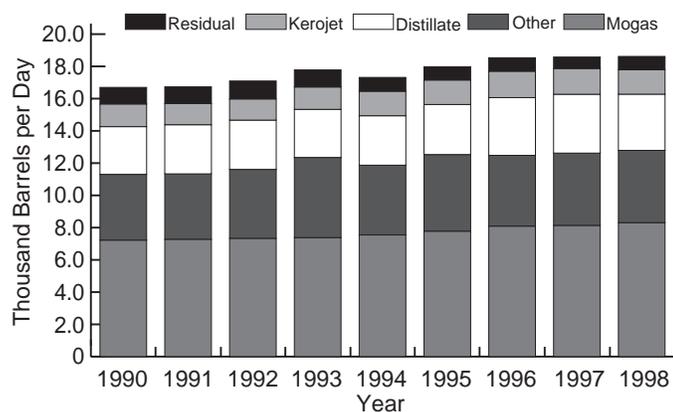


Highlights

Total demand for refined petroleum products in November 1998¹ (measured as products supplied) reached the highest average for the month since the record was set in 1978. Total demand for refined petroleum products averaged 18.6 million barrels per day (Table & Figure H1). The latest summary on current economic conditions released in the Beige Book suggest that all twelve U.S. districts continued to expand in November, despite a slowing in manufacturing mostly due to output declines in export-related industries.²

The warm weather continues to stifle demand for heating fuels, leaving heating fuel stocks in the upper ranges for this time of year. Data collected by the National Oceanic Atmospheric Administration (NOAA) during the month show that temperatures in the U.S., on average, were again about 8 percent warmer than normal and 18 percent warmer than this time last year.³

Figure H1. Total Demand, 1990-Current, Comparison in November for Petroleum Products



Source: Energy Information Administration, *Petroleum Supply Annual*, DOE/EIA-0340 (various issues), and *Petroleum Supply Monthly*, DOE/EIA-0109 (various issues).

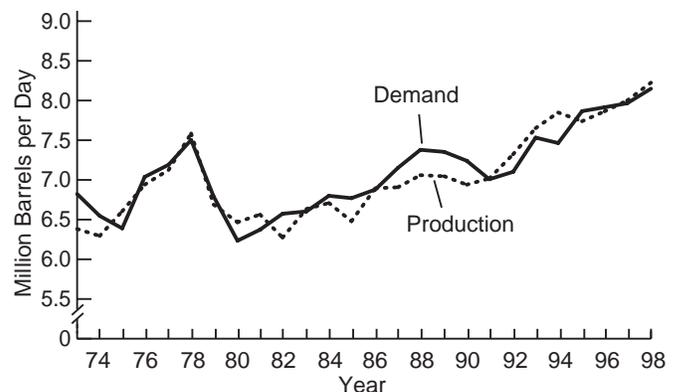
November 1998 highlights include:

- **Demand** for finished motor gasoline set a **November record high** at an average of 8.1 million barrels per day. **Production** averaged 8.2 million barrels per day, also a **record high for November**. Finished motor gasoline **stocks** ended the month totaling 163.3 million barrels, the highest end of November level since 1994.
- Affected by warmer weather, distillate fuel oil **demand** averaged 3.4 million barrels per day, the lowest level for November in three years. **Production** of distillate fuel oil averaged 3.5 million barrels per day, 0.1 million barrels per day below the average last year. **Stocks** of distillate fuel oil ended the month at a total of 148.9 million barrels, 8.3 million barrels above last November.
- Residual fuel oil **demand** reached the highest average for the month since 1994 at 851 thousand barrels per day. **Stocks** of

residual fuel oil ended November 2.4 million barrels above this time last year at 40.3 million barrels.

- Kerosene-type jet fuel **demand** averaged 1.6 million barrels per day, down slightly from the record for November set last year. **Production** of kerosene-type jet fuel averaged 1.6 million barrels per day, the second highest average for the month. **Stocks** totaled 45.1 million barrels, down 1.3 million barrels from last year.
- Propane inventories ended the month at their highest November level since 1981 with 72.8 million barrels in primary storage.
- Domestic crude oil **production** averaged only 6.4 million barrels per day, **the lowest daily average for November since 1954**. **Imports** of crude oil averaged 8.6 million barrels per day, **a record high for the month**. Crude oil **stocks**, excluding the Strategic Petroleum Reserve (SPR), ended the month totaling 335.4 million barrels.

