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EXECUTIVE SUMMARY

Celebrating normalcy long has marked Americans' emergence from a variety of national crises. It's the same with COVID-19. As we emerge from the pandemic, we dearly want to celebrate a return to normal. Thankfully, as the economy recovers, natural gas and oil are doing their part. In November, API's primary data on U.S. petroleum markets showed that total U.S. petroleum demand returned to 19.1 million barrels per day (mb/d) and into the five-year range – a measure of normalcy – propelled by higher demand for diesel, jet fuel and other oils. Through the U.S. energy revolution, large productivity gains have become a “new normal” for the industry, and as a result U.S. supplies of crude oil and natural gas liquids (NGLs) combined to rise by 0.3 mb/d in November despite historically low numbers of new wells being drilled. Meanwhile, the U.S. sustained its status as a petroleum net exporter as inventories grew and prices remained historically low.

NOVEMBER HIGHLIGHTS

- **Total U.S. petroleum demand returned to 19.1 mb/d and the five-year range.**
- **Growing U.S. production of crude oil (11.1 mb/d) and NGLs (4.9 mb/d).**
- **Refinery throughput (14.4 mb/d, 77.2% capacity utilization) rose following three consecutive declines.**
- **With the lowest imports in 29 years, the U.S. was a petroleum net exporter for a 5th consecutive month.**
- **Inventories of crude oil and total petroleum were at their highest levels for the month of Nov.**

Leading economic indicators continued with broad improvements from historically weak levels, including API's D-E-I™ (distillate/diesel economic indicator). Please see the following [chart](#) for details.

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Demand

- **U.S. petroleum demand (19.1 mb/d) returned to the five-year range.**
 - Motor gasoline decreased seasonally.
 - Distillate demand rose for a fifth consecutive month.
 - Jet fuel deliveries rose along with flight activity.
 - Residual fuel oil deliveries rose by 5.8% y/y.
 - Refining and petrochemical demand for naphtha and gasoil sets a record high for the month of November.

Prices & Macroeconomy

- **As crude oil prices rose, the Brent-WTI spread widened.**
- **Leading economic indicators improved.**

Supply

- **U.S. crude oil production increased to 11.1 mb/d while NGLs fell marginally to 4.9 mb/d in November.**

International trade

- **U.S. a petroleum net exporter in November on the lowest imports for the month since 1991.**

Industry operations

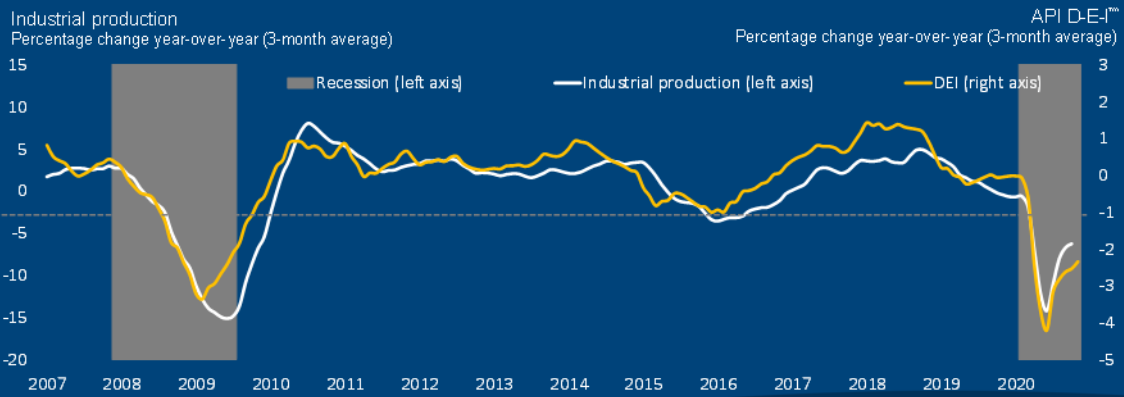
- **Refinery activity has first monthly increase since July.**

