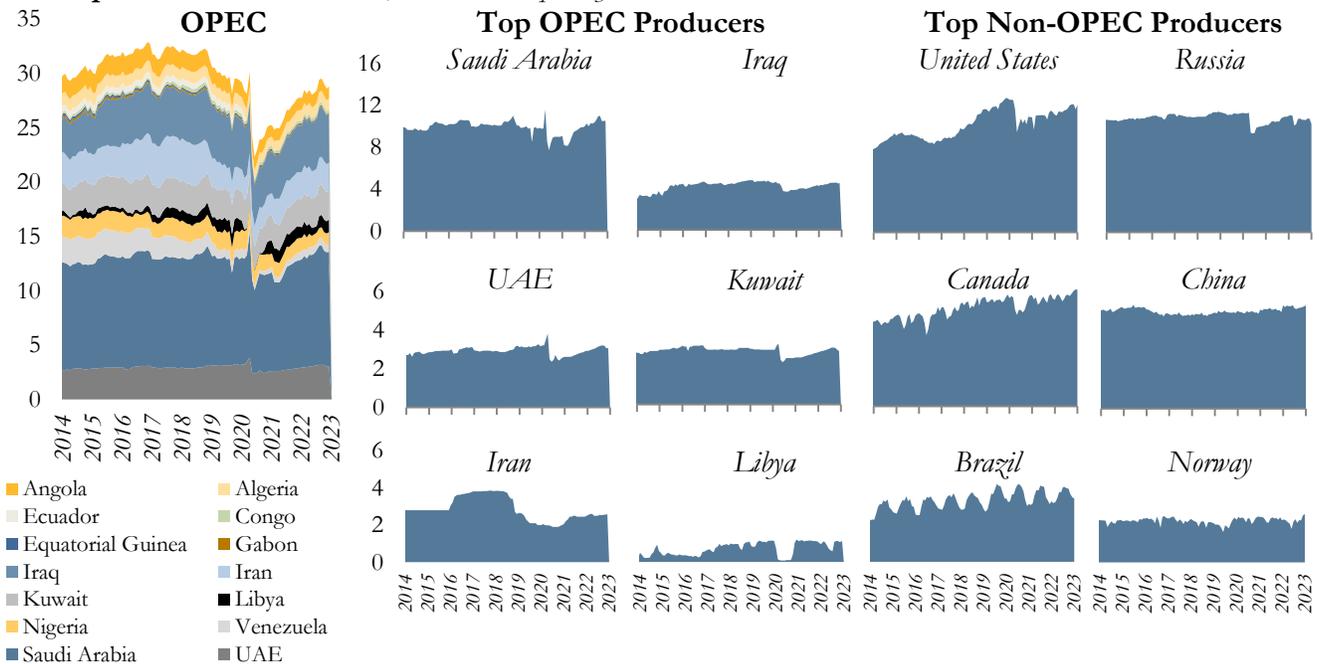


Regional Share of Production



\*Excludes OPEC

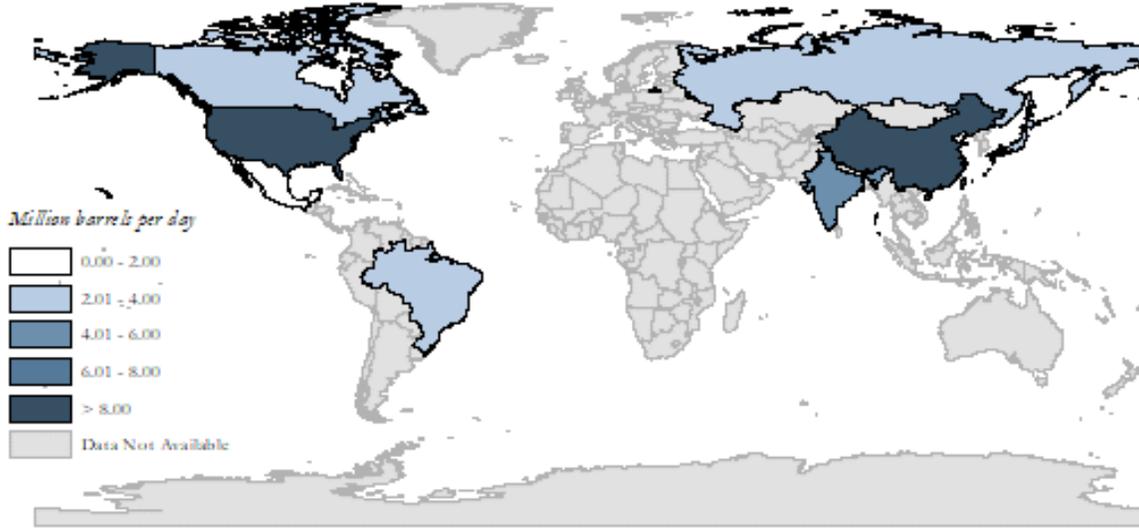
Top Crude Oil Producers, million barrels per day



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

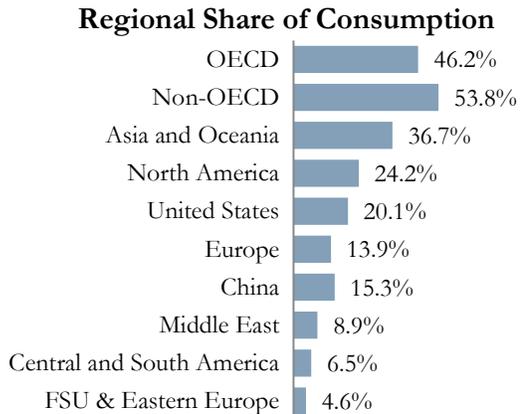
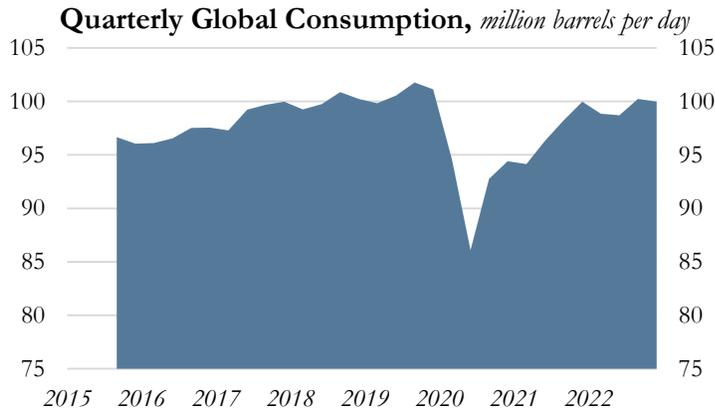
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

