



## EXECUTIVE SUMMARY

U.S. petroleum demand of 20.5 million barrels per day (Mb/d) fell by 48,000 b/d m/m in July but was at its highest level for the month since 2019. The month-over-month decline in July, which was driven by decreases in motor gasoline (376,000 b/d), k-jet fuel (29,000 b/d), distillate fuel (24,000 b/d), was partially offset by the consumption of other oils and residual fuel, which are mostly used as feedstock for industrial purposes. Other oils demand rose by 331,000 b/d, corresponding with an increase in the Purchasing Managers Index (PMI) for July. According to PMI, though the manufacturing industry remains in contraction territory, there was an uptick in production index by 1.6 percentage points from June; new orders index rose 1.7 percentage points higher than the figure recorded in June; and backlog of orders index registered 4.1 percentage points higher than June.

However, despite the weaker demand for transportation fuel, total U.S. supply rose month-over-month. Oil production was at their second highest level since March 2020 when the COVID-19 pandemic prompted producers to curtail production in response to weakening demand, while U.S. NGL production set record level for the month of July. U.S. total production of crude oil and NGL of 20.1 Mb/d rose 270,000 b/d m/m to the third strongest output on record since 1973. U.S. refiners were also estimated to have processed the largest volume of crude oil since December 2019.

The increase in crude oil production enabled U.S. commercial crude oil stocks growth by 10.0 million barrels m/m to 443.8 million barrels and also supported the largest refinery run in more than 3 years.

Historically, developments such as these have resulted in lower prices, but in July, extended supply cuts from OPEC+ contributed to higher oil and motor gasoline prices. Despite the increase, prices were still below their year-ago levels.

The University of Michigan's Consumer Sentiment Index, which is a measure of consumer confidence in the U.S., rose as uncertainties around the macroeconomic environment began to fade. This increase in the consumer confidence index is the highest since October 2021 and is now about 42% above the all-time historic low reached in June of 2022.

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- **U.S. petroleum demand (20.5 Mb/d) in July fell 48,000 b/d m/m from June but at its highest level since 2019.**
  - Motor gasoline demand (8.9 Mb/d) had its largest decline in twelve months.
  - Distillate demand (3.7 Mb/d) was the smallest recorded volume for any month since August 2020.
  - Kerosene-type jet fuel demand (1.7 Mb/d) in July at its 3<sup>rd</sup> highest for any month since Dec 2019.

### Prices & Macroeconomy

- **Gasoline and crude oil prices in July were the highest since November 2022.**
- **UoM's consumer sentiment index improved suggesting consumer confidence in the near-term conditions.**
- **July Purchasing Managers indicate the U.S. manufacturing sector shrinking again but at a slower rate.**

### Supply

- **U.S. crude oil production and NGL production highest for July on record.**

### International trade

- **U.S. Petroleum net exports (1.6 Mb/d) remained steady from June.**
- **U.S. crude and product net exports at its highest for the month on record.**

### Industry operations

- **Refining throughput and capacity utilization rates rose in July – processing largest volume of crude since August 2019**

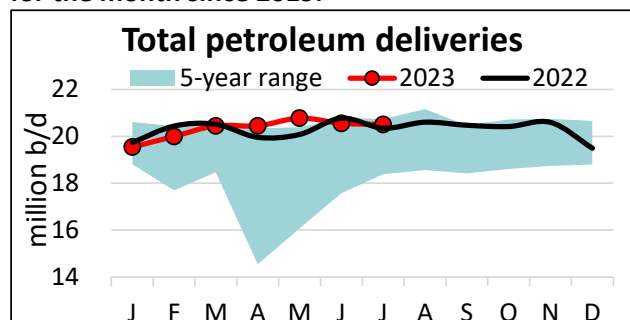
### Inventories

- **U.S. commercial crude inventories below their 5-year average but within the 5-year range.**

