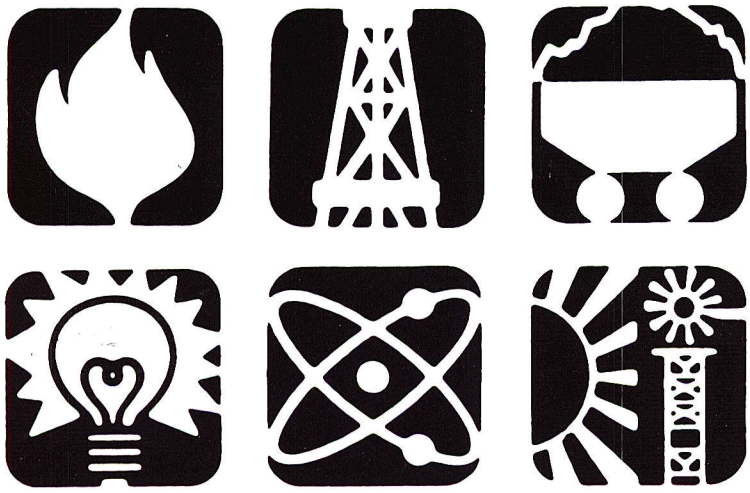
DOE/EIA-0035(87/12)

Energy Information Administration

# Monthly Energy Review

**December 1987**



1987 Annual Summary

# *Monthly Energy Review*

The *Monthly Energy Review* presents current data on production, consumption, stocks, imports, exports, and prices of the principal energy commodities in the United States. Also included are data on international production of crude oil, consumption of petroleum products, petroleum stocks, and production of electricity from nuclear-powered facilities.

Publication of this report is in keeping with responsibilities given the Energy Information Administration in Public Law 95-91 (Section 205(a)(2)) that states:

> *The Administrator shall be responsible for carrying out a central, comprehensive, and unified energy data and information program which will collect, evaluate, assemble, analyze and disseminate data and information . .*

The *Monthly Energy Review* is intended to provide timely energy information to Members of Congress, to Federal and State agencies, and to the general public.

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# Monthly Energy Review

## December 1987

**Energy Information Administration**
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# Feature Articles

Feature articles on energy-related subjects are occasionally included in this publication. The following is a complete list of all the feature articles that have been published to date.


| | |
|---|---|
| Energy Consumption | March 1975 |
| Nuclear Power | April 1975 |
| The Price of Crude Oil | June 1975 |
| U.S. Coal Resources and Reserves | July 1975 |
| Propane, A National Energy Resource | September 1975 |
| Short-Term Energy Supply and Demand Forecasting at FEA | October 1975 |
| Curtailments of Natural Gas Service | January 1976 |
| Home Heating Conservation Alternatives and the Solar Collector Industry | March 1976 |
| Trends in United States Petroleum Imports | September 1976 |
| Crude Oil Entitlements Program | January 1977 |
| Motor Gasoline Supply and Demand | July 1977 |
| Short-Term Petroleum Supply and Demand | May 1978 |
| The Energy Requirements of U.S. Agriculture | July 1979 |
| Three Mile Island--Possible Regulatory Responses and Their Impacts on the Nation's Short-Term Electric Utility Fuel Outlook | October 1979 |
| Reduction in Natural Gas Requirements Due to Fuel Switching | December 1979 |
| The Solar Collector Industry and Solar Energy | February 1980 |
| Trends in the Installation of Energy Using Equipment in New Residential Buildings | March 1980 |
| The Energy Information Administration's Oil and Gas Reserves Program--The First Year's Report | June 1980 |
| Energy From Urban Waste | August 1980 |
| Natural Gas Liquids: Revisions to 1979 Data | October 1980 |
| EIA Weekly Petroleum Data: Data Collection and Methods of Estimation | November 1980 |
| The Department of Energy Disclosure Policy for Individually Identifiable Information Maintained by the Energy Information Administration | December 1980 |
| Changes in 1981 Petroleum Data Series | May 1981 |
| Information Services of the Energy Information Administration | September 1981 |
| An Overview of Natural Gas Markets | December 1981 |
| The Interstate and Intrastate Natural Gas Markets | January 1982 |
| Natural Gas Drilling and Production Under the Natural Gas Policy Act | February 1982 |
| Impacts of Financial Constraints on the Electric Utility Industry | October 1982 |
| The Effect of Weather on Energy Use | April 1983 |
| Trends in U.S. Energy Since 1973 | May 1983 |
| Data Series on Petroleum Use at Electric Utilities | July 1983 |
| Residential Energy Consumption, 1978 Through 1981 | September 1983 |
| Exploring for Oil and Gas | November 1983 |
| The Influence of Federal Actions on Petroleum Exploration | December [2] 1983 |
| Aggregate Statistics: Accurate or Misleading? | December [3] 1983 |
| Estimating Well Completions | March 1985 |
| State Motor Gasoline Taxes, 1980-1985 | March 1986 |
| The Impact of Low Oil Prices on Electric Utility Fuel Choice | June 1986 |
| U.S. Energy Industry Financial Developments, 1986 Second Quarter | June 1986 |
| U.S. Energy Industry Financial Developments, 1986 | December 1986 |
| Manufacturing Sector Energy Consumption, 1985 Provisional Estimates | January 1987 |
| U.S. Energy Industry Financial Development, 1987 Second Quarter | June 1987 |
| End-Use Consumption of Residential Energy | July 1987 |