Fourth Quarter 2022 Global Petroleum Consumption

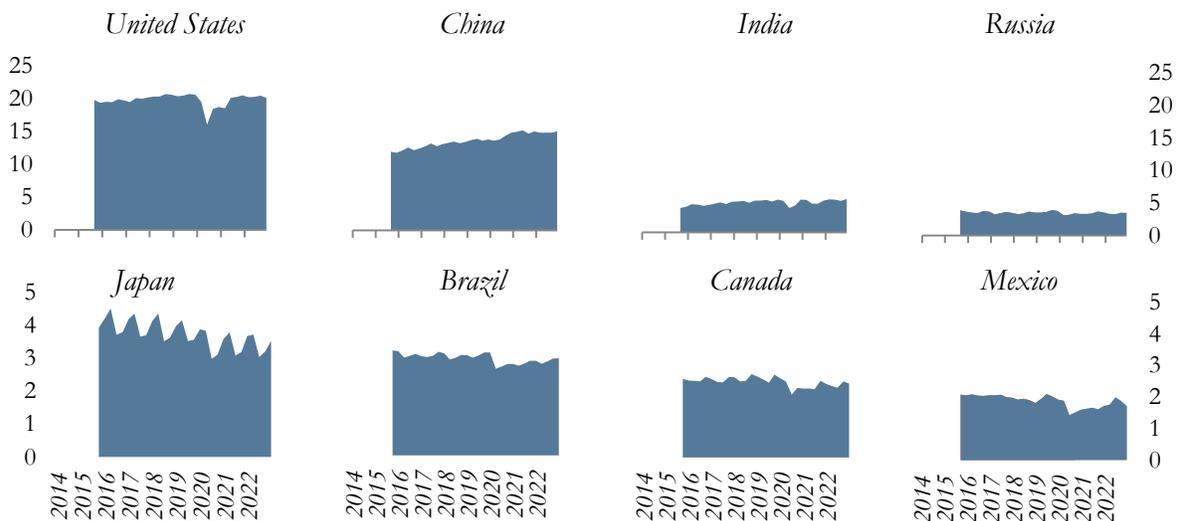


Source: Energy Information Administration/Haver Analytics

Fourth Quarter 2022

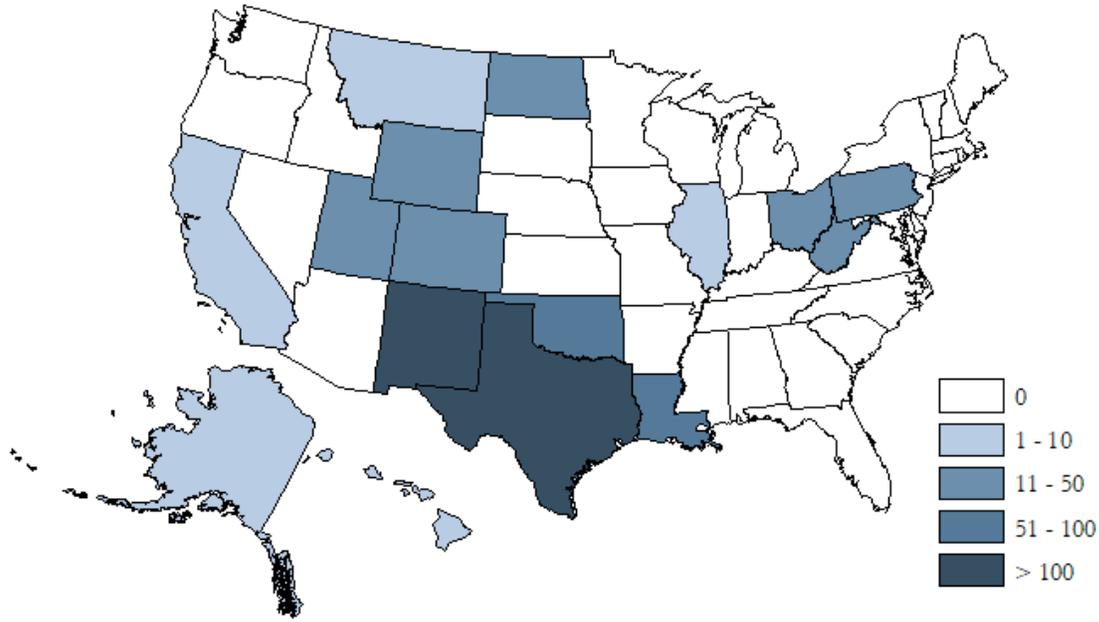


Top Petroleum Consumers, million barrels per day



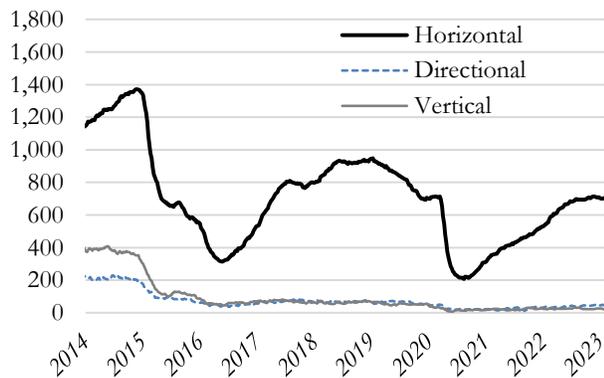
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

January 2023 Weekly Active Oil & Gas Drilling Rig Counts



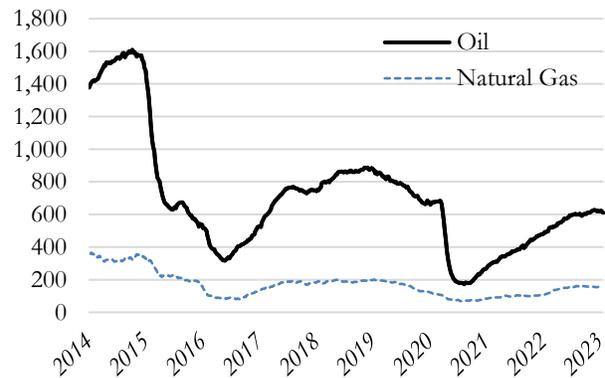
Source: Baker Hughes/Haver Analytics

U.S. Active Drilling Rigs by Trajectory

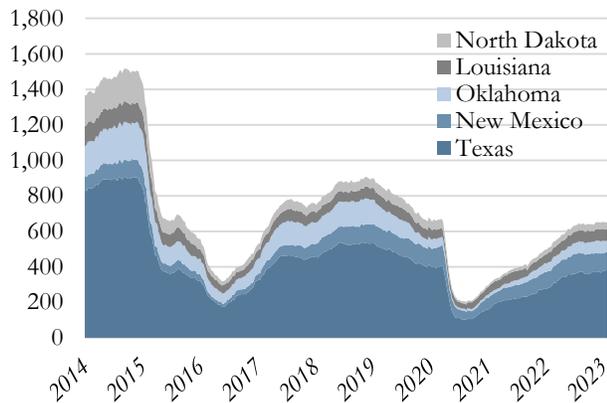


January 27, 2023

U.S. Active Drilling Rigs by Type



Top Five States for Drilling Activity (Total Active Rigs)



