American Petroleum Institute

200 Massachusetts Ave. NW
Washington, DC 20001

The MSR™ - Monthly Statistical Report

API Statistics Department & Office of the Chief Economist

Vol. 44 No. 7
Published August 20, 2020
July 2020

EXECUTIVE SUMMARY

For U.S. petroleum markets, July marked a continued recovery from the effects of COVID-19 with demand, refinery throughput and refinery capacity utilization having risen. Despite the increases in July, U.S. total petroleum demand remained down by 11.9% y/y, and gross inputs into refineries were down by 15.8% y/y.

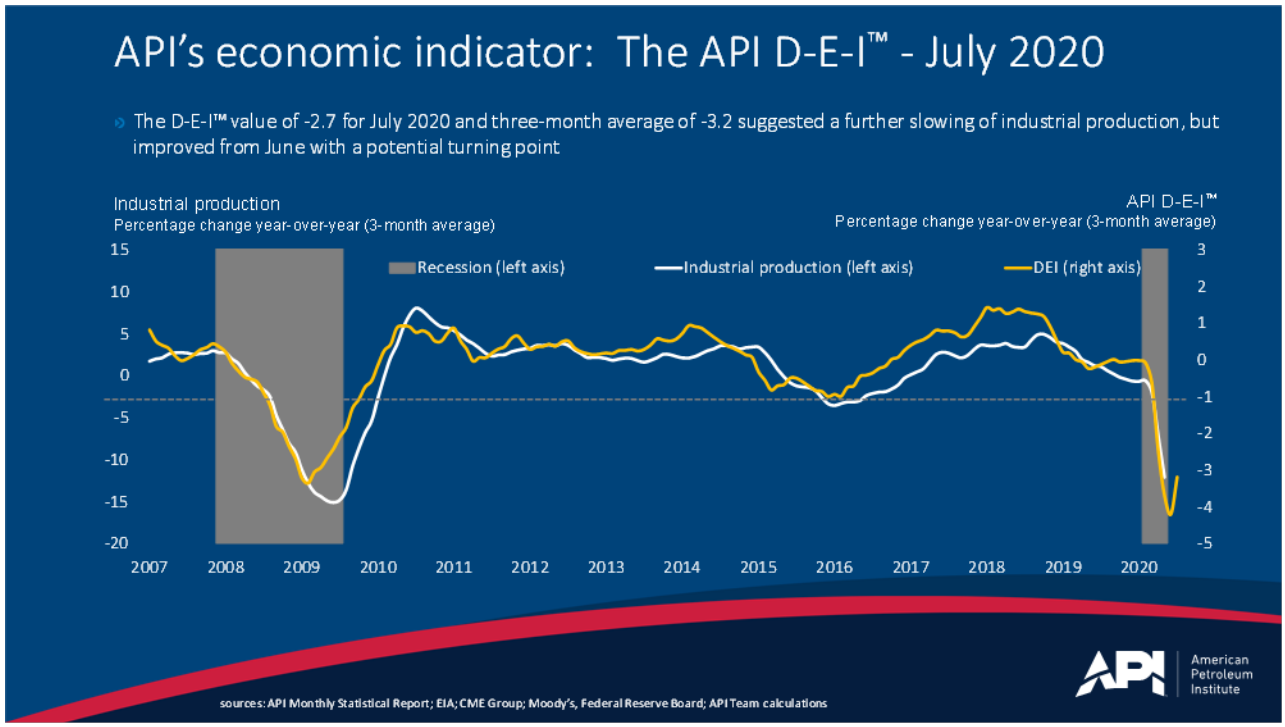
U.S. crude oil production appeared structurally lower at 10.3 million barrels per day in July with drilling activity having continued to weaken. Consequently, inventories backed down from recent highs, and the U.S. reverted to being a petroleum net importer for the third consecutive month.