Inventories

- **Record-high crude oil and total inventories for the month of November.**

API's economic indicator: The API D-E-I™ - November 2020

- The D-E-I™ value of -2.2 for November 2020 and three-month average of -2.3 – gradual improvement for the third consecutive month – suggested increased monthly industrial production



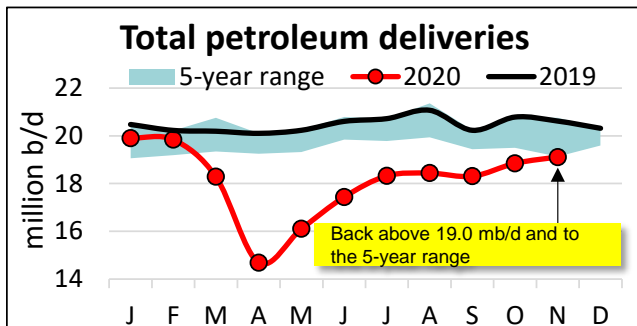
sources: API Monthly Statistical Report; EIA; CME Group; Moody's; Federal Reserve Board; API Team calculations



Details by section

Demand

U.S. petroleum demand (19.1 mb/d) returned to the 5-year range

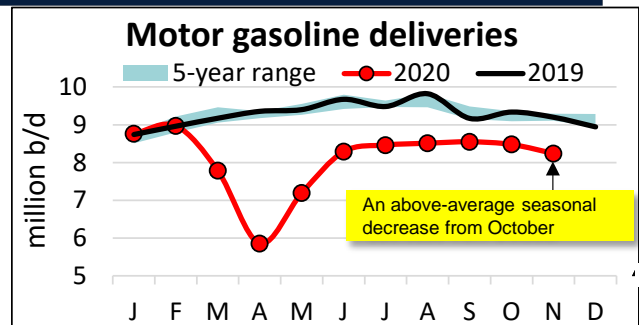


In November, U.S. petroleum demand, as measured by total domestic petroleum deliveries, was 19.1 mb/d and reflected a 1.4% increase from October but a decrease of 7.8% compared with November 2019. The annual pace of change improved for the fourth consecutive month and returned demand to the bottom of the five-year range for the first time since the onset of COVID-19 in March.

Gasoline

Motor gasoline demand declined seasonally

Consumer gasoline demand, measured by motor gasoline deliveries, was 8.2 mb/d in November.

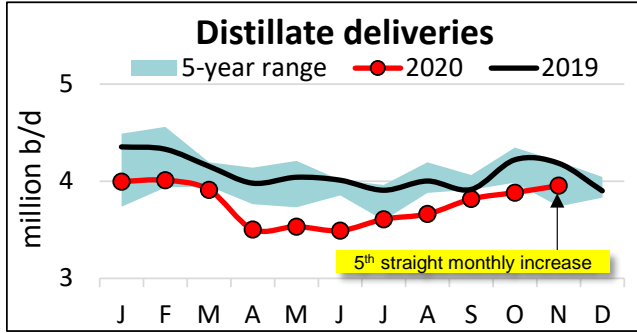


This was a decrease of 2.8% (0.2 mb/d) from October and 10.6% (1.0 mb/d) below the level in November 2019. Historically, on record over the past 75 years, gasoline demand declined by an average of 1.7% m/m between October and November. In this context, the November 2020 decrease of 2.8% m/m was above-average and likely represented less Thanksgiving holiday driving due to the COVID-19 pandemic.

Over the past several months, we observed a relatively greater adverse impact of the 2020 COVID-19 recession on gasoline demand in urban areas vis-à-vis rural ones. This reversed in November as reformulated-type gasoline that is consumed primarily in urban areas decreased by 9.4% y/y, while those of conventional gasoline consumed mainly in rural areas fell by 11.1% y/y.