Rig Count By Type

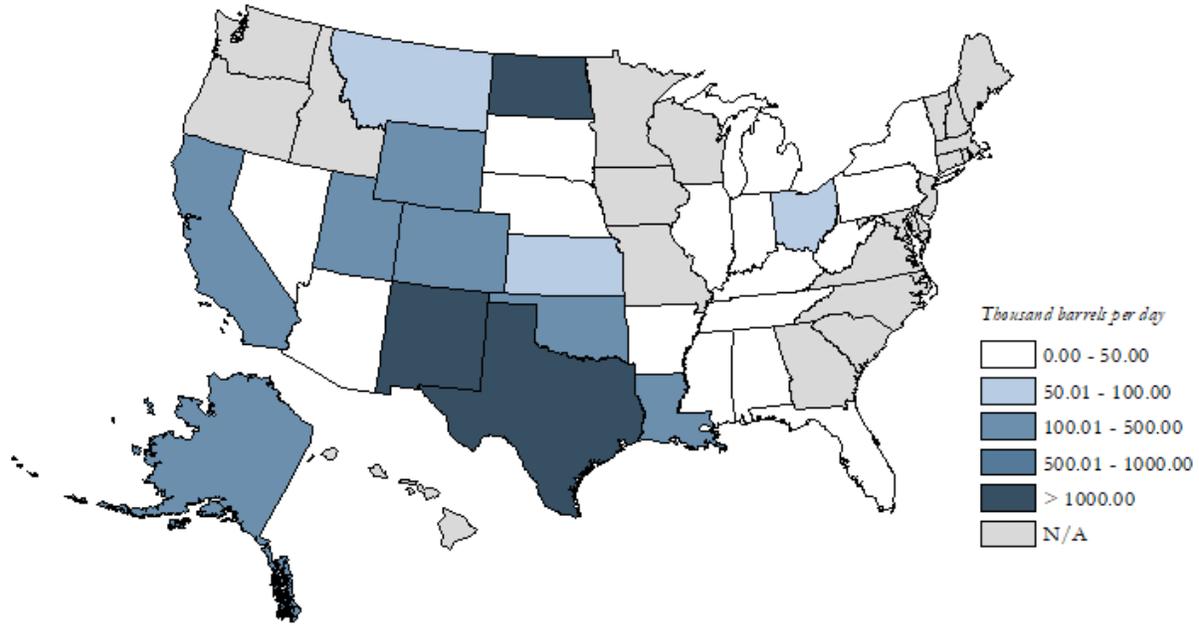
Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	609	621	610	495
Gas	160	156	156	115
Misc	2	2	2	0
<b>Total</b>	<b>771</b>	<b>779</b>	<b>768</b>	<b>610</b>

Rig Count By Type, Change from

Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	-	-1.9%	-0.2%	23.0%
Gas	-	2.6%	2.6%	39.1%
Misc	-	0.0%	0.0%	-
<b>Total</b>	-	<b>-1.0%</b>	<b>0.4%</b>	<b>26.4%</b>

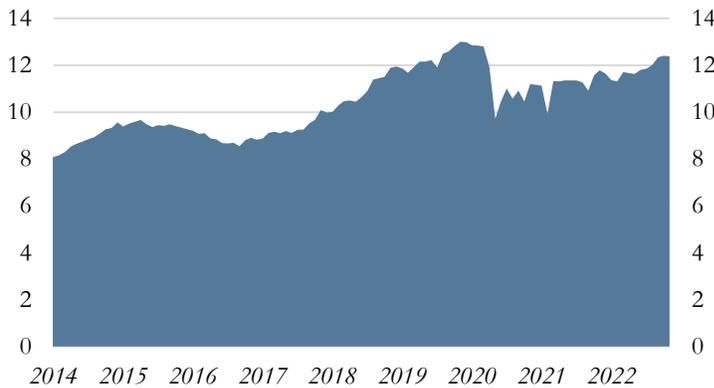
Source: Baker Hughes/Haver Analytics

November 2022 U.S. Crude Oil Production

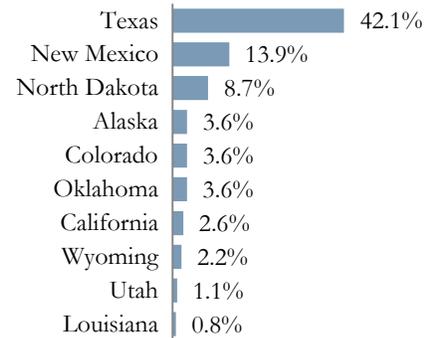


Source: Energy Information Administration/Haver Analytics

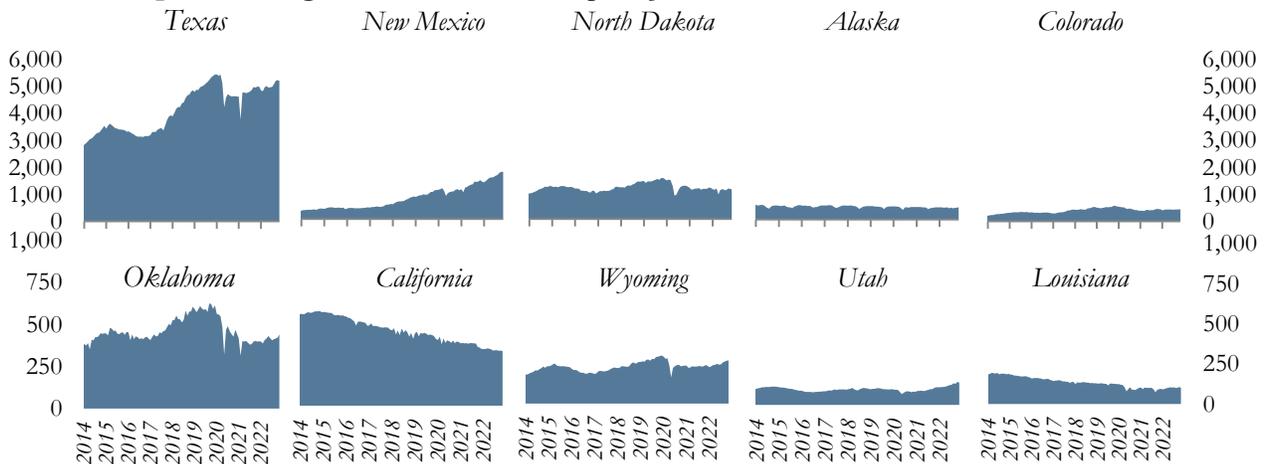
Monthly U.S. Production, million barrels per day