July highlights

- **U.S. petroleum demand of 18.3 million barrels per day (mb/d)**, led by motor gasoline, rose by 0.7 mb/d in July—roughly half of the increase experienced in June.
- **Refinery throughput (14.9 mb/d) and capacity utilization (78.6%) both rose in July**, reinforcing expectations for continued demand recovery.
- **With lower drilling activity, U.S. crude oil production was 10.3 mb/d** – down by 2.6 mb/d from its peak in November 2019.
- **Crude oil and total inventories eased off of record highs.**
- **Decreased U.S. petroleum imports drove U.S. petroleum net imports lower.**

Economic indicators generally remained at weak levels, including API's D-E-I™(distillate/diesel economic indicator), the University of Michigan's consumer sentiment index and U.S. employment metrics. Please see the following chart for details.

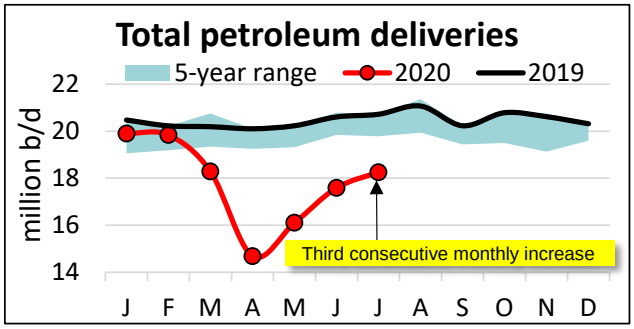
CONTENTS (Click hyperlinks to advance to any section)



Details by section

Demand

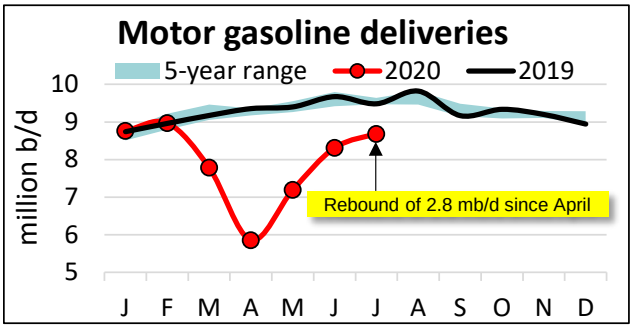
Led by motor gasoline, U.S. petroleum demand of 18.3 mb/d rose in July for a 3rd consecutive month



U.S. petroleum demand, as measured by total domestic petroleum deliveries, was 18.3 mb/d in July. This was the third consecutive monthly increase and a rise of 3.8% (0.7 mb/d) from June, but 11.9% (2.5 mb/d) below July 2019 levels. The rebound since April has amounted to 3.6 mb/d so far – the largest three-month increase since December 1976. Motor gasoline continued to account for nearly 80% of the gains as light-duty transportation has picked up with recovery through the COVID-19 pandemic.

Gasoline

Broad-based recovery of motor gasoline demand at 8.7 mb/d in July



Consumer gasoline demand, measured by motor gasoline deliveries, was 8.7 mb/d in July. This was a monthly increase of 4.5% (0.4 mb/d) but remained 8.5% (0.8 mb/d) below year-ago levels.

Over the past 20 years, July motor gasoline demand has averaged just 0.2% m/m greater than that in June, so the majority of last month's increase appeared to reflect the underlying recovery from the COVID-19 pandemic, as opposed to summer driving seasonality.

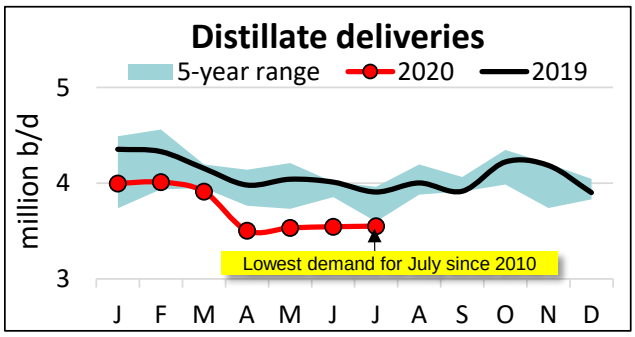
Low gasoline prices have helped to support demand. The U.S. average conventional gasoline price was $2.27 per gallon in July, down by 19.5% ($0.55 per gallon) from July 2019, according to AAA.