Distillate Fuel Oil

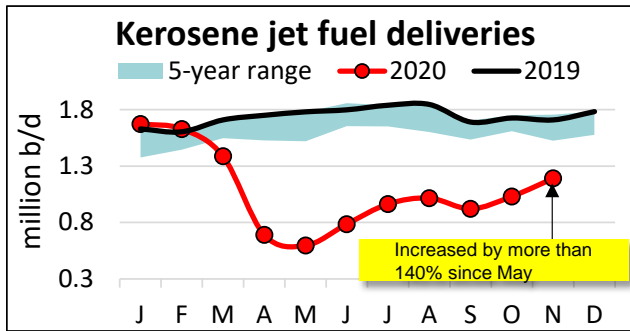
Distillate demand rose for a 5th consecutive month



In November, distillate deliveries of 4.0 mb/d increased by 1.8% from October and were down by 5.9% y/y (0.2 mb/d) but returned to the five-year range. This was consistent with [DAT IQ industry trendlines](#) that showed spot trucking loads rose in November and spot freight, van and reefer rates increased year-on-year in November.

Kerosene Jet Fuel

Jet fuel deliveries rose along with flight activity

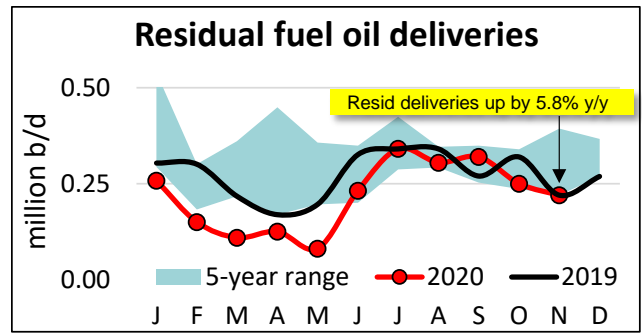


'K-Jet' deliveries of 1.2 mb/d increased by 15.5% m/m in November but were down by 30.4% versus November 2019. Jet fuel deliveries were down by more than 40% y/y in each of the past three months, so November marked progress towards recovery that also was consistent with higher reported total flight activity per [Flightradar24](#).

Residual Fuel Oil

Residual fuel oil deliveries rose by 5.8% y/y

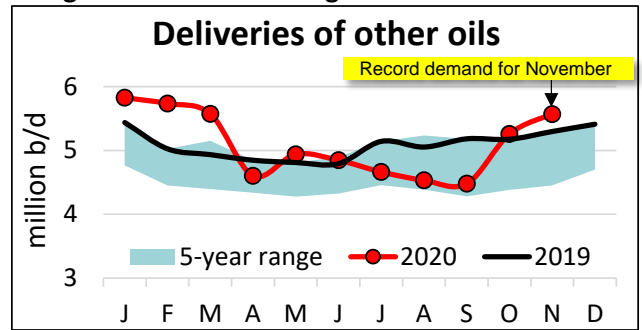
Deliveries of residual fuel oil, which is used in electric power production, space heating, industrial applications and as a marine bunker fuel, were 0.22 mb/d in November.



These marked an increase of 5.8% y/y despite the 2020 COVID-19 recession. November also was the sixth straight month where residual fuel oil deliveries were within the five-year range and suggests demand for it may have stabilized after disruptions due to the implementation of [IMO 2020](#) in January 2020.

Naphtha & Gasoil "Other Oils"

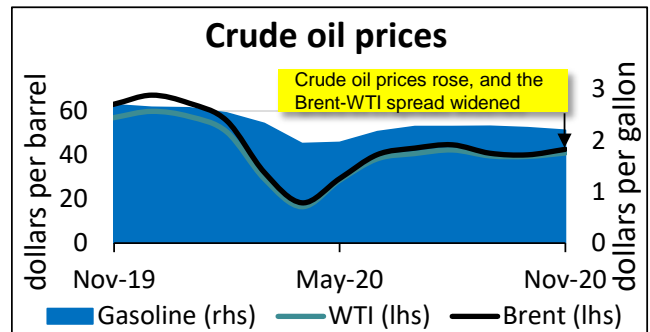
Refining and petrochemical demand for naphtha and gasoil sets a record high for November



Deliveries of liquid feedstocks, such as naphtha and gasoil ("other oils") used in refining and petrochemical manufacturing, were 5.6 mb/d. These marked increases of 5.9% m/m and 5.1% y/y to set a record high for the month of November.