# Highlights

"Highlights"--special features that summarize the most important information presented in selected Energy Information Administration reports--are occasionally included in this publication. The following is a complete list of all the reports that have been summarized to date.

| | |
|---|---|
| *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1981 Annual Report* | September 1982 |
| *Energy Company Development Patterns in the Postembargo Era, Volume One* | November 1982 |
| *Residential Energy Consumption Survey: Consumption and Expenditures* | January 1983 |
| *Residential Energy Consumption Survey: Housing Characteristics* | February 1983 |
| *Energy Price and Expenditure Data Report, 1970-1980* | July 1983 |
| *Railroad Deregulation: Impact on Coal* | August 1983 |
| *Port Deepening and User Fees: Impact on U.S. Coal Exports* | August 1983 |
| *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1982 Annual Report* | September 1983 |
| *Annual Energy Review 1983* | February 1984 |
| *State Energy Data Report, Consumption Estimates, 1960-1982* | March 1984 |
| *Annual Energy Outlook 1983* | March 1984 |
| *State Energy Price and Expenditure Report, 1970-1981* | May 1984 |
| *Solar Collector Manufacturing Activity 1983* | June 1984 |
| *Estimates of U.S. Wood Energy Consumption, 1980-1983* | September 1984 |
| *International Energy Annual 1983* | September 1984 |
| *Energy Conservation Indicators 1983 Annual Report* | November 1984 |
| *Annual Energy Outlook 1984* | December 1984 |
| *Annual Energy Review 1984* | January 1985 |
| *Performance Profiles of Major Energy Producers 1983* | February 1985 |
| *State Energy Price and Expenditure Report 1970-1982* | March 1985 |
| *State Energy Data Report, Consumption Estimates, 1960-1983* | April 1985 |
| *Annual Outlook for U.S. Electric Power 1985* | June 1985 |
| *Short-Term Energy Outlook, Volume 1, October 1985* | August 1985 |
| *Analysis of Growth in Electricity Demand, 1980-1984* | August 1985 |
| *Profiles of Foreign Direct Investment in U.S. Energy 1984* | November 1985 |
| *Performance Profiles of Major Energy Producers 1984* | December 1985 |
| *International Energy Annual 1985* | September 1986 |
| *Consumption and Expenditures, April 1984 Through March 1985, Part 1: National Data* | April 1987 |
| *Consumption and Expenditures, April 1984 Through March 1985, Part 2: Regional Data* | May 1987 |
| *Uranium Industry Annual 1986* | September 1987 |
| *Potential Oil Production from the Coastal Plain of the Arctic National Wildlife Refuge (Revised Edition)* | October 1987 |
| *Profiles of Foreign Direct Investment in U.S. Energy 1986* | November 1987 |

