American Petroleum Institute

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The MSR™ - Monthly Statistical Report

API Statistics Department & Office of the Chief Economist

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EXECUTIVE SUMMARY

U.S. oil markets kicked off 2021 with a remarkable month:

- Total U.S. petroleum demand returned to within 1.2% of its level from January 2020 despite the pandemic;
- Refining and petrochemical demand for other oils – naphtha, gasoil, propane/propylene reached a record-high level (6.5 million barrels per day, mb/d) and 33.1% share of total U.S. petroleum demand; and,
- The lowest U.S. crude oil imports for January since 1992 propelled U.S. petroleum net exports.

The 6.5 mb/d of other oils in refining and petrochemicals exceeded its previous monthly record (from Dec. 2020) by 0.7 mb/d and reflected an increased need for packaging and medical plastics as well as a seasonal rise in propane heating demand. Distillates/diesel fuel demand also exceeded its year-ago level, but motor gasoline, jet fuel and residual fuel oil each decreased year-on-year by double-digit percentages. Even though there has been fuel substitution through the pandemic, the return of total petroleum demand to within 1.2% of its pre-COVID-19 levels reinforces how economic growth and oil demand have continued to go hand-in-hand.

Leading economic indicators were mixed in January. API's D-E-I™(distillate/diesel economic indicator) suggested continued industrial production gains (please see the following chart for details), but indicators of consumer sentiment and expectations weakened.

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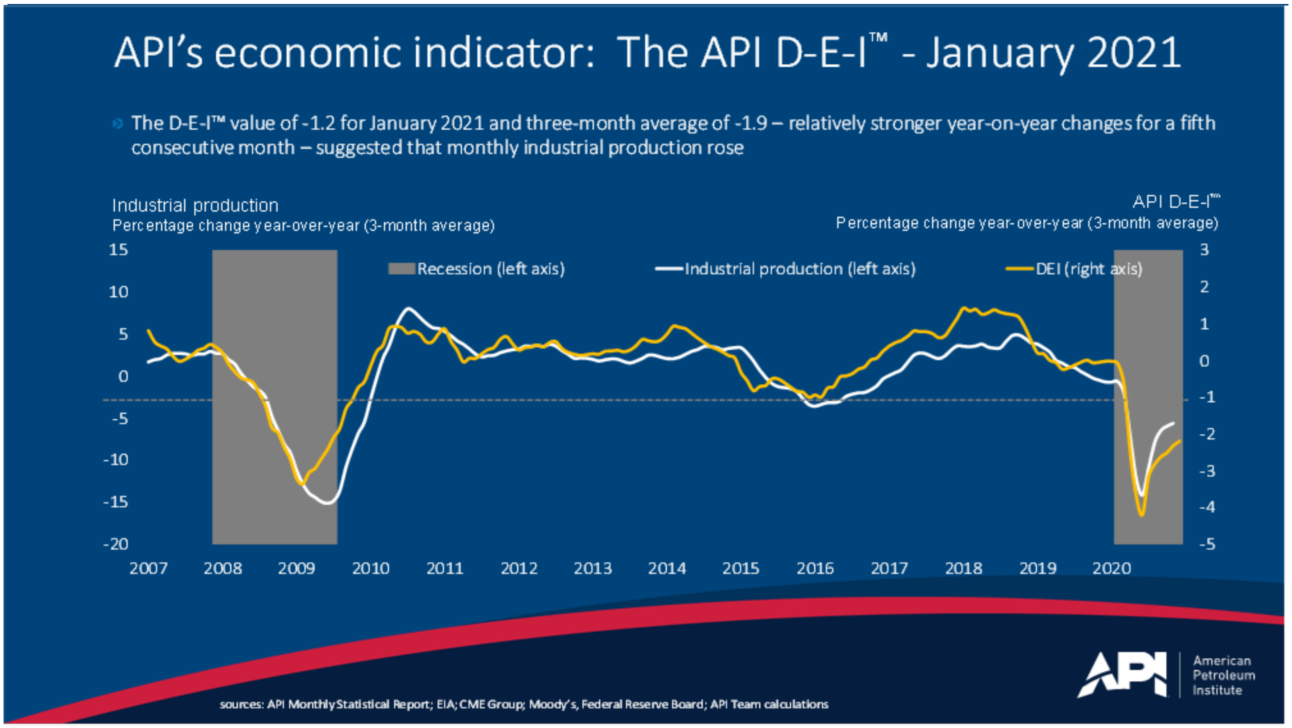
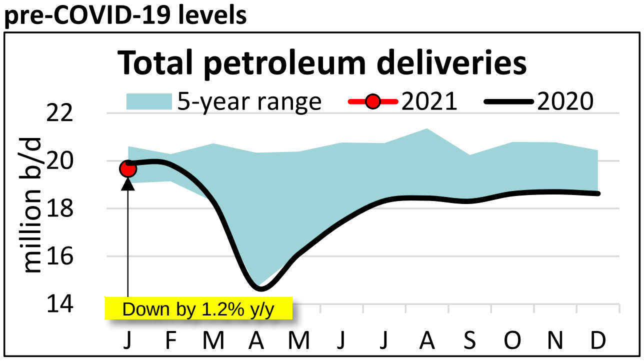