Figure H2. Finished Motor Gasoline, Year-to-Year November Comparisons, 1973-1998



Source: Energy Information Administration, *Petroleum Supply Annual*, DOE/EIA-0340 (various issues), and *Petroleum Supply Monthly*, DOE/EIA-0109 (various issues).

Motor Gasoline

Down nearly 15 percent from last November, the retail price for conventional motor gasoline (Figure H3), averaged \$1.013 a gallon (including taxes).⁴ **Demand** for finished motor gasoline averaged 8.1 million barrels per day, **a record high for the month** (Figure H2). High runs rates at refineries continue to supply the U.S. with finished motor gasoline and as crude prices stay low, refineries still find it profitable to produce more finished motor gasoline.⁵ This month marks the first November that both demand for and production of finished motor gasoline have passed the 8 million barrel per day level. Finished motor gasoline **production** averaged 8.2 million barrels per day, **not only a record high for the month, but the third highest one month level ever**. **Imports**

¹November 1998 data are monthly-from-weekly estimates based on the Energy Information Administration's Weekly Petroleum Supply Reporting System.

²"The Beige Book", *Federal Reserve Board*, December 9, 1998, accessible via the Internet at <http://www.bog.frb.fed.us>.

³"Heating Degree Day Data Monthly Summary, Monthly Data for November 1998", *National Oceanic Atmospheric Administration*, accessible via the Internet at <http://nic.fb4.noaa.gov>.

⁴Table 16. U.S. Retail Motor Gasoline and On-Highway Diesel Fuel Prices, 1997 to Present", *Weekly Petroleum Status Report*, November 27, 1998, p. 27.

⁵"Americas refined products markets deteriorate as oversupply and weather problems take a toll", *Platt's Oilgram Price Report*, November 19, 1998, p. 1 & 10.

Table H1. Petroleum Supply Summary
(Million Barrels per Day, Except Where Noted)

Category	1998			1997	January - November	
	Estimated November	October	Difference ^a	November	1998	1997
Products Supplied	18.6	19.1	-0.5	18.6	18.6	18.6
Finished Motor Gasoline.....	8.1	8.4	-0.3	8.0	8.2	8.0
Distillate Fuel Oil.....	3.4	3.5	-0.2	3.4	3.4	3.4
Residual Fuel Oil	0.9	0.7	0.2	0.8	0.8	0.8
Jet Fuel.....	1.6	1.6	-0.1	1.6	1.6	1.6
Other Petroleum Products ^b	4.7	4.8	-0.1	4.8	4.6	4.7
Crude Oil Inputs	14.9	14.0	0.8	14.7	14.8	14.6
Operating Utilization Rate (%)	95.2	92.8	2.4	96.7	96.6	96.3
Imports	10.3	10.5	-0.2	9.9	10.4	10.2
Crude Oil	8.6	8.5	0.2	8.4	8.6	8.3
Strategic Petroleum Reserve	0.0	0.0	0.0	0.0	0.0	0.0
Other.....	8.6	8.5	0.2	8.4	8.6	8.3
Products	1.7	2.1	-0.4	1.6	1.8	2.0
Finished Motor Gasoline.....	0.2	0.4	-0.1	0.2	0.3	0.3
Distillate Fuel Oil.....	0.2	0.2	(s)	0.2	0.2	0.2
Residual Fuel Oil	0.3	0.2	0.1	0.2	0.2	0.2
Jet Fuel.....	0.1	0.1	(s)	0.1	0.1	0.1
Other Petroleum Products ^c	1.0	1.2	-0.2	0.9	1.1	1.1
Exports	1.0	0.9	0.1	0.9	1.0	1.0
Crude Oil	0.1	0.1	(s)	(s)	0.1	0.1
Products	0.9	0.8	0.1	0.9	0.8	0.9
Total Net Imports	9.3	9.7	-0.4	9.0	9.4	9.3
Stock Change^d	-0.1	(s)	-0.2	0.1	0.3	0.3
Crude Oil	-0.1	0.8	-0.9	0.3	0.1	0.1
Products	(s)	-0.8	0.8	-0.2	0.2	0.2
Total Stocks	1,644	1,654	-10	1,600	—	—
(million barrels)						
Crude Oil	899	897	2	887	—	—
Strategic Petroleum Reserve ^e						
Strategic Petroleum Reserve ^e	564	564	0	563	—	—
Other.....	335	333	2	324	—	—
Products	744	756	-12	713	—	—
Finished Motor Gasoline.....	163	160	3	162	—	—
Distillate Fuel Oil.....	149	147	1	141	—	—
Residual Fuel Oil	40	41	-1	38	—	—
Jet Fuel.....	45	43	2	46	—	—
Other Petroleum Products ^c	347	365	-18	326	—	—