# The U.S. Energy Industry in 1987: A Slow Recovery

*by T. Crawford Honeycutt*[1]

In 1987, most segments of the U.S. energy industry reported gains in revenue and income compared with the depressed levels that followed the 1986 plunge in crude oil prices. Substantial increases in crude oil prices during the first 9 months of the year dominated the financial performance of most energy industries. The average refiner acquisition cost of crude oil in 1987 was up 23 percent from the 1986 level.[2] At the same time, the industrial production index--led by growth in exports of manufactured products--rose by 4 percent in 1987 compared with 2 percent in 1986.[3] The growth in oil prices and industrial production both contributed to the financial recovery reported by the energy companies (see box).

This article traces the 1987 turnaround in the domestic energy industry by examining changes in several key financial indicators. The indicators were developed based on data from the 164 energy companies. The following analysis considers the financial performance of the companies in four major sectors: petroleum (including natural gas production), natural gas transmission and distribution, coal, and electric utilities.

### *The Energy Companies*

This article is based on publicly available data from 74 electric utilities, 12 natural gas transmission companies, 25 natural gas distribution companies, 12 independent petroleum producers, 7 refiner/marketers, 11 oilfield services companies, 5 coal producers, and 18 major petroleum companies. The companies considered to be "major" petroleum firms for the purpose of this article are Amerada Hess, American Petrofina, Amoco, ARCO, Chevron, Coastal, Du Pont, Exxon, Kerr-McGee, Mobil, Murphy, Occidental, Pennzoil, Phillips, Shell, Sun, Union Pacific, and Unocal.

## Progress Towards Recovery

The heightened pace of industrial growth and rapidly rising crude oil prices during most of 1987 increased net income[4] for the energy companies included in this review by 9 percent over 1986 income (Table FE1).

**Table FE1. Energy Income by Segment, 1986 and 1987**
(Million Dollars)

| Segment | Year 1987 | Year 1986 | Percent Change |
|---|---|---|---|
| Petroleum | | | |
| Oil and Gas Producers (12) | 111 | -246 | NM |
| Oilfield Services (11) | -286 | -890 | NM |
| Refiner/Marketers (7) | 297 | 242 | 23 |
| Major Petroleum Firms (18) | 14,207 | 12,206 | 16 |
| Subtotal Petroleum (48) | 14,328 | 11,312 | 27 |
| Natural Gas Transmission and Distribution (37) | 1,483 | 1,360 | 9 |
| Coal (5) | 115 | 107 | 7 |
| Electric Utilities (74) | 14,680 | 15,346 | -4 |
| **Total (164)** | **30,606** | **28,125** | **9** |

NM = Not meaningful.
Notes: o The number of companies in each segment is reported in parentheses. o Totals may not equal sum of components due to independent rounding. o Percentage changes were calculated from unrounded data.
Source: Energy company data were obtained from companies' quarterly reports to stockholders and "Earnings Digest," *The Wall Street Journal* (various issues, January and February 1988).

[1]The author is an economist with the Energy Information Administration. Inquiries regarding this article may be addressed to Mr. Honeycutt on (202) 586-1420.

[2]Where data on prices and physical quantities were not yet available for 1987, estimates were obtained from Energy Information Administration, *Short-Term Energy Outlook*, Quarterly Projections, January 1988, DOE/EIA-0202(88/1Q) (Washington, DC, February 1988), pp. 3, 40-53. Those estimates are not anticipated to be significantly different from final data.

[3]Energy Information Administration, *Short-Term Energy Outlook*, Quarterly Projections, January 1988, DOE/EIA-0202(88/1Q) (Washington, DC, February 1988), p. 3.

[4]Net income from continuing operations, excluding extraordinary gains or losses.