November 2022 Share of Production

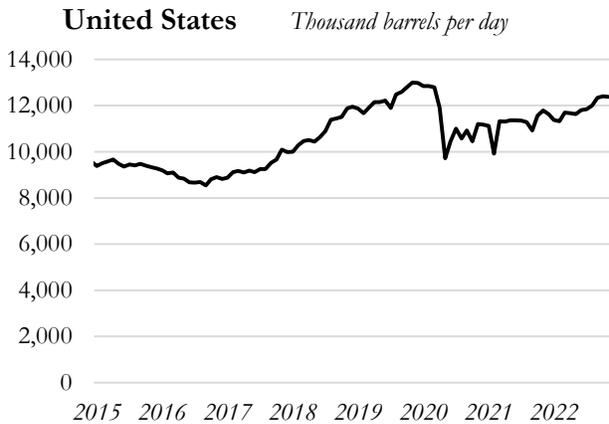


Top Producing States, thousand barrels per day

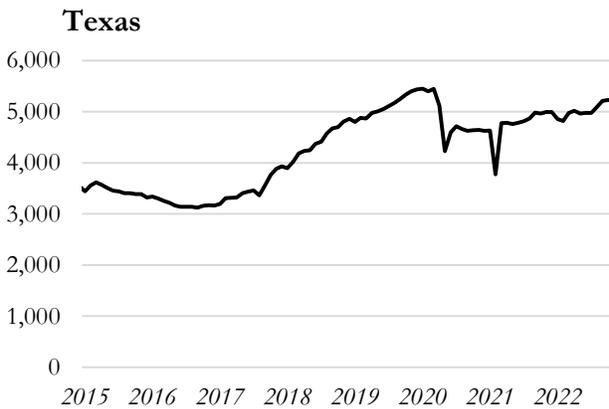


Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

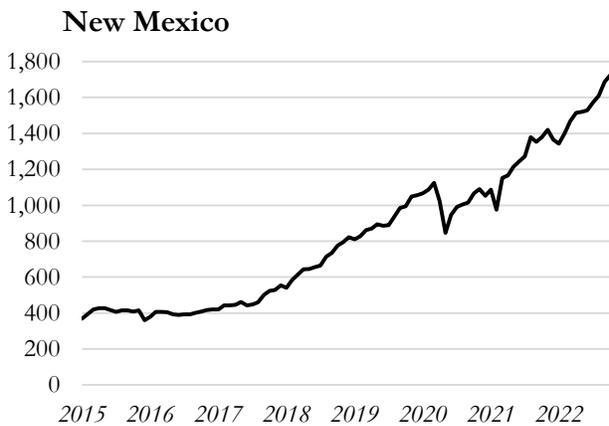
Data through November 2022



	<b>United States</b> <i>Thousand barrels per day</i>	<i>Change from</i>
Nov-22	12,375	
Month Ago	12,410	-0.3%
3 Months Ago	12,002	3.1%
6 Months Ago	11,629	6.4%
1 Year Ago	11,790	5.0%



	<b>Texas</b> <i>Thousand barrels per day</i>	<i>Change from</i>
Nov-22	5,210	
Month Ago	5,231	-0.4%
3 Months Ago	5,092	2.3%
6 Months Ago	4,966	4.9%
1 Year Ago	4,994	4.3%
Share of U.S. Production		42.1%



	<b>New Mexico</b> <i>Thousand barrels per day</i>	<i>Change from</i>
Nov-22	1,723	
Month Ago	1,724	0.0%
3 Months Ago	1,609	7.1%
6 Months Ago	1,519	13.4%
1 Year Ago	1,420	21.3%
Share of U.S. Production		13.9%

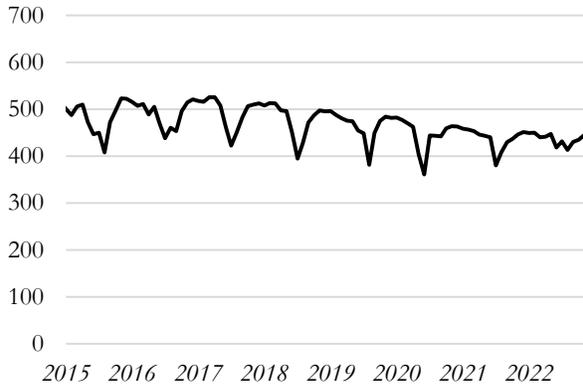


	<b>North Dakota</b> <i>Thousand barrels per day</i>	<i>Change from</i>
Nov-22	1,082	
Month Ago	1,105	-2.1%
3 Months Ago	1,049	3.1%
6 Months Ago	1,053	2.8%
1 Year Ago	1,151	-6.0%
Share of U.S. Production		8.7%

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

Data through November 2022

**Alaska** *Thousand barrels per day*



	<b>Alaska</b>	<i>Change from</i>
	<i>Thousand barrels per day</i>	
Nov-22	445	
Month Ago	435	2.2%
3 Months Ago	413	7.6%
6 Months Ago	447	-0.6%
1 Year Ago	446	-0.3%
Share of U.S. Production		3.6%

**Colorado**



	<b>Colorado</b>	<i>Change from</i>
	<i>Thousand barrels per day</i>	
Nov-22	444	
Month Ago	436	1.7%
3 Months Ago	433	2.5%
6 Months Ago	438	1.4%
1 Year Ago	455	-2.4%
Share of U.S. Production		3.6%

**Oklahoma**



	<b>Oklahoma</b>	<i>Change from</i>
	<i>Thousand barrels per day</i>	
Nov-22	442	
Month Ago	423	4.5%
3 Months Ago	414	6.7%
6 Months Ago	433	2.1%
1 Year Ago	399	10.8%
Share of U.S. Production		3.6%

**California**



	<b>California</b>	<i>Change from</i>
	<i>Thousand barrels per day</i>	
Nov-22	328	
Month Ago	332	-1.3%
3 Months Ago	333	-1.7%
6 Months Ago	339	-3.3%
1 Year Ago	351	-6.6%
Share of U.S. Production		2.6%

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

Data through November 2022

**Wyoming** *Thousand barrels per day*



<b>Wyoming</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Nov-22	271	
Month Ago	270	0.1%
3 Months Ago	257	5.3%
6 Months Ago	250	8.2%
1 Year Ago	242	11.9%
Share of U.S. Production		2.2%