Prices

As crude oil prices rose, the Brent-WTI spread widened



In November, West Texas Intermediate (WTI) crude oil prices rose to \$40.94 per barrel, a 3.9% increase m/m and 6th straight month near \$40/barrel. By comparison, Brent crude oil spot price averages increased by 6.2% m/m to \$42.69 per barrel, widening the Brent-WTI price differential to \$1.75 per barrel from \$0.79 per barrel in October.

The historically low oil prices continued to correspond with low gasoline prices. The U.S. average conventional gasoline price was \$2.20 per gallon in November, down by 18.3% y/y (\$0.49 per gallon) from November 2019, according to [AAA](#).

Macroeconomy

Leading economic indicators improved

API’s economic indicator, The D-E-I™, which is based primarily on diesel/distillate supply, demand, and inventories, had a reading of -2.2 in November and a three-month average of -2.3. This suggested that the year-on-year change in U.S. industrial production strengthened for the fifth consecutive month along with broader economic activity.

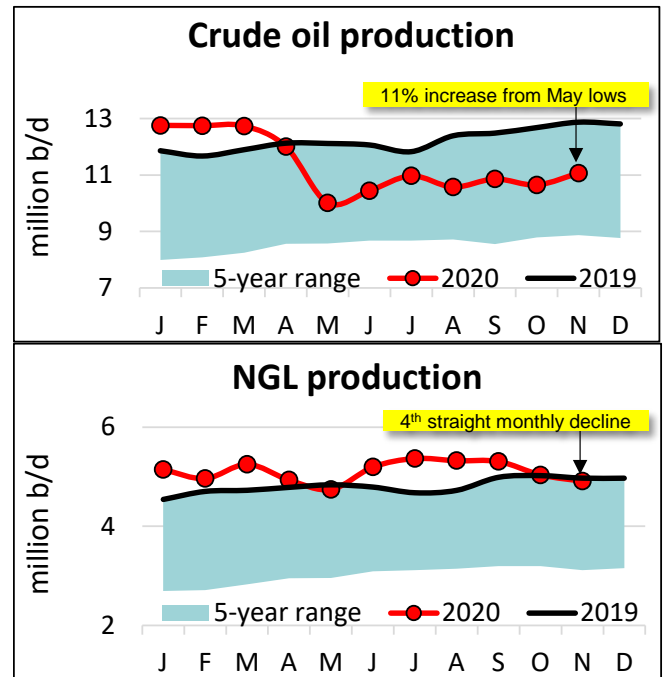
The Institute for Supply Management’s Purchasing Managers Index ([PMI](#)) had a reading of 57.5 in November, a 1.8 percentage point decrease from October. Index values above 50.0 suggest an expansion. New orders, production, and trade grew, and prices increased. Employment and deliveries declined. Among the 18 manufacturing industries surveyed, 16 reported growth.

Based on [University of Michigan’s consumer sentiment index](#), consumer sentiment declined as the index fell to 76.9 in November from 81.8 in October. The survey noted that respondents were generally optimistic about a U.S. economic rebound with vaccine deployment but remained concerned by the recent sharp uptick in COVID-19 cases and uncertainty about another round of U.S. government stimulus in Q4 2020.

According to the [Bureau of Labor Statistics \(BLS\)](#), non-farm payrolls rose by 245 thousand, and the unemployment rate fell to 6.7% in November from 6.9% in October.