The demand recovery has been regionally diverse. Demand for reformulated-type gasoline that is

consumed primarily in urban areas was down by 11.7% y/y in July. By comparison, demand for conventional gasoline that is consumed mainly in rural areas was down 6.8% y/y. To be clear, urban areas were the most deeply affected by COVID-19 but have also rebounded by relatively more since April.

Distillate Fuel Oil

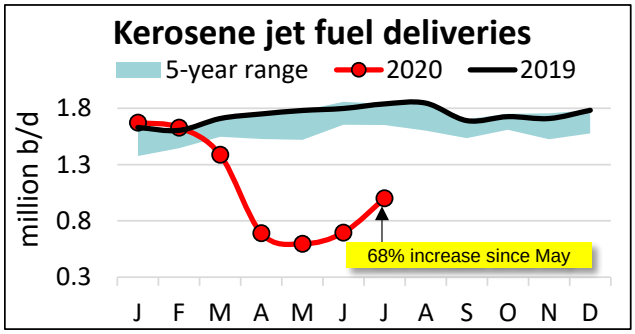
July distillate demand increased marginally along with trucking activity



In July, distillate deliveries of 3.6 mb/d rose by 0.2% from June but remained down by 9.1% y/y (0.4 mb/d). This was consistent with DAT iQ industry trendlines showing monthly increases in load turnover across industry segments and fleets.

Kerosene Jet Fuel

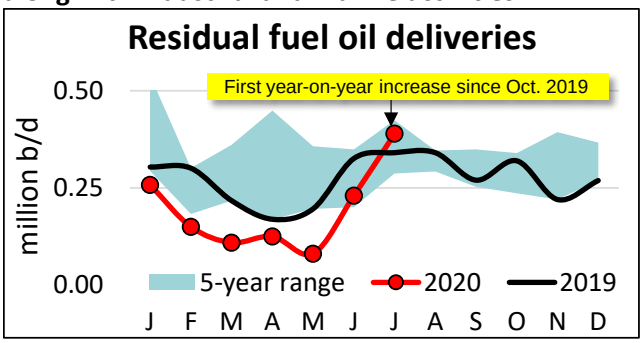
Jet fuel deliveries rebounded by 44% in July but remained historically weak



'K-Jet' deliveries rebounded to 1.0 mb/d in July, marking their second consecutive monthly increase in 2020 for a total increase of 68.1% between May and July. Increase jet fuel deliveries have been consistent with reported flight activity and passenger demand having risen per Flightradar24 and TSA. However, the deliveries still were down 46% y/y as air travel amid the peak summer season has remained historically weak due to the COVID-19 pandemic.

Residual Fuel Oil

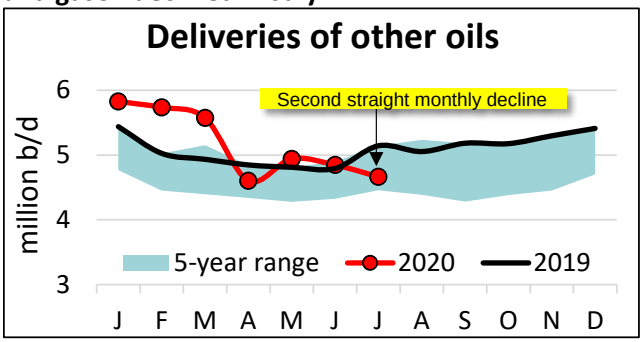
Residual fuel oil consumption picked up in July along with industrial and marine activities



Deliveries of residual fuel oil, which is used in electric power production, space heating, industrial applications and as a marine bunker fuel, rose to 0.4 mb/d in July. This marked increases of 69.6% m/m and 14.4% y/y, respectively, consistent with a resumption of industrial and marine activity previously weakened by COVID-19 and IMO 2020 implementation.