^a Difference is equal to volume for current month minus volume for previous month.

^b Includes crude oil product supplied, natural gas liquids, liquefied refinery gases (LRG's), other liquids, and all finished petroleum products except finished motor gasoline, distillate fuel oil, residual fuel oil, and jet fuel.

^c Includes natural gas liquids, liquefied refinery gases (LRG's), other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate fuel oil, and residual fuel oil.

^d A negative number indicates a decrease in stocks and a positive number indicates an increase.

^e Crude oil stocks in the Strategic Petroleum Reserve include non-U.S. stocks held under foreign or commercial storage agreements.

(s) = Less than 0.05 million barrels per day, or less than 0.05 percent, or less than 0.5 million barrels.

Note: Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration (EIA), 1996, *Petroleum Supply Annual*, Volume II; appropriate issues of the *Petroleum Supply Monthly* and the *Weekly Petroleum Status Report*.

Data for the current month are preliminary estimates, based on weekly submissions. For an explanation of estimation methodology and accuracy, see Appendix A of *Weekly Petroleum Status Report* and the article, "Accuracy of Petroleum Supply Data", published in the December 1997, *Petroleum Supply Monthly*.

Table H2. U.S. Refinery Inputs, Capacities and Utilization Rates: 1997-1998
(Thousand Barrels per Day, Except Where Noted)

Item	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1997												
Gross Refinery Inputs	13,771	13,601	14,156	14,465	15,232	15,300	15,190	15,465	15,533	15,127	14,939	15,188
Operating Refinery Capacity ²	15,168	15,205	15,233	15,229	15,449	15,461	15,462	15,452	15,464	15,464	15,452	15,424
Idle Capacity ³	284	247	399	387	167	177	177	189	139	139	150	204
Idle Three Months or Less	197	160	220	180	0	10	10	22	12	12	12	66
Idle More than Three Months	87	87	179	207	167	167	167	167	127	127	139	139
Operable Refinery Capacity	15,452	15,452	15,632	15,616	15,616	15,638	15,639	15,641	15,602	15,602	15,602	15,628
Utilization Rate (percent)												
Operating Capacity	90.8	89.5	92.9	95.0	98.6	99.0	98.2	100.1	100.4	97.8	96.7	98.5
Operable Capacity	89.1	88.0	90.6	92.6	97.5	97.8	97.1	98.9	99.6	97.0	95.7	97.2
1998												
Gross Refinery Inputs	14,655	14,340	14,851	15,170	15,305	15,651	15,704	15,806	15,041	14,241		
Operating Refinery Capacity ²	15,538	15,555	15,547	15,587	15,617	15,687	15,695	15,689	15,703	15,346		
Idle Capacity ³	167	158	184	144	144	135	135	143	129	537		
Idle Three Months or Less	41	20	46	0	0	0	0	14	0	420		
Idle More than Three Months	127	138	138	144	144	135	135	129	129	117		
Operable Refinery Capacity	15,705	15,713	15,732	15,732	15,761	15,822	15,830	15,832	15,832	15,883		
Utilization Rate (percent)												
Operating Capacity	94.3	92.2	95.5	97.3	98.0	99.8	100.1	100.7	95.8	92.8		
Operable Capacity	93.3	91.3	94.4	96.4	97.1	98.9	99.2	99.8	95.0	89.7		

¹Capacities are on a calendar day basis.

²Operating capacity equals the operable capacity less the total idle capacity.