Details by section

Demand

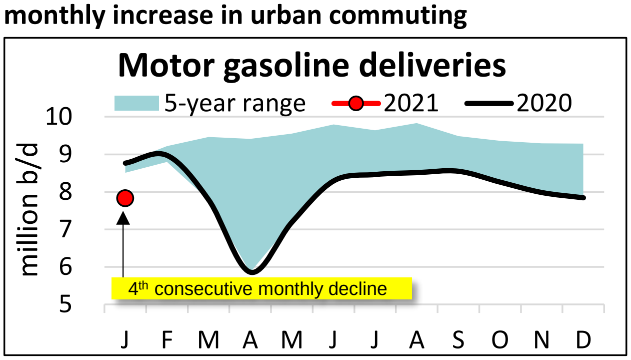
U.S. petroleum demand (19.7 mb/d) neared its pre-COVID-19 levels



In January, U.S. petroleum demand, as measured by total domestic petroleum deliveries, was 19.7 mb/d. This reflected an increase of 5.6% from December and a decrease of 1.2% compared with January 2020 – a remarkable recovery so far given the depths of the 2020 COVID-19 recession.

Gasoline

Gasoline demand decreased despite an apparent monthly increase in urban commuting



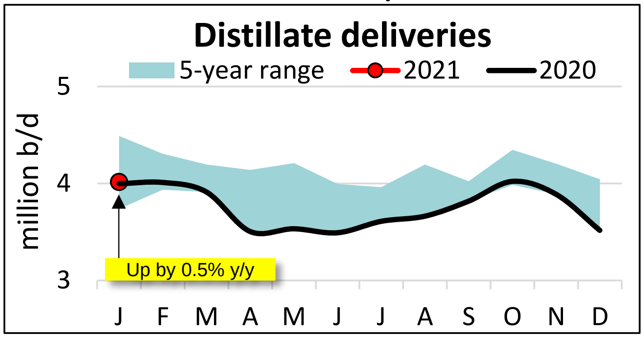
Consumer gasoline demand, measured by motor gasoline deliveries, was 7.8 mb/d in January – basically steady from December (-0.1% m/m). Notably, this was the closest that January monthly gasoline demand was to that of December since 1957. The implication is that the majority of recent driving activity was likely borne out of necessity, as opposed to discretionary travel that could have produced the greater seasonal variation that we have historically observed.

However, the 7.8 mb/d in January 2021 was still a decrease of 10.7% (0.9 mb/d) versus January 2020. High-frequency mobility indicators, such as those from Apple and Google, also suggested that driving activity remained relatively weak in January.