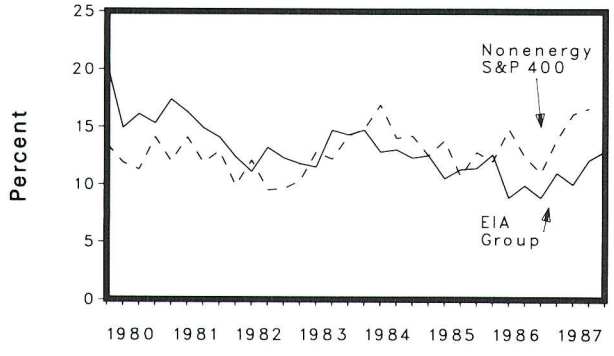
Total petroleum earnings increased by 27 percent on the strength of the crude oil price increases, while the coal and natural gas segments evidenced lesser increases. Electric utilities registered a decline in net income, but the decline was largely due to accounting changes rather than adverse market conditions.

Other industrial companies generally showed greater improvement in financial performance between 1986 and 1987 than did the energy industry. Accordingly, the profitability of nonenergy companies, as measured by return on equity, continued to exceed the profitability of the energy companies (Figure FE1).[5]

## Turnaround in Petroleum

Although crude oil prices began to weaken in the fourth quarter, for 1987 overall they remained well above the levels that prevailed in 1986. The refiner acquisition cost of crude oil averaged $17.95 per barrel in 1987, $3.40 above the average acquisition cost in 1986. Additionally, several companies reported that the downward trend in wellhead natural gas prices was reversed in the fourth quarter of 1987. The favorable effects of higher prices were only somewhat moderated by a 4-percent fall in crude oil production, while natural gas production rose by 1 percent on an annual basis.

**Figure FE1. EIA Energy Group and Nonenergy S&P 400, Return on Equity, 1980-1987**




Note: The data for the fourth quarter of 1987 are estimated.
Source: Companies' reports to stockholders; "Earnings Digest," *Wall Street Journal* (various issues, January and February 1988); and Standard and Poor's Compustat Services, Inc., COMPUSTAT II Quarterly Data Item 8 (Income Before Extraordinary Items) and Data Item 60 (Total Equity), March 1988.

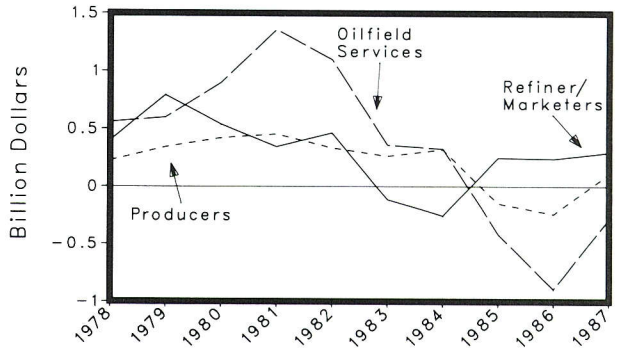
## Upstream Improvements

Higher oil prices yielded substantial increases in oil and gas income. Twelve independent oil and gas producers reported income of $111 million in 1987 (Table FE1). By contrast, losses of $246 million had been reported for 1986.

The turnaround in oil prices led to an upswing in drilling activity. Although the average rig count for the year was below the 1986 count, it increased steadily during the last 6 months of 1987 and reached 1,162 in December,[6] 21 percent above the count in December 1986. Other indicators of oilfield activity--seismic crews and well completions--showed similar patterns of increase.

The increase in drilling activity and cost reductions achieved by corporate restructuring contributed to the improved financial results for the oilfield services companies. But even though oilfield activity was on the upswing, drilling contractors continued to face severe cost pressures due to lingering excess capacity and, as a result, they continued to evidence losses in 1987. However, losses of $286 million reported by 11 oilfield services companies in 1987 were greatly reduced from the losses of $890 million in 1986 (Figure FE2).