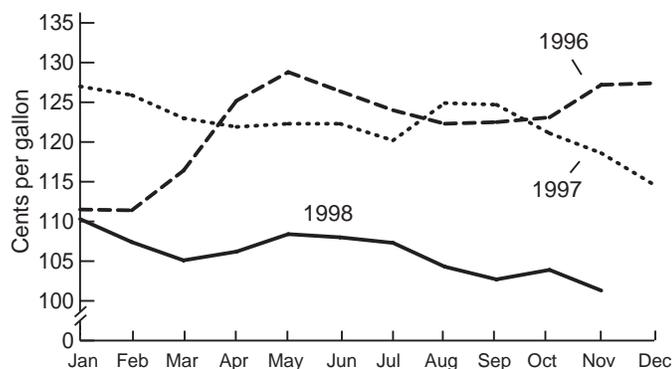
³Idle capacity is the component of operable capacity that is not in operation and not under active repair, but is capable of being placed in operation within 30 days; and capacity not in operation but is under active repair that can be completed within 90 days.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Energy Information Administration (EIA), 1997, *Petroleum Supply Annual*, Volume 2, Table 16; EIA, *Petroleum Supply Monthly*, 1998 data issue, Table 28.

of finished motor gasoline were normal for the month, at an average of 236 thousand barrels per day. **Stocks** of finished motor gasoline ended the month at 163.3 million barrels, the highest level for November in four years.

Figure H3. Prices for Conventional Motor Gasoline (including taxes), 1996-current



Source: Energy Information Administration, *Weekly Petroleum Status Report*, DOE/EIA-0208 (various issues).

⁶“Press Plays Up Price/Supply Story”, *Oilheating*, October 1998, p. 7.

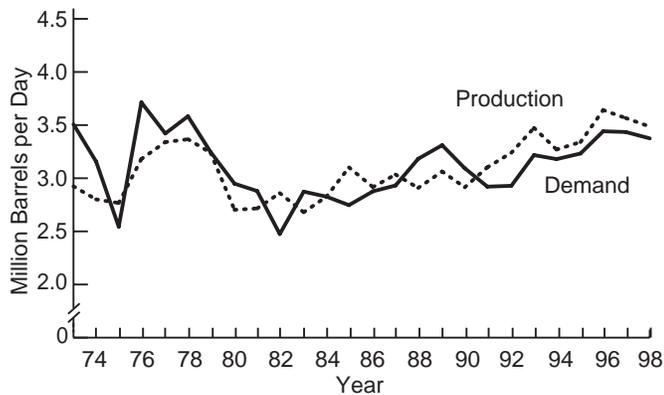
⁷“U.S. Rail Freight Traffic Up in November”, *Association of American Railroads*, December 4, 1998, accessible via the Internet at <http://www.aar.org>.

⁸“Crude Price Threatens to Sink to Record Lows”, *The Oil Daily*, November 19, 1998, p. 1 & 2.

Distillate Fuel Oil

So far this heating season, supply has been outpacing demand due to the warmer temperatures across much of the United States, allowing consumers to benefit from lower prices for heating oils.⁶ Gains in both rail freight and intermodal traffic were not enough to offset the affects of the warmer weather on distillate fuel oil.⁷ **Demand** for distillate fuel oil averaged 3.4 million barrels per day, the lowest average for the month in three years (Figure H4). Distillate fuel oil **production** averaged 3.5 million barrels per day, down 80 thousand barrels per day from the same month last year. Distillate fuel oil **imports** were normal for the month at an average of 187 thousand barrels per day. **Stocks**, which reached the highest level to end the month since 1993, totaled 148.9 million barrels. Of these stocks, high-sulfur distillates accounted for 79.9 million barrels, or **an additional 6.8 million barrels compared to this time last year**. Much of the additional stocks of high-sulfur distillate fuel oil can be attributed to the warm weather experience this heating season.⁸