Deliveries of reformulated-type gasoline (consumed primarily in urban areas) rose by 5.1% from December, while those of conventional gasoline (mainly in rural areas) fell by 2.4% m/m and appeared to reinforce the premise that the urban increase was likely work commuting while the rural decrease was a drop-off from holiday travel in December.

Distillate Fuel Oil

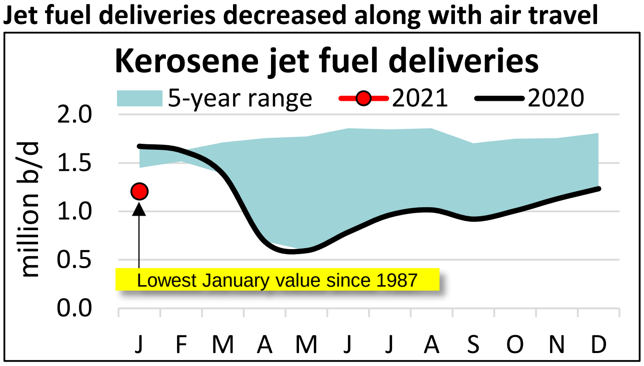
Distillate demand exceeded its pre-COVID-19 level



In January, distillate deliveries of 4.0 mb/d rose by 14.2% from December and 0.5% y/y. Consequently, distillate demand exceeded its pre-COVID-19 level and also was consistent with the continued shift to e-commerce and home deliveries, furthered by the pandemic. Consistent with this, the DAT iQ industry trendlines showed that spot trucking and flatbed loads, van and reefer rates each increased year-on-year in January.

Kerosene Jet Fuel

Jet fuel deliveries decreased along with air travel

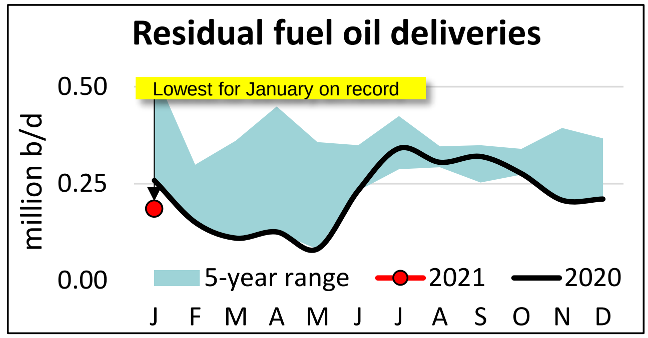


'K-Jet' deliveries were 1.2 mb/d in January, which was an unusually mild seasonal decrease of 2.3% from December but 27.9% below the level of January 2020. This was consistent with high-frequency data from Flightradar24 that showed a drop-off in flights from December as well as a continued gap versus activity in January 2020.

Residual Fuel Oil

Lowest residual fuel oil deliveries for January since 1936

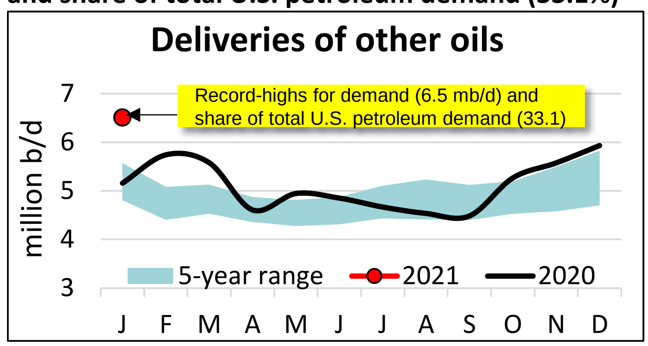
Deliveries of residual fuel oil, which is used in electric power production, space heating, industrial applications and as a marine bunker fuel, were 0.19 mb/d in January. This represented decreases of 11.4% from December and 27.9% compared with January 2020 for its lowest January reading on record since 1936.