Supply

U.S. crude oil production increased to 11.1 mb/d



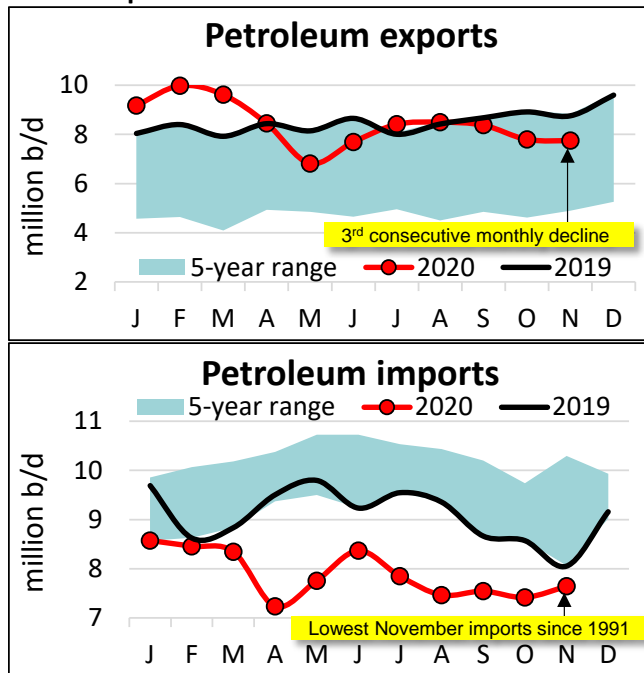
In November, U.S. crude oil production was 11.1 mb/d, an increase of 4.0% (0.4 mb/d) m/m despite historically low drilling activity for the month.

Specifically, [Baker Hughes](#) reported 234 active oil-directed rigs in November, down from 678 rigs a year ago. Notably, oil-directed drilling increased by 30 rigs (15%) on average for November and 58 rigs (31.7%) from the end of September through the end of November. Consequently, November production was supported by the resurgent drilling activity over the past two months and productivity gains for most basins as estimated by [EIA](#).

By comparison, natural gas-directed drilling was down 42.8% y/y in November but with similar productivity gains sustained natural gas marketed production of nearly 101 billion cubic feet per day in November per [EIA](#), which corresponded with the extraction of 4.9 mb/d of natural gas liquids (NGLs) by API estimates. These figures appeared to reflect solid demand, resilient NGL composite prices and the recovery of U.S. industrial production.

International trade

U.S. a petroleum net exporter in Nov. on the lowest imports for the month since 1991



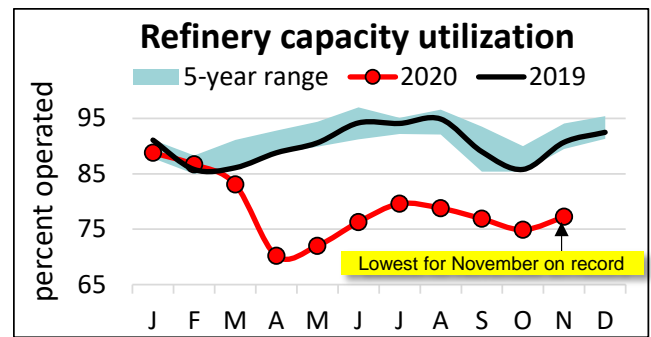
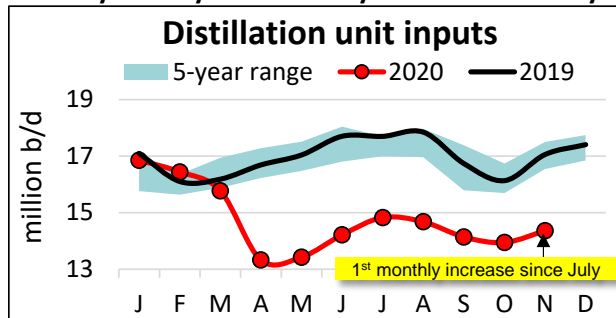
In November, the U.S. was a petroleum net exporter for the fifth consecutive month – as it has been for nine of the past 11 months in 2020.