## Details by section

### Demand

**U.S. petroleum demand (20.5 Mb/d) at its highest for the month since 2019.**

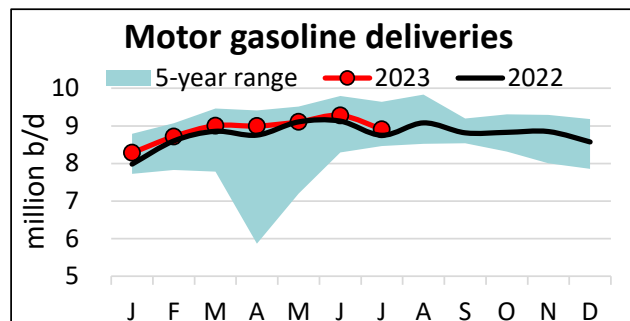


U.S. petroleum demand, as measured by total domestic petroleum deliveries, fell 48,000 barrels per day (Mb/d) m/m to 20.5 Mb/d but was at its highest for the month since 2019. The month-over-month decrease recorded for July was the second smallest for the month in 12 years. Year-over-year, petroleum demand rose .08% (0.2 Mb/d).

The monthly net decrease in petroleum demand was a result of decreases in motor gasoline, k-jet fuel, and distillate fuel, which saw July's transportation fuel consumption falling 376,000 b/d or 2.5% m/m, to its lowest this summer travel season so far. Other oils and residual fuel, which rose month-over-month by 331,000 b/d and 53,000 b/d respectively, was fully offset by the decline in transportation fuels.

### Gasoline

**Motor gasoline demand (8.9 Mb/d) had its largest decline in twelve months.**



Consumer motor gasoline demand, measured by motor gasoline deliveries, fell 338,000 b/d m/m in July to 8.9 Mb/d; a decrease of 3.6%, compared

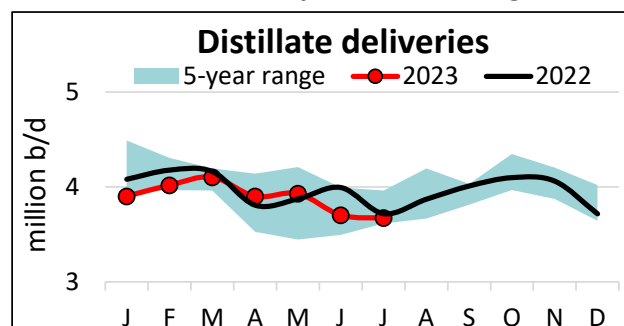
with an average decrease of 0.5% for the June to July period for the past decade.

Deliveries of reformulated-type gasoline (consumed primarily in urban areas) fell by 4.1% m/m to 2.8 Mb/d. It is also the second highest monthly decline for July in almost three decades, after the 6.8% m/m decline in July of 2022. Historically, it has been typical to see demand for reformulated gas drop off in July. Conventional gasoline (consumed mainly in rural areas) deliveries decreased by 3.4% m/m to 6.1 Mb/d but remained above year-ago levels.

This decline witnessed in July's gasoline consumption may reflect the impact of higher gasoline prices, which reached their highest level for the year.

### Distillate Fuel Oil

**Distillate demand (3.7 Mb/d) was the smallest recorded volume for any month since August 2020.**

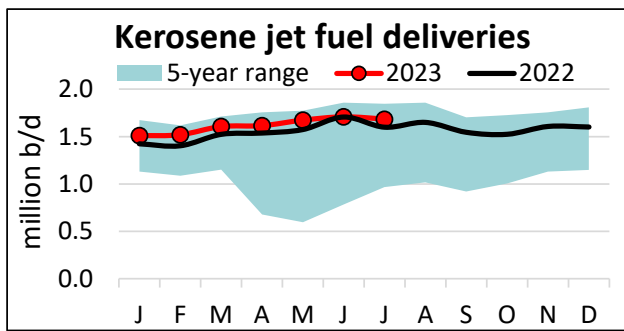


Distillate deliveries of 3.7 Mb/d in July fell by 0.8% m/m and 1.2% y/y to the lowest for any month since August 2020. Combined with declines in June, the fall in the demand for distillates is the largest for any May-July period since 2017.

The low demand for distillates reflects downturns in trucking as captured by trendlines. The data showed that the quantity of spot trucks posts decreased by 13.4% m/m and by 5.2% y/y. The building slack capacity is due to a multi-month downturn in manufacturing and freight activity, which is being reflected in falling consumption of diesel and other distillate fuel oils.