Naphtha & Gasoil "Other Oils"

Refining and petrochemical demand for naphtha and gasoil declined in July

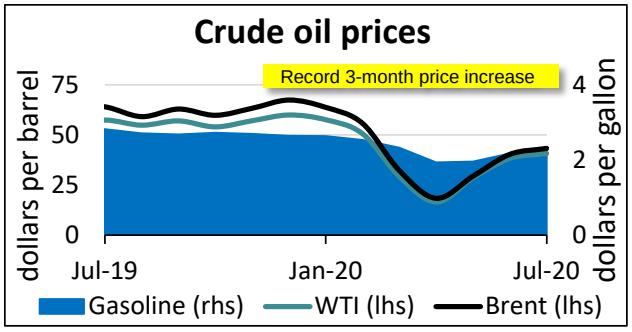


Deliveries of liquid feedstocks, such as naphtha and gasoil ("other oils") used in refining and petrochemical manufacturing, were 4.7 mb/d in July. This was a decrease of 3.8% m/m and 10.6% y/y, but remained 25.6% of total U.S. petroleum demand.

Prices

Benchmark crude oil, natural gas and liquids prices stabilized well above April lows

In July, West Texas Intermediate (WTI) crude oil prices rose to $40.71 per barrel, a record 3-month increase of 146% ($24.16 per barrel) since April. However, WTI prices remained down 29.0% y/y.



By comparison, Brent crude oil spot prices averaged $43.24 per barrel in July, up by 135% ($24.86 per barrel) since April.

As oil prices have risen over the past few months, the Brent-WTI price differential originally narrowed, but re-widened to $2.53 per barrel in July – slightly below its average since 2000, adjusted for price inflation.

In futures markets, expectations after the recent oil price rebound have become increasingly bullish, as WTI price futures at the end of July reflected a 6.5% increase to $47.90 per barrel for August 2021 delivery per data from CME Group.

Macroeconomy

Leading economic indicators broadly improved

API's economic indicator, The D-E-I™, which is based primarily on diesel/distillate supply, demand and inventories, had a reading of -2.7 in July and a three-month average reading of -3.2, which historically has corresponded with slower U.S. industrial production. However, the three-month average increased from -4.3 in June, suggesting relative improvement and a potential turning point.

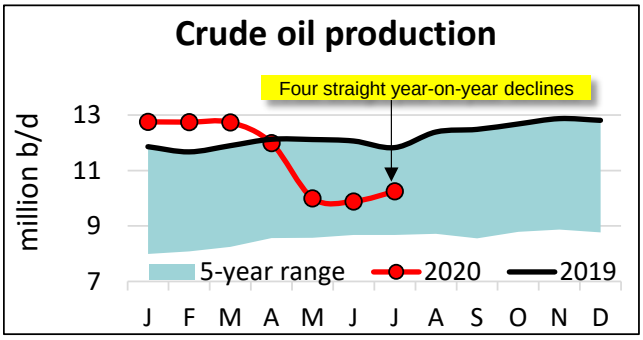
The Institute for Supply Management's Purchasing Managers Index (PMI), came in with a reading of 54.2 in July. Index values above 50.0 suggest an expansion. Production and new orders rose. Export sales grew. Among the 18 manufacturing industries covered, 13 reported expansions in July.

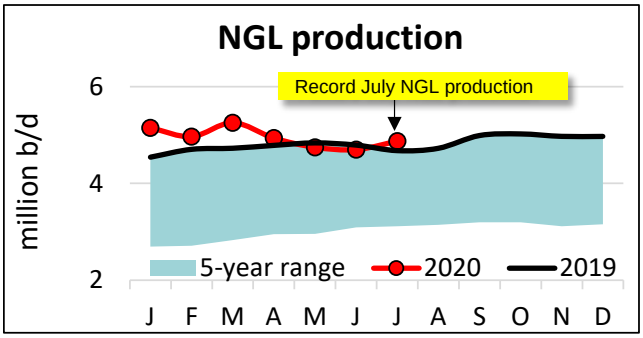
Furthermore, consumer sentiment improved but remained at historically weak levels in July per the University of Michigan's consumer sentiment index. Since a recent peak reading of 101.0 in February, the index fell as low as 71.8 in April and rebounded to 72.5 in July. The survey noted that consumers are pessimistic about the economic outlook, despite having optimism about buying conditions due to historically low interest rates. As the need for additional fiscal policies rises, surveyed confidence in the Fed's policies have fallen to multi-year lows.