Figure H4. Distillate, Year-to-Year November Comparisons, 1973-1998

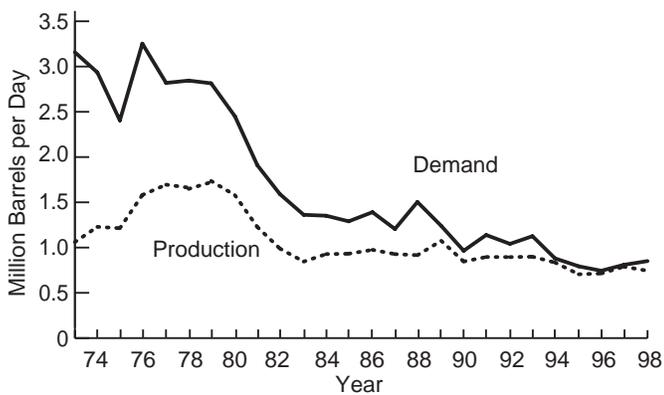


Source: Energy Information Administration, *Petroleum Supply Annual*, DOE/EIA-0340 (various issues), and *Petroleum Supply Monthly*, DOE/EIA-0109 (various issues).

Residual Fuel Oil

Lower crude oil prices, which translate into lower residual fuel oil prices, have helped flatten the downward trend for demand of residual fuel oil as it has become more competitive with natural gas.⁹ **Demand** for residual fuel oil reached the highest average for the month since 1994 at 851 thousand barrels per day (Figure H5). **Production** of residual fuel oil averaged 744 thousand barrels per day, normal for this time of year. Residual fuel oil imports averaged 261 thousand barrels per day. End-of-month **stocks** totaled 40.3 million barrels, 2.4 million barrels more than the end of November last year.

Figure H5. Residual, Year-to-Year November Comparisons, 1973-1998

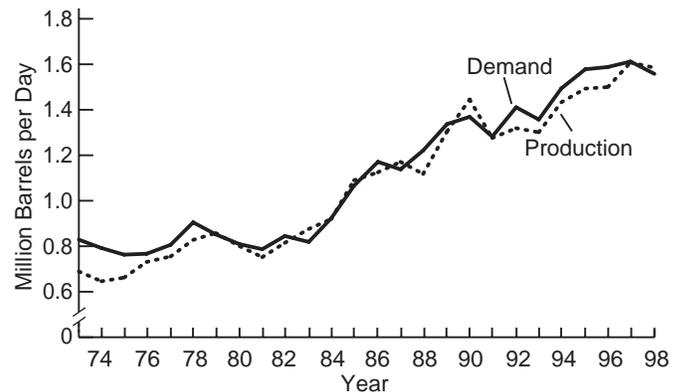


Source: Energy Information Administration, *Petroleum Supply Annual*, DOE/EIA-0340 (various issues), and *Petroleum Supply Monthly*, DOE/EIA-0109 (various issues).

Kerosene-Type Jet Fuel

Demand for kerosene-type jet fuel was down slightly from last years record high for the month to an average of 1.6 million barrels per day. Production was also off from the record high for the month. At an average of 1.6 million barrels per day, this was the seconded highest production average for the month (Figure H6). Jet fuel **imports**, both kerosene and naphtha-type, were within the normal seasonal range at an average of 67 thousand barrels per day. **Stocks** of kerosene-type jet fuel ended the month totaling 45.0 million barrels, 1.3 million barrels less than last November.

Figure H6. Kerojet, Year-to-Year November Comparisons, 1973-1998



Source: Energy Information Administration, *Petroleum Supply Annual*, DOE/EIA-0340 (various issues), and *Petroleum Supply Monthly*, DOE/EIA-0109 (various issues).

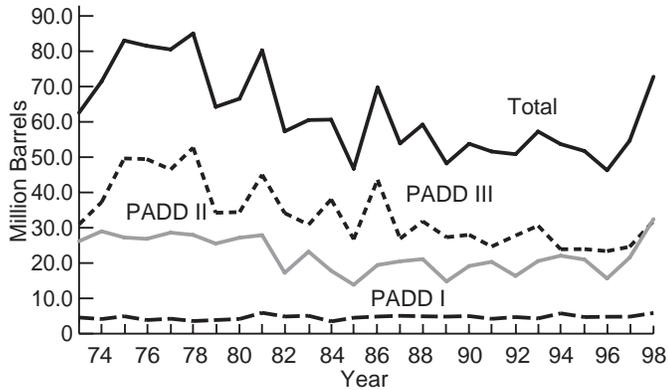
Propane

Unseasonably warm temperatures continued to moderate the draw on U.S. propane inventories during November. Adding to the affect of warmer temperatures, weak demand for propane as a feedstock from the petrochemical industry has also led to total inventories well above their normal seasonal range.¹⁰ Total propane inventories ended the month at 72.8 million barrels, 18.2 million barrels above last year's November end-of-month total (Figure H7). Regionally, stocks along the East Coast increased slightly to end the month at 5.9 million barrels. Propane inventories in the Midwest declined 357 thousand barrels to end the month at 32.4 million barrels. Propane inventories along the Gulf Coast dropped 978 thousand barrels to 31.9 million barrels. November's stock draw was only 2.4 million barrels, compared to the five-year average of 4.2 million barrels for the month.