### Kerosene Jet Fuel

**Kerosene-type jet fuel demand (1.7 Mb/d) in July at its 3<sup>rd</sup> highest for any month since Dec 2019.**

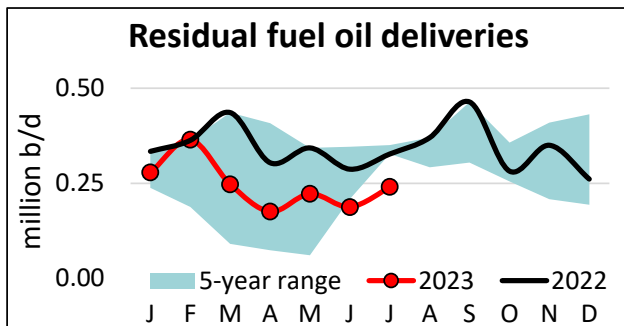


Despite falling 1.4% m/m, kerosene-type jet fuel deliveries of 1.7 Mb/d were 5.3% higher than July 2022 levels. Jet fuel demand for the month is the 3rd highest for any month since Dec 2019 and has had 28 consecutive months of year over year growth.

High-frequency data from [Flightradar24](#) showed that the number of flights went up by 4.8% m/m and remained virtually unchanged y/y. And per reports by the International Air Transport Association (IATA), North American airlines passenger miles rose by 20% YTD from the same period in 2022.

### Residual Fuel Oil

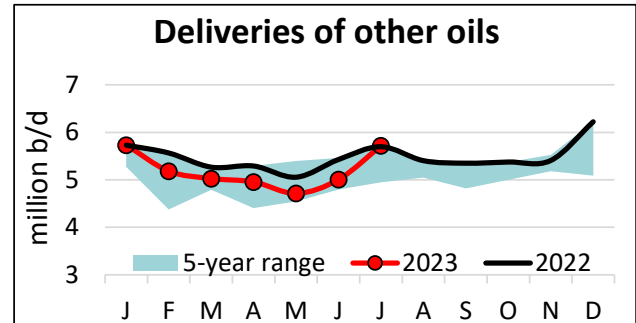
**Lowest for the month on record since 1941**



Residual fuel oil, which is used as a marine fuel, and in electric power production, space heating, and industrial applications saw a 28.2% increase in demand of 0.2 Mb/d in July relative to - the largest increase for the month since 2020. The month-on-month increase was consistent with reports on a [rise](#) in container import volumes.

### Other Oils – Naphtha, Gasoil, Propane & Propylene

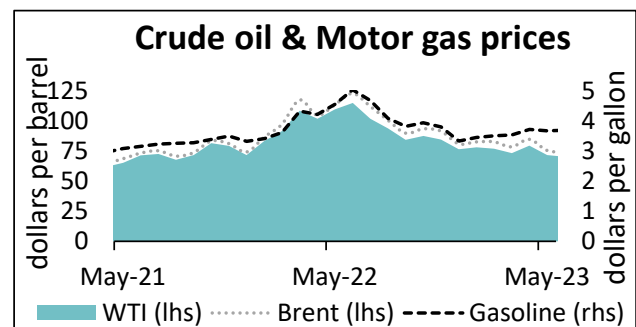
**Other oils' demand in July (5.7 Mb/d) rose 331,000 b/d, to its highest for any month since Jan. 2022**



Deliveries of refinery and petrochemical liquid feedstocks – that is, naphtha, gasoil, and propane/propylene (“other oils”) – were 5.7 Mb/d in July, rising 6.1% m/m. The demand performance for other oils continues to exceed expectations despite uncertain macroeconomic conditions. The increases are likely reflected in market improvements in the manufacturing sector.

### Prices

**Gasoline and crude oil prices in July highest since November 2022**



In July, West Texas Intermediate (WTI) crude oil rose \$5.82 m/m to \$76.07 per barrel. Brent crude oil spot prices also rose to \$80.11 from \$74.84 per barrel in June 2023. This implied a Brent-WTI crude oil price differential of \$4.04 per barrel in July, down \$6.27 per barrel from July 2022. A tightening spread typically indicates tighter market conditions.