**Utah**



<b>Utah</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Nov-22	141	
Month Ago	146	-3.5%
3 Months Ago	138	2.2%
6 Months Ago	122	15.8%
1 Year Ago	112	25.7%
Share of U.S. Production		1.1%

**Louisiana**

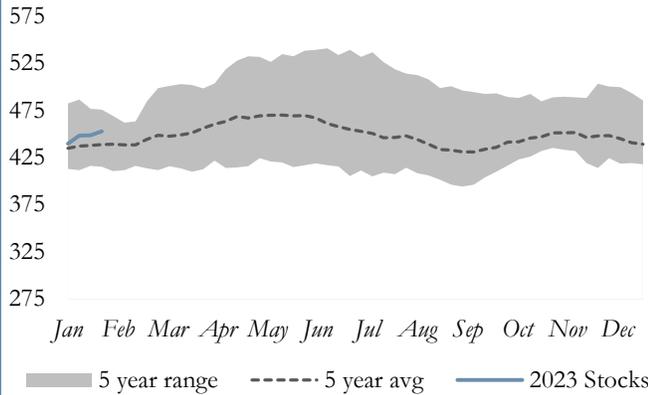


<b>Louisiana</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
Nov-22	101	
Month Ago	105	-4.2%
3 Months Ago	101	-0.2%
6 Months Ago	104	-2.8%
1 Year Ago	92	9.3%
Share of U.S. Production		0.8%

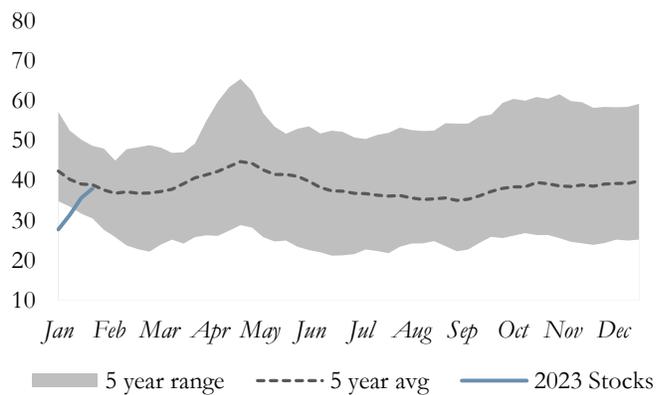
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

January 2023 Weekly U.S. Crude Oil Stocks

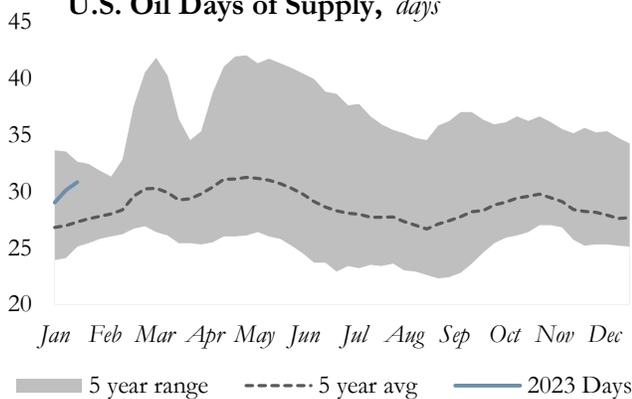
U.S. Oil Stocks, million barrels\*



Cushing, OK Oil Stocks, million barrels



U.S. Oil Days of Supply, days



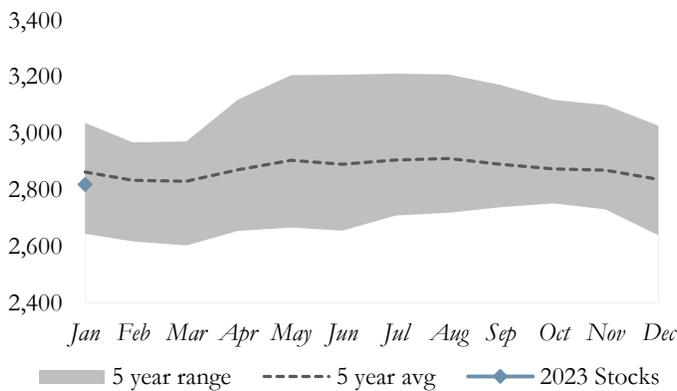
Crude Oil Stocks

	1 Week Ago	1 Year Ago
U.S.	0.9%	9.0%
Cushing, OK	6.5%	24.5%
Days of Supply	-100.0%	-100.0%
East Coast (PADD 1)	16.0%	4.2%
Midwest (PADD 2)	2.3%	10.7%
Gulf Coast (PADD 3)	0.0%	12.1%
Rocky Mountain (PADD 4)	-0.2%	6.8%
West Coast (PADD 5)	0.3%	-6.2%

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

January 2023 OECD Commercial Petroleum Inventory

OECD Commercial Petroleum Inventory, million barrels

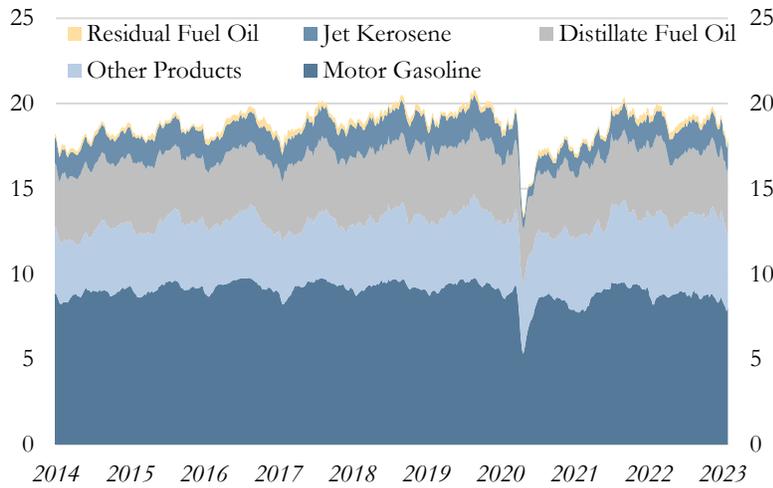


Petroleum Stocks	Million Barrels	Change from
Current Month	2,820	
1 Month Ago	2,786	1.2%
3 Months Ago	2,777	1.5%
6 Months Ago	2,710	4.1%
1 Year Ago	2,645	6.6%

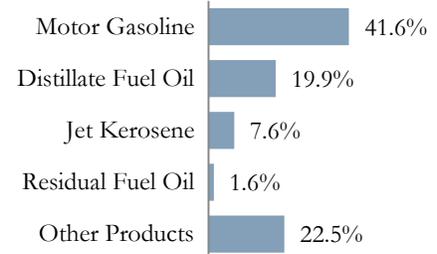
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