The record low point generally reflected a diminished market for higher-sulfur fuels (advanced by the implementation of IMO 2020 in January 2020) and coupled with increased refinery flexibility to upgrade the molecules to other products.

Naphtha & Gasoil "Other Oils"

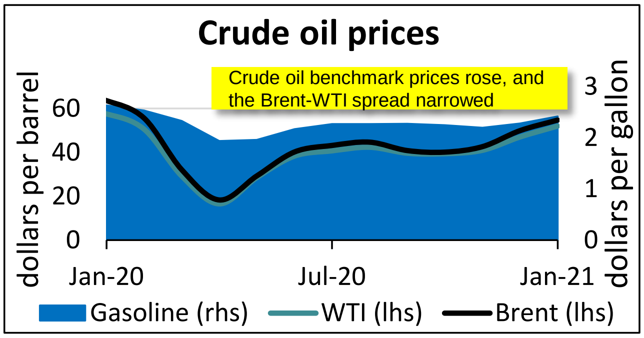
Other oils' record-highs for demand (6.5 mb/d) and share of total U.S. petroleum demand (33.1%)



Deliveries of liquid feedstocks, such as naphtha, gasoil, and propane/propylene ("other oils") used primarily in refining and petrochemical manufacturing, were 6.5 mb/d in January, up by 26.3% y/y. Strong demand for propane and propylene – due to winter seasonal heating demand compounded by increased petrochemical demand for medical plastics through the pandemic – as well as a continued recovery in U.S. refining activity propelled the 6.5 mb/d level, which exceeded the previous record-high for any month on record since 1965 by nearly 0.7 mb/d. The 6.5 mb/d of other oils also represented a record-high 33.1% share of total U.S. petroleum demand.

Prices

Crude oil and gasoline prices rose; the Brent-WTI spread narrowed



In January, West Texas Intermediate (WTI) crude oil prices rose to $52.00 per barrel, a 10.6% increase m/m for its strongest monthly level in one year. By comparison, Brent crude oil spot price averages increased by 9.6% m/m to $54.77 per barrel, narrowing the Brent-WTI price differential to $2.77 per barrel from $2.97 in December.

Although gasoline prices were historically low, they rose in January along with the crude oil prices, which remained the top input cost in making gasoline per EIA. The U.S. average conventional gasoline price was $2.42 per gallon in January, up by 6.0% ($0.14 per gallon) from December but down 8.2% y/y ($0.21 per gallon), according to AAA.

Macroeconomy

Mixed leading economic indicators – industrial gains but consumer sentiment weakness

API's economic indicator, The D-E-I™, which is based primarily on diesel/distillate supply, demand, and inventories, had a reading of -1.2 in January and a three-month average of -1.9. This suggested that the year-on-year change in U.S. industrial production strengthened for the 7th consecutive month along with broader economic activity.

The Institute for Supply Management's Purchasing Managers Index (PMI) had a reading of 58.7 in January, a 1.8 percentage point decrease from December. Index values above 50.0 suggest an expansion and the U.S. PMI has held above that threshold since June 2020. New orders, production, employment, prices, and trade grew, while supplier deliveries slowed, and inventories increased. The reading reflected a 15.3% year-on-year increase.

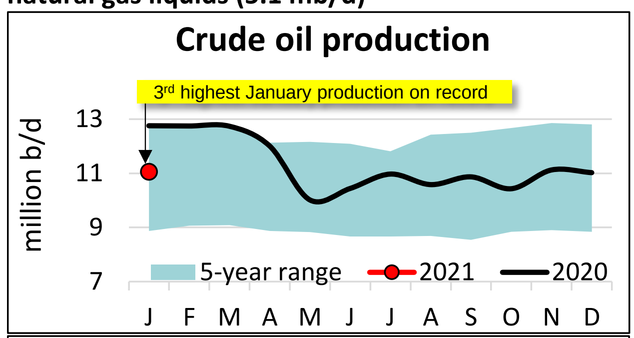
Among the 18 manufacturing industries surveyed, 16 reported growth.