The rise in the cost of crude oil, which remained the top input cost in making gasoline, contributed at least 47% to the increase in the cost for U.S. gasoline, per [EIA](#). U.S. average conventional gasoline price (all grades) was \$3.71 per gallon in July, up by 0.8% m/m from \$3.68 per gallon in June per [EIA](#).

## Macroeconomy

**July PMI indicates U.S. manufacturing sector shrinking again but at a slower rate; consumer sentiment improved; still a tight labor market but payroll slowed.**

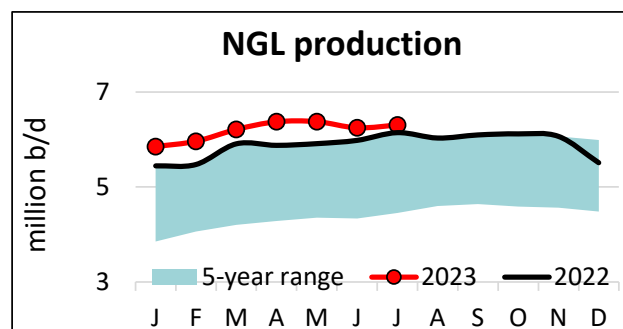
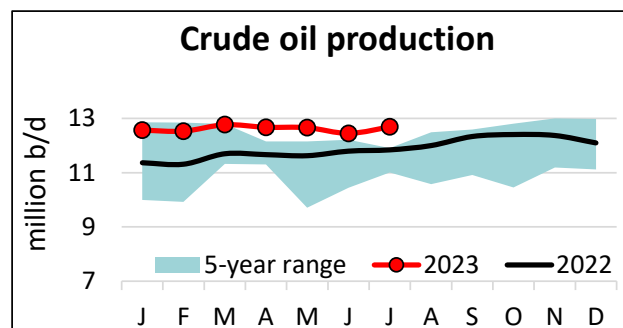
The Institute for Supply Management's manufacturing Purchasing Managers Index ([PMI](#)) had a reading of 46.4 in July – a 0.4 percentage point increase from in June. Monthly growth included a 1.6 percentage point increase in manufacturing production; a 1.7 percentage point increase in the new orders index; and 4.1 percentage points in the backlog of orders index.

The [University of Michigan's consumer sentiment index](#), a monthly survey of consumer confidence levels in the U.S. with regards to the economy, showed consumer confidence resurging in July. The final reading for July was 71.6, which is the highest since October 2021. Per UoM, sentiment is now about 42% above the all-time historic low reached in June of 2022 and is approaching the historical average reading of 86. The July change, which was led by expectations, reflected improvements in inflation and stability in the labor market.

According to the [Bureau of Labor Statistics \(BLS\)](#), the unemployment rate was 3.5% in July. Non-farm preliminary payrolls rose by 187,000 m/m, which is 46.8% less than the monthly gain in July 2022, per BLS. Employment conditions in the mining, quarrying, and oil and gas extraction sector ([NAICS 21](#)) showed industry employment rose by 0.05% (3,000) m/m to a preliminary estimate of 595,700. The unemployment rate rose to 2.7% in July after an unemployment rate of 1.3% in June. Last year the unemployment rate was 0.8%.

## Supply

**U.S. crude oil production 11.3% above 5-year average; NGL production showed continued strength.**



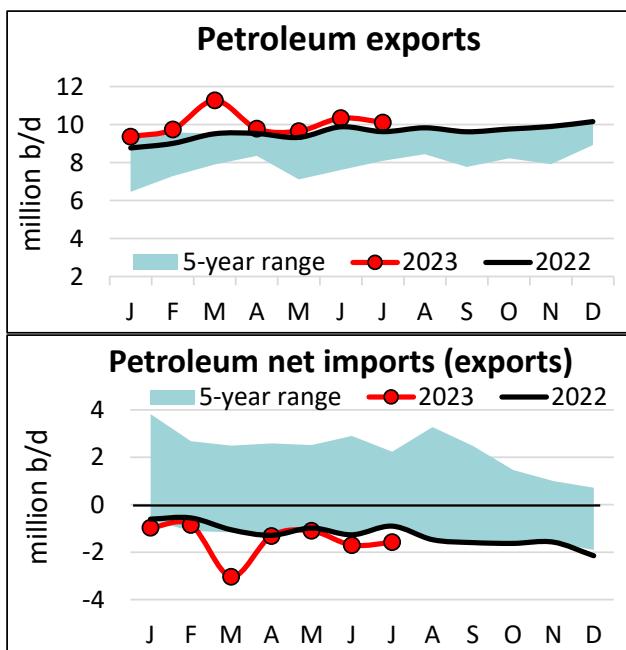
U.S. crude oil production of 12.7 Mb/d in July rose by 245,000 barrels per day from June to its highest for the month on record and 11.3% above its 5-year average. It was also the second largest volume on record for any month since March 2020. Compared to July 2022, crude oil production was up by 859,000 b/d y/y.