**January 2023 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 1/27/23	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	19,374	20,473	20,275	19,917	21,643
Motor Gasoline	8,061	8,452	8,636	8,592	8,215
Distillate Fuel Oil	3,854	3,615	4,144	3,673	4,432
Jet Kerosene	1,475	1,608	1,481	1,555	1,466
Residual Fuel Oil	306	191	260	334	400
Other Products	4,360	5,185	4,721	4,998	5,147

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

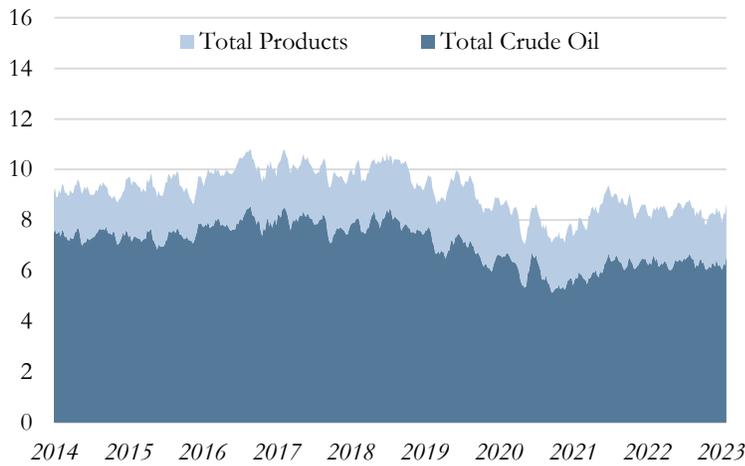
	Current 1/27/23	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	-	-5.4%	-4.4%	-2.7%	-10.5%
Motor Gasoline	-	-4.6%	-6.7%	-6.2%	-1.9%
Distillate Fuel Oil	-	6.6%	-7.0%	4.9%	-13.0%
Jet Kerosene	-	-8.3%	-0.4%	-5.1%	0.6%
Residual Fuel Oil	-	60.2%	17.7%	-8.4%	-23.5%
Other Products	-	-15.9%	-7.6%	-12.8%	-15.3%

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

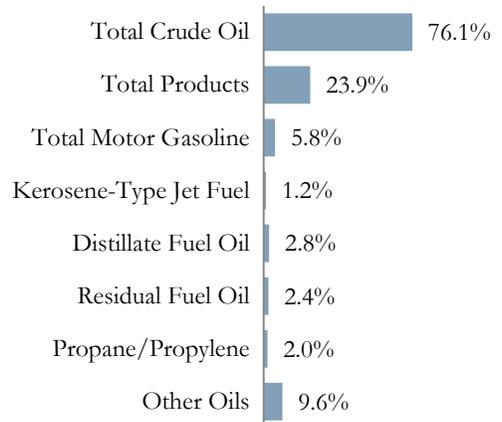
January 2023 Weekly U.S. Imports of Crude Oil & Petroleum Products

4-Week Averages

Imports, million barrels per day



Share of Total Imports



U.S. Imports by Product\*

Thousand barrels per day

	Current 1/27/23	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	<b>6,599</b>	<b>6,162</b>	<b>6,089</b>	<b>6,675</b>	<b>6,534</b>
<b>Total Products</b>	<b>2,072</b>	<b>2,012</b>	<b>1,954</b>	<b>2,142</b>	<b>1,811</b>
Total Motor Gasoline	506	607	529	697	432
Kerosene-Type Jet Fuel	106	113	146	116	145
Distillate Fuel Oil	247	185	113	154	249
Residual Fuel Oil	210	114	204	214	172
Propane/Propylene	170	133	94	89	150
Other Oils	833	861	862	871	654
<b>Total Imports</b>	<b>8,671</b>	<b>8,174</b>	<b>8,043</b>	<b>8,817</b>	<b>8,345</b>

U.S. Imports by Product, Change from

	Current 1/27/23	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	-	<b>7.1%</b>	<b>8.4%</b>	<b>-1.1%</b>	1.0%
<b>Total Products</b>	-	<b>3.0%</b>	<b>6.0%</b>	<b>-3.3%</b>	<b>14.4%</b>
Total Motor Gasoline	-	-16.6%	-4.3%	-27.4%	17.1%
Kerosene-Type Jet Fuel	-	-6.2%	-27.4%	-8.6%	-26.9%
Distillate Fuel Oil	-	33.5%	118.6%	60.4%	-0.8%
Residual Fuel Oil	-	84.2%	2.9%	-1.9%	22.1%
Propane/Propylene	-	27.8%	80.9%	91.0%	13.3%
Other Oils	-	-3.3%	-3.4%	-4.4%	27.4%
<b>Total Imports</b>	-	<b>6.1%</b>	<b>7.8%</b>	<b>-1.7%</b>	<b>3.9%</b>

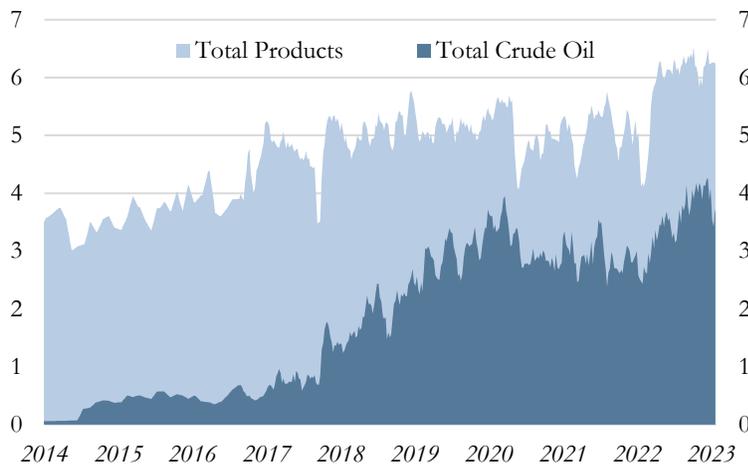
\*Totals may not sum due to component rounding

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

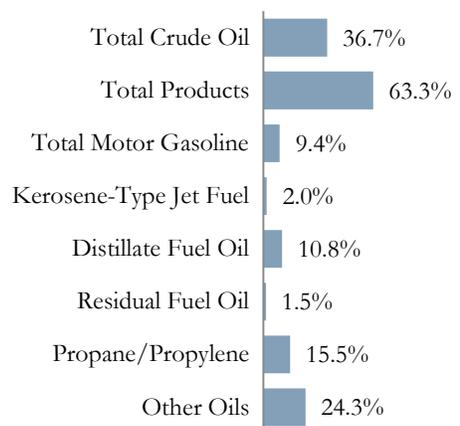
January 2023 Weekly U.S. Exports of Crude Oil & Petroleum Products