The U.S. imported 5.6 mb/d of crude oil and 2.1 mb/d of refined products in November. These amounts were respective decreases of 4.4% y/y and 8.9% y/y for the lowest U.S. petroleum imports in the month of November since 1991 (29 years).

At the same time, the U.S. exported 2.8 mb/d of crude oil and 4.9 mb/d of refined products in November. These also were respective decreases of 8.4% y/y and 12.9% y/y but sufficed to imply U.S. petroleum net exports of 0.1 mb/d for the month.

Industry operations

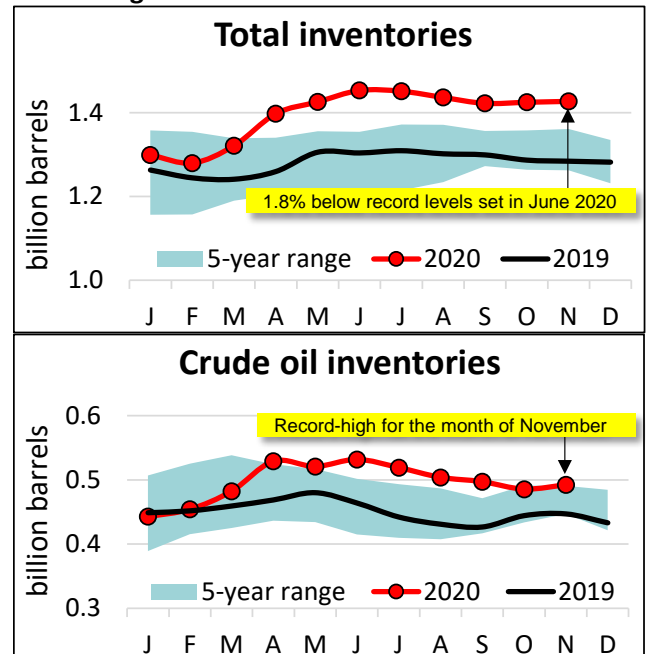
Refinery activity first monthly increase since July



U.S. refinery throughput was 14.4 mb/d in November, which was an increase of 3.0% m/m but a decrease of 15.7% y/y. This implied a capacity utilization rate of 77.2% for the month, which increased from October following three consecutive monthly decreases.

Inventories

Record-high inventories for the month of Nov.



U.S. total petroleum inventories, including crude oil and refined products but excluding the Strategic Petroleum Reserve were 1.43 billion barrels in November. This was an increase of 0.2% m/m and the highest inventory on record for the month of November, but now 1.8% below the record set in June 2020. Within the total, crude oil stocks of 492.5 million barrels rose 1.4% m/m, which also was a record for the month of November.

ESTIMATED UNITED STATES PETROLEUM BALANCE¹
(Daily average in thousands of 42 gallon barrels)