According to the Bureau of Labor Statistics (BLS), non-farm payrolls increased by 1.8 million, and the unemployment rate fell to 10.2% in July from 11.1% in June, confirming a resumption of economic activity along with recovery from the COVID-19 pandemic.

Supply

U.S. crude oil production was 10.3 mb/d – down by 2.6 mb/d from its peak in Nov. 2019





In July, U.S. crude oil production was 10.3 mb/d, an increase of 0.4 mb/d from revised June data, but 2.6 mb/d below its peak at 12.9 mb/d in November 2019. July marked a fourth consecutive month of year-on-year production declines, consistent with oil-directed drilling activity (180 rigs in July) having fallen to its lowest levels since July 2009.

By comparison, U.S. natural gas liquids (NGLs), which are co-products with natural gas production, reached 4.9 mb/d in July. This was an increase of 3.8% from June and set a record high for the month of July. Natural gas production and, consequently, NGLs held up relatively well through the COVID-19 pandemic.

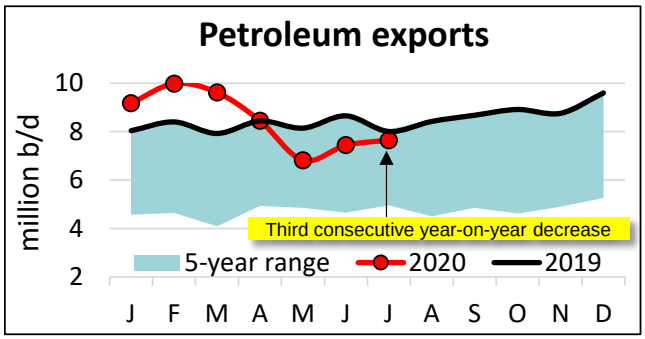
International trade

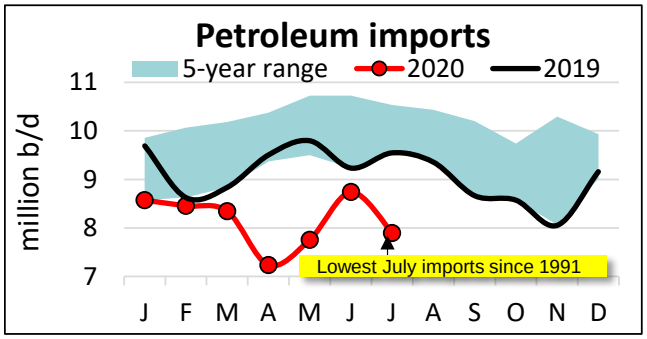
U.S. petroleum net imports fell in July

In July, U.S. petroleum imports decreased to 7.9 mb/d. This was a decrease of 9.6% m/m (0.8 mb/d) from June, with EIA crude oil import weekly data suggesting imports particularly from Saudi Arabia fell at the end of July to near the lowest since 2010.

By contrast, U.S. petroleum exports of crude oil and refined products were 7.6 mb/d. This represented an increase of 2.8% (0.2 mb/d) from June but a decrease of 4.5% (0.4 mb/d) compared with July 2019. Within the total exports, 4.8 mb/d was refined products, up by 0.1 mb/d m/m. The 2.9 mb/d remainder was crude oil exports that increased by 0.1 mb/d m/m to a record for the month of July.

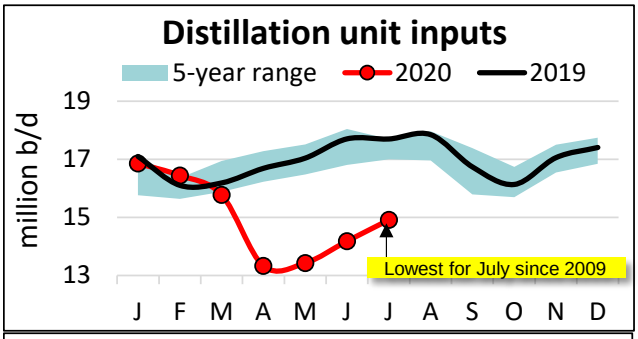
Driven by the fall in imports, the U.S. petroleum trade balance narrowed to net imports of 0.2 mb/d in July, the lowest for July in more than 60 years.