4-Week Averages

Exports, million barrels per day



Share of Total Exports



U.S. Exports by Product\*

Thousand barrels per day

	Current 1/27/23	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	<b>3,552</b>	<b>4,087</b>	<b>4,016</b>	<b>3,711</b>	<b>2,434</b>
<b>Total Products</b>	<b>6,121</b>	<b>6,239</b>	<b>6,055</b>	<b>6,049</b>	<b>4,186</b>
Total Motor Gasoline	905	1,001	887	814	493
Kerosene-Type Jet Fuel	190	194	164	185	108
Distillate Fuel Oil	1,044	1,418	1,112	1,573	682
Residual Fuel Oil	141	141	131	78	62
Propane/Propylene	1,496	1,412	1,471	1,393	1,150
Other Oils	2,347	2,074	2,291	2,007	1,692
<b>Total Exports</b>	<b>9,673</b>	<b>10,326</b>	<b>10,071</b>	<b>9,759</b>	<b>6,620</b>

U.S. Exports by Product, Change from

	Current 1/27/23	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	-	<b>-13.1%</b>	<b>-11.6%</b>	<b>-4.3%</b>	45.9%
<b>Total Products</b>	-	<b>-1.9%</b>	<b>1.1%</b>	<b>1.2%</b>	<b>46.2%</b>
Total Motor Gasoline	-	-9.6%	2.0%	11.2%	83.6%
Kerosene-Type Jet Fuel	-	-2.1%	15.9%	2.7%	75.9%
Distillate Fuel Oil	-	-26.4%	-6.1%	-33.6%	53.1%
Residual Fuel Oil	-	0.0%	7.6%	80.8%	127.4%
Propane/Propylene	-	5.9%	1.7%	7.4%	30.1%
Other Oils	-	13.2%	2.4%	16.9%	38.7%
<b>Total Exports</b>	-	<b>-6.3%</b>	<b>-4.0%</b>	<b>-0.9%</b>	<b>46.1%</b>

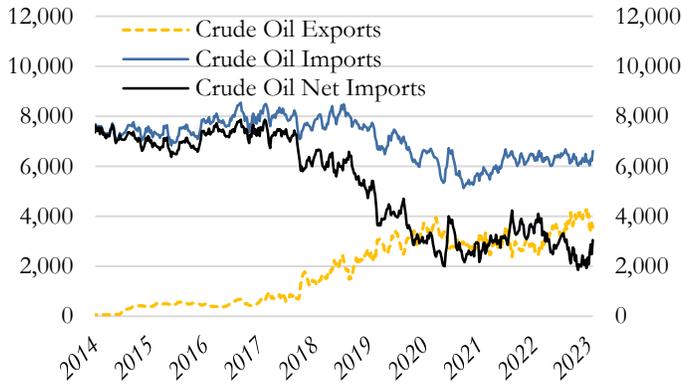
\*Totals may not sum due to rounding

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

### January 2023 Weekly U.S. Net Imports of Crude Oil & Petroleum Products

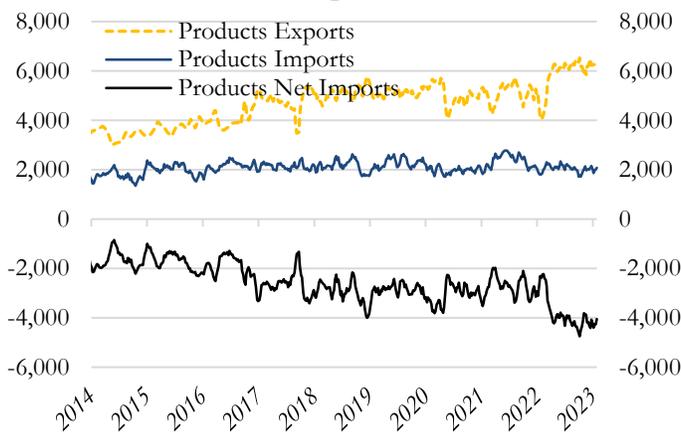
4-Week Averages, Thousand barrels per day

#### Crude Oil Net Imports



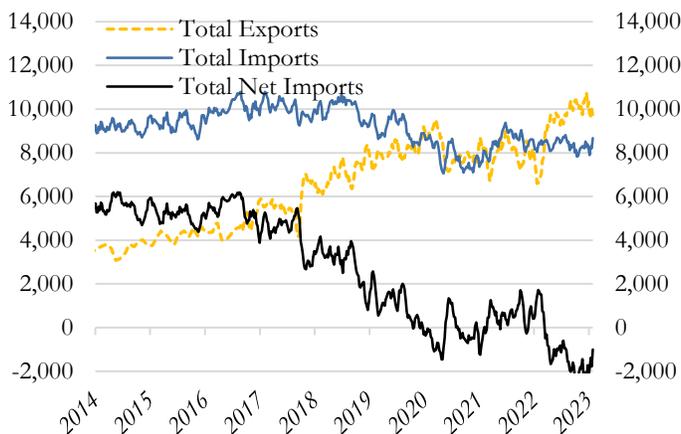
Crude Oil Net Imports		Change
Thousand barrels per day		from
1/27/23	3,047	
Month Ago	2,075	46.8%
3 Months Ago	2,073	47.0%
6 Months Ago	2,964	2.8%
1 Year Ago	4,099	-25.7%

#### Products Net Imports



Products Net Imports		Change
Thousand barrels per day		from
1/27/23	-4,049	
Month Ago	-4,226	-
3 Months Ago	-4,101	-
6 Months Ago	-3,907	-
1 Year Ago	-2,374	-

#### Total Net Imports



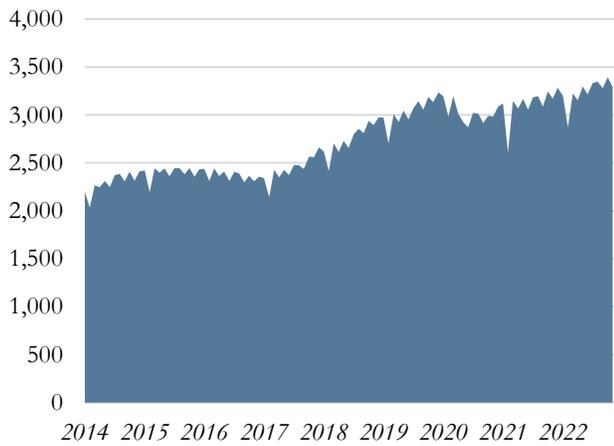
Total Net Imports		Change
Thousand barrels per day		from
1/27/23	-1,002	
Month Ago	-2,151	-
3 Months Ago	-2,028	-
6 Months Ago	-943	-
1 Year Ago	1,725	-