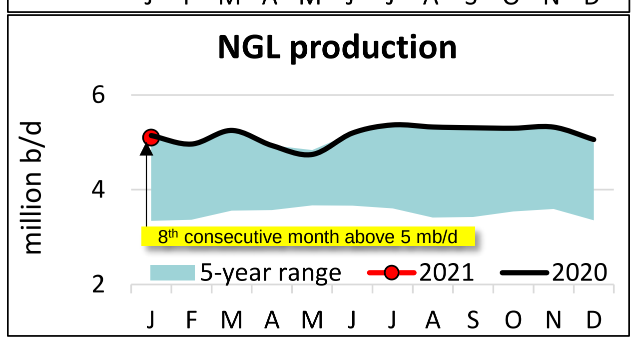
Based on University of Michigan's consumer sentiment index, consumer sentiment decreased between December (80.7) and January (79.0) – and fell further in the preliminary February reading (76.2), mainly due to weaker consumer expectations. The survey attributed the decreases partly to ongoing employment and income disparities that have widened through the recovery.

According to the Bureau of Labor Statistics (BLS), non-farm payrolls increased by 49,000, and the unemployment rate fell to 6.3% in January. While both measures have recovered broadly from April 2020 highs, it's notable that continued weekly claims for unemployment insurance benefits rose by 2.6 million for the week ended January 23 – not out of the proverbial woods just yet.

Supply

Solid U.S. production of crude oil (11.1 mb/d) and natural gas liquids (5.1 mb/d)





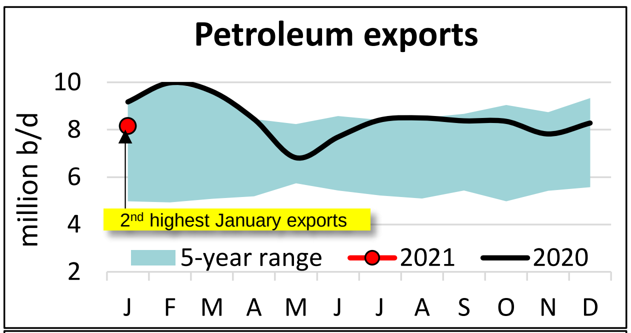
In January, U.S. crude oil production was 11.1 mb/d, a 0.3% (0.1 mb/d) m/m increase with solid productivity gains and increased drilling activity.

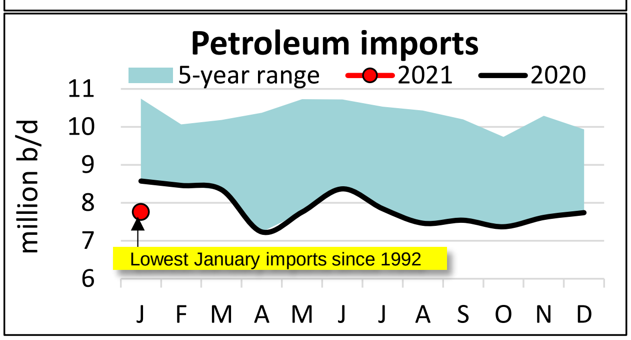
Specifically, Baker Hughes reported 287 active oil-directed rigs in January, a 10% m/m increase (but 57% below the 671 rigs in January 2020). However, oil-directed rig productivity has achieved and held at record levels in most producing basins per EIA.

By comparison, natural gas-directed drilling in January rose by 8.0% m/m but remained down 27% y/y. Similar to oil, natural gas productivity supported marketed production of about 103 billion cubic feet per day in January per EIA, which corresponded with the extraction of 5.1 mb/d of natural gas liquids (NGLs) by API estimates. These figures reflected solid NGL demand coupled with a firming of NGL prices due to winter propane demand, increased petrochemical activity, and higher prices for crude oil and therefore natural gasoline.