Improved efficiency levels enabled the growth witnessed in crude oil production, even as the day-weighted average total rig count fell 2.1% m/m (15 rigs) to 671 rigs in July. On the other hand, the day-weighted average of natural gas-directed drilling increased by 0.9% m/m (11 rigs), per [Baker Hughes](#).

The extraction of natural gas liquids (NGLs) depends on the relative values of ethane, propane, and butane, which historically have tended to correspond with those of crude oil. NGL production of 6.3 Mb/d in July rose 61,000 barrels per day to its highest for the month on record since 1973, partially offsetting the 131,000 b/d decline in June. Production also rose by 162,000 barrels per day y/y. Year-over-year volumes as of July rose 1.3% and continued for a 7<sup>th</sup> consecutive month.

## International trade

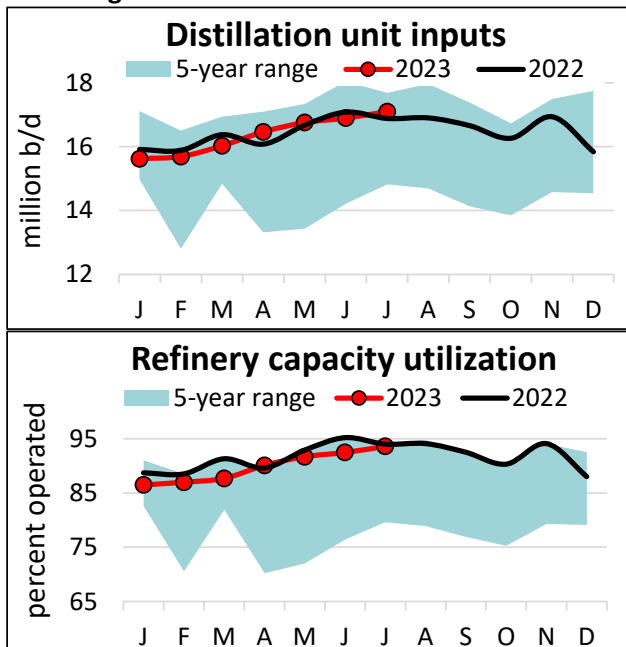
**U.S. Petroleum net exports remained steady from June but was up 678,000 b/d y/y; U.S. product net exports were the highest amount for July in a decade.**



U.S. petroleum exports of 10.1 Mb/d, including 4.0 Mb/d of crude oil and 6.1 Mb/d of refined products, in July fell by 227,000 b/d m/m from June. At the same time, U.S. petroleum imports fell by 1.2% m/m in July – making it the lowest volume for the month since 2020. Product imports fell 3.2% m/m. Petroleum net exports (1.6 Mb/d) contracted 0.7 Mb/d y/y.