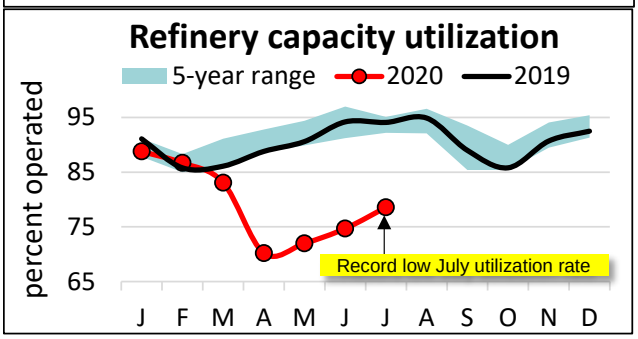




Industry operations

Seasonally low refinery activity continued to increase as domestic consumption picked up



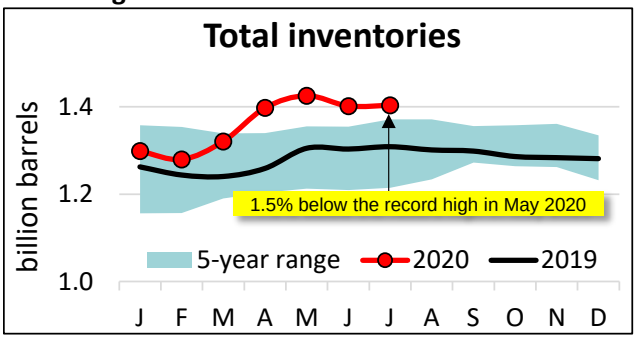


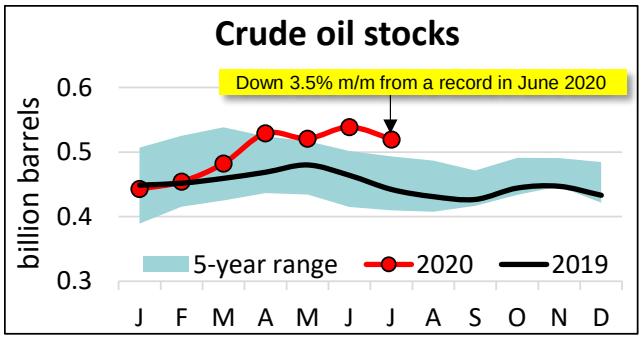
U.S. refinery throughput of 14.9 mb/d implied a capacity utilization rate of 78.6% in July. Refinery throughput increased by 5.1% or 0.7 mb/d from June, while capacity utilization rose by 3.9 percentage points.

Although the absolute levels of throughput and capacity utilization remained seasonally low, the consecutive monthly increases in both metrics offered indications of expected demand recovery.

Inventories

Crude oil and total inventories stepped back from record highs





U.S. total petroleum inventories, including crude oil and refined products but excluding the Strategic Petroleum Reserve, were 1.40 billion barrels in July. This was an increase of 0.1% from June, though notably 1.5% below the record set in May for the highest inventories in any month since 1956.

Within the total, crude oil stocks of 519.7 million barrels were down by 3.5% m/m from a record 538.8 million barrels in June 2020. The draw-down in crude oil stocks reflected the combination of decreased production and increased refinery throughput.

ESTIMATED UNITED STATES PETROLEUM BALANCE[1]
(Daily average in thousands of 42 gallon barrels)