International trade

U.S. petroleum net exports for 7th consecutive month on lowest crude oil imports for Jan. since 1992



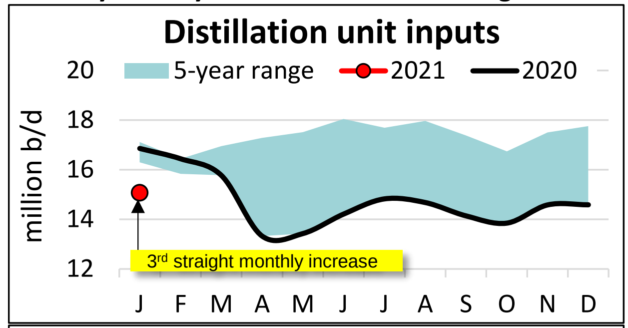


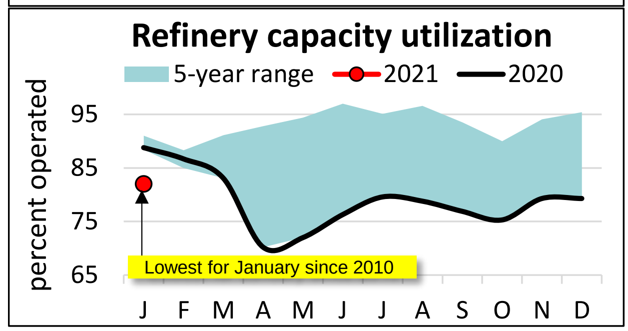
Driven by a combination of relatively strong exports and weak imports, the U.S. was a petroleum net exporter in January for the 7th consecutive month.

The U.S. imported 5.5 mb/d of crude oil and 2.3 mb/d of refined products in January – the lowest petroleum imports for the month since 1992. Meanwhile, the U.S. exported 3.0 mb/d of crude oil and 5.2 mb/d of refined products in January. These were respective decreases of 3.5% m/m for crude oil and 0.3% m/m for refined products.

Industry operations

Refinery activity increased for third straight month

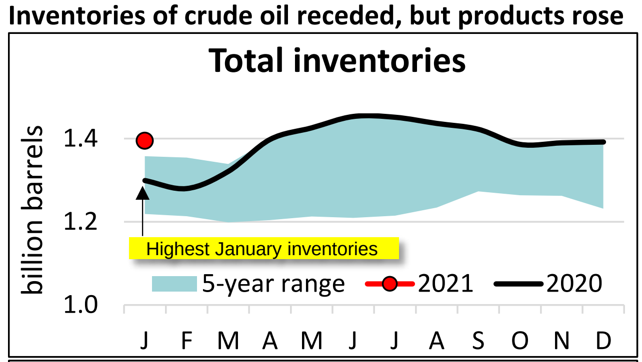


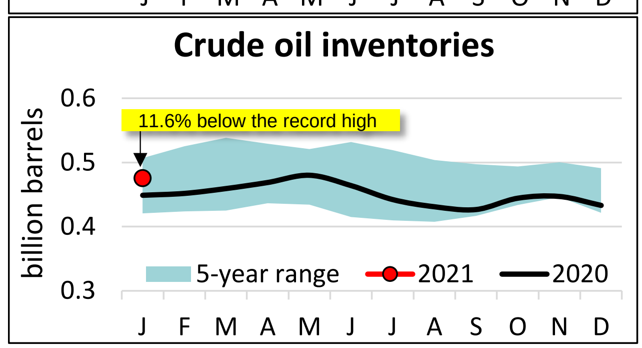


U.S. refinery throughput was 15.1 mb/d in January, a 3.3% m/m increase but a decrease of 10.6% y/y. This implied a capacity utilization rate of 82.0% for the month, which rose by 2.7 points from December but was the lowest monthly value since 2010.