Disposition and Supply	November			Year-to-Date		
	2020 ²	2019	% Change	2020 ³	2019	% Change
Disposition:						
Total motor gasoline.....	8,234	9,209	(10.6)	8,095	9,341	(13.3)
Finished reformulated.....	2,597	2,868	(9.4)	2,503	3,028	(17.3)
Finished conventional.....	5,637	6,341	(11.1)	5,592	6,312	(11.4)
Kerosene-jet.....	1,191	1,711	(30.4)	1,079	1,737	(37.9)
Distillate fuel oil.....	3,955	4,201	(5.9)	3,761	4,120	(8.7)
≤ 500 ppm sulfur.....	3,926	4,050	(3.1)	3,732	4,046	(7.8)
≤ 15 ppm sulfur.....	3,917	4,050	(3.3)	3,716	4,037	(8.0)
> 500 ppm sulfur.....	29	151	(80.8)	30	74	(59.5)
Residual fuel oil.....	220	208	5.8	218	274	(20.4)
All other oils (including crude losses).....	5,572	5,303	5.1	4,902	5,018	(2.3)
Reclassified ⁴	(61)	103	na	59	62	na
Total domestic product supplied.....	19,111	20,736	(7.8)	18,115	20,552	(11.9)
Exports.....	7,749	8,741	(11.4)	8,410	8,392	0.2
Total disposition.....	26,860	29,477	(8.9)	26,526	28,944	(8.4)
Supply:						
Domestic liquids production						
Crude oil (including condensate).....	11,073	12,860	(13.9)	11,344	12,197	(7.0)
Natural gas liquids.....	4,913	4,995	(1.6)	5,109	4,809	6.2
Other supply ⁵	1,049	1,146	(8.5)	1,001	1,138	(12.1)
Total domestic supply.....	17,035	19,001	(10.3)	17,454	18,144	(3.8)
Imports:						
Crude oil (excluding SPR imports).....	5,562	5,818	(4.4)	5,877	6,798	(13.5)
From Canada.....	3,297	3,361	(1.9)	3,522	3,784	(6.9)
All other.....	2,265	2,457	(7.8)	2,356	3,014	(21.8)
Products.....	2,082	2,286	(8.9)	1,998	2,342	(14.7)
Total motor gasoline (incl. blend.comp)....	553	631	(12.4)	582	814	(28.5)
All other.....	1,529	1,655	(7.6)	1,416	1,528	(7.3)
Total imports.....	7,644	8,103	(5.7)	7,876	9,140	(13.8)
Total supply.....	24,679	27,104	(8.9)	25,330	27,284	(7.2)
Stock change, all oils.....	(2,181)	(2,374)	na	(1,196)	(1,660)	na
Refinery Operations:						
Input to crude distillation units.....	14,361	17,041	(15.7)	14,723	16,955	(13.2)
Gasoline production.....	8,969	10,229	(12.3)	8,734	10,105	(13.6)
Kerosene-jet production.....	1,086	1,833	(40.8)	1,011	1,788	(43.4)
Distillate fuel production.....	4,429	5,231	(15.3)	4,744	5,121	(7.4)
Residual fuel production.....	163	314	(48.1)	196	372	(47.3)
Operable capacity.....	18,591	18,808	(1.2)	18,728	18,808	(0.4)
Refinery utilization ⁶	77.2%	90.6%	na	78.6%	90.2%	na
Crude oil runs.....	13,896	16,482	(15.7)	14,199	16,541	(14.2)

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 BALANCE¹
(Daily average in thousands of 42 gallon barrels)

	November 2020	October 2020	November 2019	% Change From	
				Month Ago	Year Ago
Stocks (at month-end, in millions of barrels):					
Crude oil (excluding lease & SPR stocks).....	492.5	485.7	445.9	1.4	10.5
Unfinished oils.....	78.6	78.9	94.8	(0.4)	(17.1)
Total motor gasoline.....	234.6	228.4	233.7	2.7	0.4
Finished reformulated.....	0.0	0.0	0.0	0.1	7.5
Finished conventional.....	26.0	25.5	24.8	2.0	4.9
Blending components.....	208.6	202.9	208.9	2.8	(0.1)
Kerosene-jet.....	37.5	37.5	40.6	0.0	(7.7)
Distillate fuel oil.....	146.2	155.4	126.2	(5.9)	15.8
≤ 500 ppm sulfur.....	137.3	146.6	114.5	(6.3)	19.9
≤ 15 ppm sulfur.....	134.7	143.9	110.6	(6.4)	21.9
> 500 ppm sulfur.....	8.9	8.8	11.7	1.1	(24.2)
Residual fuel oil.....	31.5	31.1	32.7	1.3	(3.6)
All other oils.....	405.8	407.6	316.1	(0.4)	28.4
Total all oils.....	1,426.7	1,424.6	1,290.0	0.2	10.6