Disposition and Supply	July			Year-to-Date		
	2020[2]	2019	% Change	2020[3]	2019	% Change
Disposition:						
Total motor gasoline	8,681	9,484	(8.5)	7,933	9,258	(14.3)
Finished reformulated	2,833	3,208	(11.7)	2,459	3,016	(18.5)
Finished conventional	5,848	6,276	(6.8)	5,473	6,242	(12.3)
Kerosene-jet	1,002	1,840	(45.5)	1,095	1,732	(36.8)
Distillate fuel oil	3,551	3,907	(9.1)	3,721	4,109	(9.4)
≤ 500 ppm sulfur	3,547	3,882	(8.6)	3,693	4,025	(8.2)
≤ 15 ppm sulfur	3,524	3,881	(9.2)	3,671	4,014	(8.5)
> 500 ppm sulfur	4	25	(84.0)	28	84	(66.7)
Residual fuel oil	390	341	14.4	192	265	(27.5)
All other oils (including crude losses)	4,665	5,216	(10.6)	4,773	4,987	(4.3)
Reclassified[4]	(37)	(73)	na	83	13	na
Total domestic product supplied	18,252	20,716	(11.9)	17,798	20,364	(12.6)
Exports	7,649	8,011	(4.5)	8,439	8,228	2.6
Total disposition	25,901	28,727	(9.8)	26,237	28,591	(8.2)
Supply:						
Domestic liquids production						
Crude oil (including condensate)	10,250	11,819	(13.3)	11,474	11,958	(4.0)
Natural gas liquids	4,873	4,679	4.1	4,974	4,725	5.3
Other supply[5]	967	1,171	(17.4)	969	1,147	(15.5)
Total domestic supply	16,090	17,669	(8.9)	17,417	17,829	(2.3)
Imports:						
Crude oil (excluding SPR imports)	5,698	6,935	(17.8)	6,162	7,032	(12.4)
From Canada	3,265	4,131	(21.0)	3,556	3,852	(7.7)
All other	2,433	2,804	(13.2)	2,606	3,180	(18.0)
Products	2,199	2,611	(15.8)	1,980	2,296	(13.8)
Total motor gasoline (incl. blend.comp)	679	967	(29.8)	564	812	(30.5)
All other	1,520	1,644	(7.6)	1,416	1,485	(4.6)
Total imports	7,897	9,547	(17.3)	8,142	9,328	(12.7)
Total supply	23,987	27,216	(11.9)	25,559	27,158	(5.9)
Stock change, all oils	(1,914)	(1,511)	na	(678)	(1,434)	na
Refinery Operations:						
Input to crude distillation units	14,907	17,698	(15.8)	14,984	16,941	(11.6)
Gasoline production	9,027	10,240	(11.8)	8,479	10,034	(15.5)
Kerosene-jet production	858	1,922	(55.4)	1,081	1,780	(39.3)
Distillate fuel production	4,841	5,243	(7.7)	4,898	5,143	(4.8)
Residual fuel production	213	390	(45.4)	212	377	(43.6)
Operable capacity	18,965	18,802	0.9	18,925	18,792	0.7
Refinery utilization[6]	78.6%	94.1%	na	79.2%	90.1%	na
Crude oil runs	14,407	17,175	(16.1)	14,464	16,584	(12.8)

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[1]
(Daily average in thousands of 42 gallon barrels)

	July 2020	June 2020		July 2019	% Change From Month Ago	% Change From Year Ago
Stocks (at month-end, in millions of barrels):						
Crude oil (excluding lease & SPR stocks)	519.7	538.8		442.1	(3.5)	17.6
Unfinished oils	90.5	88.3		96.1	2.5	(5.8)
Total motor gasoline	246.1	253.1		235.2	(2.8)	4.6
Finished reformulated	0.0	0.0		0.0	0.1	39.4
Finished conventional	23.6	23.6		21.8	0.0	8.1
Blending components	222.5	229.5		213.4	(3.1)	4.3
Kerosene-jet	39.4	42.4		43.3	(7.1)	(8.9)
Distillate fuel oil	180.9	175.9		137.8	2.8	31.3
≤ 500 ppm sulfur	171.8	166.8		127.3	3.0	34.9
≤ 15 ppm sulfur	163.7	163.7		123.8	0.0	32.2
> 500 ppm sulfur	9.1	9.1		10.5	0.0	(12.9)
Residual fuel oil	36.8	41.7		30.6	(11.8)	20.2
All other oils	286.1	257.4	R	323.9	11.2	(11.6)
Total all oils	1,399.5	1,397.6	R	1,308.9	0.1	6.9