Inventories

Inventories of crude oil receded, but products rose





U.S. total petroleum inventories, including crude oil and refined products but excluding the Strategic Petroleum Reserve held at 1.39 billion barrels in

January. The 0.2% m/m increase resulted in the highest inventory level on record for the month of January, but 4.0% below the record set in June 2020. Within the total, crude oil stocks of 476.1 million barrels decreased (2.9% m/m) for the second consecutive month and to their lowest monthly levels since February 2020.

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

Disposition and Supply	January 2021[2]	January 2020	January % Change	Year-to-Date 2021[3]	Year-to-Date 2020	Year-to-Date % Change
Disposition:						
Total motor gasoline	7,827	8,761	(10.7)			
Finished reformulated	2,473	2,745	(9.9)			
Finished conventional	5,354	6,016	(11.0)			
Kerosene-jet	1,207	1,673	(27.9)			
Distillate fuel oil	4,018	3,998	0.5			
≤ 500 ppm sulfur	3,955	3,927	0.7			
≤ 15 ppm sulfur	3,945	3,912	0.8			
> 500 ppm sulfur	63	71	(11.3)			
Residual fuel oil	186	258	(27.9)			
All other oils (including crude losses)	6,512	5,156	26.3			
Reclassified[4]	(86)	60	na			
Total domestic product supplied	19,664	19,905	(1.2)			
Exports	8,157	9,177	(11.1)			
Total disposition	27,821	29,083	(4.3)			
Supply:						
Domestic liquids production						
Crude oil (including condensate)	11,059	12,755	(13.3)			
Natural gas liquids	5,098	5,145	(0.9)			
Other supply[5]	1,079	1,179	(8.5)			
Total domestic supply	17,236	19,079	(9.7)			
Imports:						
Crude oil (excluding SPR imports)	5,500	6,408	(14.2)			
From Canada	3,563	3,875	(8.0)			
All other	1,937	2,534	(23.5)			
Products	2,259	2,164	4.4			
Total motor gasoline (incl. blend.comp)	536	499	7.4			
All other	1,723	1,665	3.5			
Total imports	7,759	8,572	(9.5)			
Total supply	24,995	27,651	(9.6)			
Stock change, all oils	(2,826)	(1,432)	na			
Refinery Operations:						
Input to crude distillation units	15,070	16,857	(10.6)			
Gasoline production	8,547	9,626	(11.2)			
Kerosene-jet production	1,248	1,855	(32.7)			
Distillate fuel production	4,632	5,085	(8.9)			
Residual fuel production	182	229	(20.5)			
Operable capacity	18,386	18,974	(3.1)			
Refinery utilization[6]	82.0%	88.8%	na			
Crude oil runs	14,657	16,231	(9.7)			

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

	January 2021	December 2020		January 2020	% Change From Month Ago	% Change From Year Ago
Stocks (at month-end, in millions of barrels):						
Crude oil (excluding lease & SPR stocks)........	476.1	490.3		442.8	(2.9)	7.5
Unfinished oils..	83.8	78.6		92.5	6.6	(9.4)
Total motor gasoline..	250.7	242.8		264.2	3.3	(5.1)
Finished reformulated.................................	0.0	0.0		0.0	(0.2)	(9.1)
Finished conventional.................................	23.0	25.9		27.6	(11.2)	(16.7)
Blending components.................................	227.7	216.9		236.6	5.0	(3.7)
Kerosene-jet..	41.9	37.7		44.0	11.1	(4.8)
Distillate fuel oil...	163.1	158.3		143.0	3.0	14.0
≤ 500 ppm sulfur...	154.7	150.1		132.1	3.1	17.1
≤ 15 ppm sulfur.....................................	151.1	147.0		127.9	2.8	18.2
> 500 ppm sulfur...	8.4	8.2		10.9	2.4	(22.7)
Residual fuel oil..	32.4	30.6		30.7	5.9	5.4
All other oils..	346.3	353.1	R	281.4	(1.9)	23.1
Total all oils..	1,394.3	1,391.4	R	1,298.7	0.2	7.4