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

U.S. Natural Gas Production & Stocks

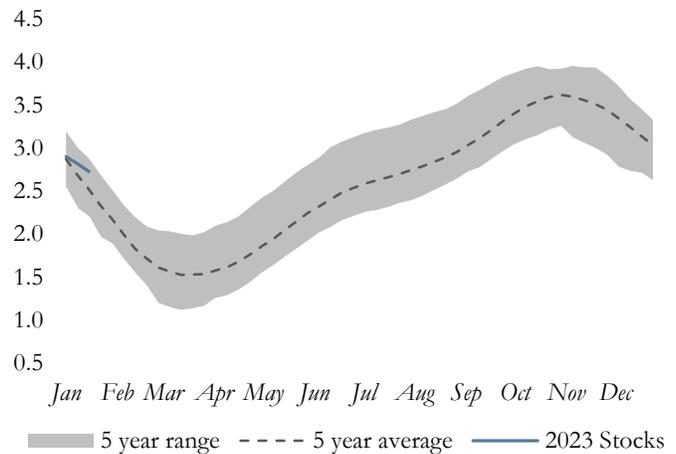
November 2022 Production

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



January 2023 Weekly Stocks

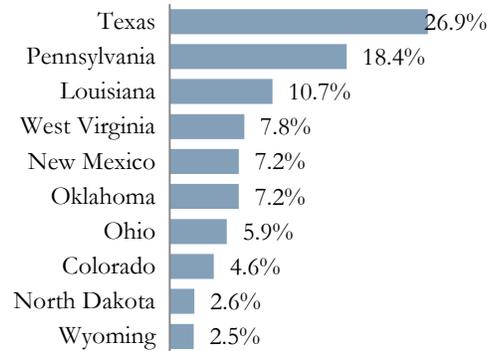
U.S. Natural Gas Stocks, Billion cubic feet (Bcf)



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	3,292	3,394	3,349	3,296	3,199
U.S. Stocks	2,729	3,112	3,394	2,416	2,591

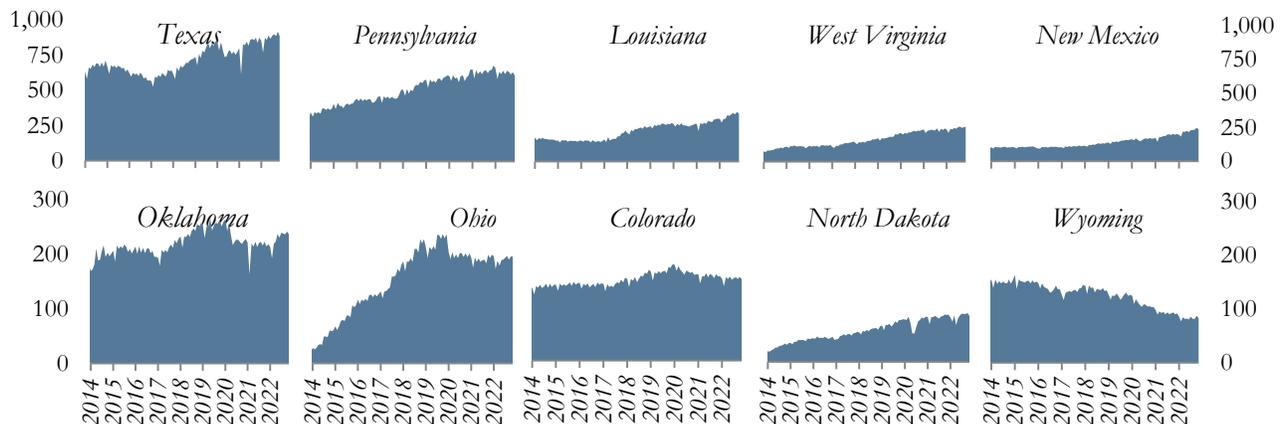
Share of Production



U.S. Natural Gas, Change from

	Current Period*	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
U.S. Production	-	-3.0%	-1.7%	-0.1%	2.9%
U.S. Stocks	-	-12.3%	-19.6%	13.0%	5.3%

Top Producing States, Billion cubic feet (Bcf)



\*U.S. production is monthly data & stocks are weekly data

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

*Definitions:*

West Texas Intermediate: A crude oil produced in Texas and southern Oklahoma which serves as a reference or "marker" for pricing a number of other crude streams and is traded in the domestic spot market at Cushing, Oklahoma.

Brent: A blended crude oil produced in the North Sea region which serves as a reference or "marker" for pricing a number of other international crude streams.

Petroleum products include unfinished oils, liquefied petroleum gases, pentanes plus, aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

Refined petroleum products include but are not limited to gasolines, kerosene, distillates (including No. 2 fuel oil), liquefied petroleum gas, asphalt, lubricating oils, diesel fuels, and residual fuels.

*Notes:*

*Page 2:* Petroleum Administration for Defense Districts (PADD) are geographic aggregations of the 50 States and the District of Columbia into five districts by the Petroleum Administration for Defense in 1950. These districts were originally defined during World War II for purposes of administering oil allocation. For more information, visit: <http://www.eia.gov/petroleum/supply/monthly/pdf/append.pdf>

*Page 3:* For OPEC countries & the U.S., only crude oil production data is used. For non-OPEC countries (excluding the U.S.) total petroleum production data is used. Total petroleum production includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

*Page 5:* The active rig count is the number of rigs actively exploring for or developing oil or natural gas. Rig counts provide an indicator of new drilling activity and potential for expanded crude oil or natural gas production.

*Pages 10:* Crude oil stocks are stocks of crude oil and lease condensate held at refineries, in pipelines, at pipeline terminals, and on leases.

Crude oil stocks for Cushing include domestic and foreign crude oil stocks held in tank farms in Lincoln, Payne, and Creek counties in Oklahoma. Cushing, Oklahoma, is the designated delivery point for NYMEX crude oil futures contracts.

Days of supply are calculated by taking the current stock level and dividing by product supplied (used as an estimate of demand) averaged over the most recent four-week period. For crude oil, refinery inputs of crude oil are used as a proxy for demand.

*Notes:*

Page 11: Petroleum Consumption approximately represents consumption of petroleum products because it measures the disappearance of these products from primary sources, i.e., refineries, natural gas-processing plants, blending plants, pipelines, and bulk terminals.

**Data Revisions**

Most data are revised periodically to correct for errors and incorporate additional information as it becomes available. Data shown in this report are subject to change.

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