⁹“U.S. oil and natural gas demand to increase in 1999”, *Oil & Gas Journal*, November 23, 1998, p. 36 - 39.

¹⁰“US gas liquid markets under pressure”, *Platt's Oilgram Price Report*, December 2, 1998, p. 10.

Figure H7. Propane Stocks, Year-to-Year November Comparisons, 1973-1998



Source: Energy Information Administration, *Petroleum Supply Annual*, DOE/EIA-0340 (various issues), and *Petroleum Supply Monthly*, DOE/EIA-0109 (various issues).

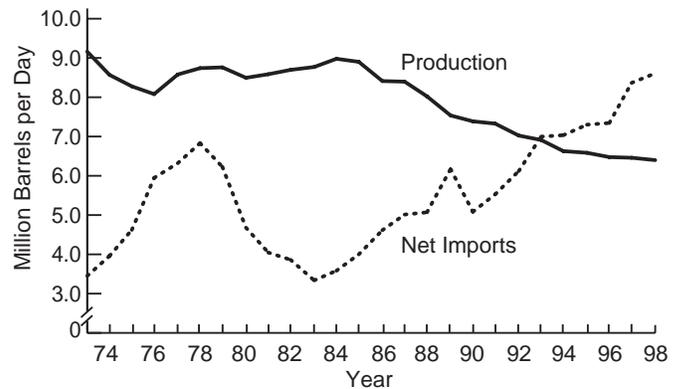
Crude Oil

As a consequence of low crude oil prices, upstream spending in the U.S. is declining, resulting in reduced drilling.¹¹ This November, domestic crude oil **production** averaged 6.4 million barrels per day, **the lowest level for the month in 44 years** (Figure H8). Field production of Alaskan crude oil also remains low, averaging 1.2 million barrels per day. This represents the lowest average during November for Alaskan crude oil field production since the Trans-Alaskan Pipeline System was brought online. The Alaskan Department of Revenue blames the slide in production on low prices for Alaskan North Slope crude (ANS), warm weather, and production problems.¹² **Imports** of crude oil set a **record high for the month at 8.6 million barrels per day**. One measure of U.S. reliance on foreign crude is net imports, imports minus exports, which averaged 8.5 million barrels per day for the month. Net imports of crude oil averaged **3 percent higher than the prior record for the month** set last year. The end of the November

marked the beginning of the fifth phase of the U.N.'s oil-for-food agreement which allows Iraq to continue selling crude oil in return for food and medicine for another 180 days.¹³

Crude oil **stocks**, excluding the SPR, ended the month at their highest level for the month since 1994 at a total of 335.4 million barrels. During November SPR stocks increased 0.6 million barrels which are being held under a commercial storage agreement.

Figure H8. Crude Oil, Year-to-Year November Comparisons, 1973-1998, Production and Net Imports



Source: Energy Information Administration, *Petroleum Supply Annual*, DOE/EIA-0340 (various issues), and *Petroleum Supply Monthly*, DOE/EIA-0109 (various issues).

Refinery Operations

Crude oil **inputs** averaged 14.9 million barrels per day, the second highest average for November ever. November's estimated refinery **operable utilization rate** (gross input divided by operable capacity) averaged 94.4 percent versus 95.7 percent a year ago.

¹¹"Cutback in Upstream Spending Begins Choking off Flow of Crude", *The Oil Daily*, November 17, 1998, p. 5 & 6.

¹²"Alaskan state economists predict 100,000 b/d decrease in crude oil production", *Platt's Oilgram Price Report*, December 2, 1998, p. 10.

¹³"Iraq, U.N. Clear Way for Resumed Exports", *The Oil Daily*, December 4, 1998, p. 3 & 6.