#### Industry operations

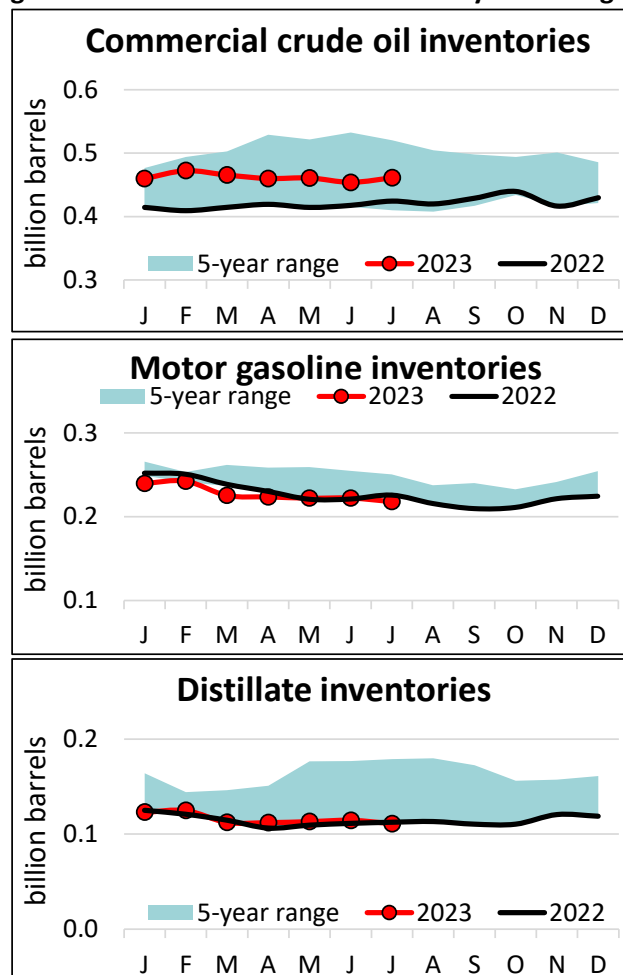
Refining throughput and capacity utilization rates rose in July – processing largest volume of crude since August 2019



In July, U.S. refinery throughput, measured by gross inputs into crude distillation units, climbed to 17.1 Mb/d by processing an extra 206,000 barrels daily m/m. This implied a capacity utilization rate of 93.6%.

#### Inventories

U.S. commercial crude oil inventories below their 5-year average but within the 5-year range; Motor gasoline and distillate stocks below 5-year average



U.S. crude oil inventories ended July at 443.8 million barrels, a decrease of 2.2% m/m (10.0 M/b) from June and 4.6% y/y (19.6 million barrels) from July 2022. This was the lowest inventory level for the year.

U.S. motor gasoline inventories of 217.4 million barrels in July fell 4.9 million barrels y/y to the lowest for the month since 2012. Stocks remain below their historical five-year average by 7.6%. In terms of days of supply, motor gasoline inventories ended July with approximately 24 days, per EIA.

U.S. distillate inventories of 116.8 million barrels in July rose 2.3 million barrels m/m and 4.3 million barrels y/y. The monthly increase placed inventories 16.4% below their historical five-year average. In terms of days of supply, distillate inventories ended July with approximately 32 days.

**ESTIMATED UNITED STATES PETROLEUM BALANCE<sup>1</sup>**  
(Daily average in thousands of 42 gallon barrels)

Disposition and Supply	July			Year-to-Date		
	2023 <sup>2</sup>	2022	% Change	2023 <sup>3</sup>	2022	% Change
<b>Disposition:</b>						
Total motor gasoline.....	8,942	8,750	2.2	8,904	8,739	1.9
Finished reformulated.....	2,826	2,763	2.3	2,740	2,774	(1.2)
Finished conventional.....	6,116	5,987	2.2	6,164	5,966	3.3
Kerosene-jet.....	1,684	1,599	5.3	1,618	1,539	5.1
Distillate fuel oil.....	3,674	3,719	(1.2)	3,889	3,971	(2.1)
≤ 500 ppm sulfur.....	3,664	3,657	0.2	3,855	3,949	(2.4)
≤ 15 ppm sulfur.....	3,652	3,649	0.1	3,841	3,942	(2.5)
> 500 ppm sulfur.....	10	62	(83.9)	34	22	54.5
Residual fuel oil.....	241	327	(26.3)	244	342	(28.7)
All other oils (including crude losses) .....	5,720	5,696	0.4	5,397	5,431	(0.6)
Reclassified <sup>4</sup> .....	245	254	na	275	235	na
Total domestic product supplied.....	20,506	20,345	0.8	20,327	20,258	0.3
Exports.....	10,370	9,624	7.7	10,078	9,378	7.5
Total disposition.....	30,876	29,969	3.0	30,405	29,636	2.6
<b>Supply:</b>						
Domestic liquids production						
Crude oil (including condensate).....	12,693	11,834	7.3	12,649	11,674	8.4
Natural gas liquids.....	6,306	6,144	2.6	6,191	5,825	20.0
Other supply <sup>5</sup> .....	1,118	1,241	(9.9)	1,226	1,220	0.5
Total domestic supply.....	20,117	19,220	4.7	20,066	18,718	7.2
Imports:						
Crude oil (excluding SPR imports).....	6,690	6,604	1.3	6,410	6,325	1.3
From Canada.....	3,668	3,767	(2.6)	3,803	3,821	(0.5)
All other.....	3,022	2,836	6.5	2,606	2,503	4.1
Products.....	1,925	2,120	(9.2)	2,128	2,102	1.3
Total motor gasoline (incl. blend.comp)....	776	681	14.0	759	664	14.3
All other.....	1,149	1,440	(20.2)	1,370	1,438	(4.7)
Total imports.....	8,615	8,724	(1.3)	8,538	8,427	1.3
Total supply.....	28,732	27,944	2.8	28,604	27,145	5.4
Stock change, all oils.....	(2,144)	(2,025)	na	(1,801)	(2,491)	na
<b>Refinery Operations:</b>						
Input to crude distillation units.....	17,101	16,886	1.3	16,371	16,422	(0.3)
Gasoline production.....	9,787	9,572	2.2	9,561	9,494	0.7
Kerosene-jet production.....	1,763	1,724	2.3	1,684	1,615	4.2
Distillate fuel production.....	4,968	5,119	(2.9)	4,820	4,923	(2.1)
Residual fuel production.....	251	218	15.1	264	240	10.3
Operable capacity.....	18,270	17,962	1.7	18,208	17,946	1.5
Refinery utilization <sup>6</sup> .....	93.6%	94.0%	na	89.9%	91.5%	na
Crude oil runs.....	16,552	16,318	1.4	15,778	15,895	(0.7)

1. Total supply, i.e., production plus imports adjusted for net stock change is equal to total disposition from primary storage. Total disposition from primary storage less exports equals total domestic products supplied. Information contained in this report is derived from information published in the API *Weekly Statistical Bulletin* and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2. Based on API estimated data converted to a monthly basis.

3. Data for most current two months are API estimates. Other data come from U.S. Energy Information Administration (including any adjustments).

4. An adjustment to avoid double counting resulting from differences in product classifications among different refineries and blenders.

5. Includes unaccounted-for crude oil, withdrawals from the SPR when they occur, processing gain, field production of other hydrocarbons and alcohol, and downstream blending of ethanol.

6. Represents "Input to crude oil distillation units" as a percent of "Operable capacity".

R: Revised. na: Not available.

# ESTIMATED UNITED STATES PETROLEUM BALANCE<sup>1</sup>

(Daily average in thousands of 42 gallon barrels)

	July 2023	June 2023	July 2022	% Change From	
				Month Ago	Year Ago
Stocks (at month-end, in millions of barrels):					
Crude oil (excluding lease & SPR stocks).....	443.8	453.8	424.2	(2.2)	4.6
Unfinished oils.....	85.5	85.4	87.7	0.1	(2.5)
Total motor gasoline.....	217.4	222.2	225.6	(2.2)	(3.6)
Finished reformulated.....	0.0	0.0	0.0	0.1	0.0
Finished conventional.....	17.1	17.5	16.9	(2.3)	1.0
Blending components.....	200.3	204.7	208.7	(2.1)	(4.0)
Kerosene-jet.....	41.3	41.1	41.2	0.5	0.2
Distillate fuel oil.....	116.8	114.5	112.5	2.0	3.8
≤ 500 ppm sulfur.....	109.8	107.3	105.5	2.3	4.1
≤ 15 ppm sulfur.....	107.6	104.2	102.8	3.3	4.7
> 500 ppm sulfur.....	7.0	7.2	7.0	(2.8)	(0.7)
Residual fuel oil.....	28.6	31.0	29.1	(7.7)	(1.7)
All other oils.....	331.0	314.3	295.0	5.3	12.2
Total all oils.....	1,264.4	1,262.3	1,215.4	0.2	4.0