**Figure FE2. Independent Petroleum Companies' Income by Segment, 1978-1987**




Source: Companies' reports to stockholders; "Earnings Digest," *Wall Street Journal* (various issues, January and February 1988); and Standard and Poor's Compustat Services, Inc., COMPUSTAT II Annual Data Item 18 (Income Before Extraordinary Items), March 1988.

[5]The EIA Energy Group consists of companies that regularly report their quarterly financial results in a timely fashion and together account for at least 75 percent of the revenue in each energy line of business.

[6]Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(87/11) (Washington, DC, February 1988), p. 66.

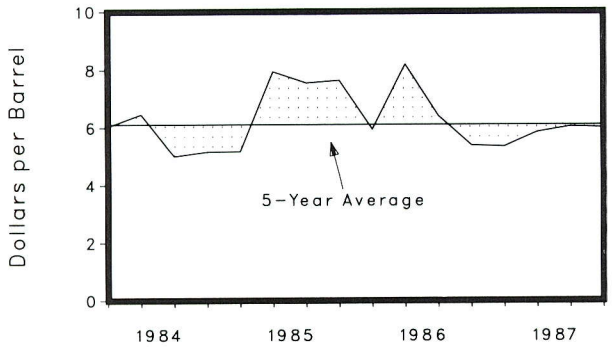
## Fourth Quarter Demand Aids Refiners

The slight decline in crude oil prices in the fourth quarter of 1987 coupled with continued strong refined product demand had a positive effect on domestic refining/marketing income. While the cost of crude oil inputs increased by $4.80 per barrel (36 percent) in the fourth quarter of 1987 compared with the fourth quarter of 1986, the composite refined product price increased by an estimated $5.10.[7] As a result, the gross refining margin was much improved from the fourth quarter of 1986 (Figure FE3).

Operational factors also contributed to better financial results. The average refinery utilization rate was 85.3 percent in the fourth quarter of 1987 compared with 83.3 percent in the fourth quarter of 1986. For the year, however, the 1987 refinery utilization rate was slightly below the 1986 average, 82.7 percent versus 82.9 percent.[8]

For the seven reporting independent refiner/marketers, income of $297 million for 1987 was 23 percent greater than for 1986 (Table FE1). The magnitude of the percentage gain was partly due to the fact that the last quarter of 1986 was a particularly poor one for domestic refiners (Figure FE2).

### Figure FE3. Gross Refining Margin, 1984-1987




Source: Energy Information Administration, *Petroleum Marketing Monthly*, November 1987, DOE/EIA-0380(87/11) (Washington, DC, February 1988), pp. 8-13.

## Majors Report Income Growth

Major petroleum companies' financial performance showed marked improvement in 1987. Their net income of $14.2 billion in 1987 was 16 percent above that of the prior year (Table FE1). Higher crude oil prices raised oil and gas income, higher margins in the latter half of the year aided refining performance, increased demand led to continued improvement in chemical operations, coal operations benefited from increased production, and earlier restructuring efforts bettered the financial performance of the majors' diversified businesses. However, some major petroleum companies with foreign refining operations reported lower margins that reduced their foreign petroleum income. Weak refined product demand in Europe together with strong competitive pressures on refined product prices abroad served to offset the benefits of the falling value of the U.S. dollar.

## Restructuring Moderates the Recovery in Gas Transmission

In 1987, the demand for natural gas recovered considerably from the effects of the oil price drop of the prior year. By the fourth quarter, natural gas prices (based on deliveries to utilities) were up 7 percent from prices during the same quarter of 1986.[9] (For the full year of 1987, however, prices were 3 percent below 1986 levels.)

In addition, natural gas consumption also increased between 1986 and 1987. For the full year 1987, consumption of natural gas was 16.8 trillion cubic feet, up from 16.2 trillion cubic feet in 1986.[10] The largest consumption increases were reported by industrial users and electric utilities. Increased natural gas demand in those sectors reflected heightened growth in industrial production and fuel switching favoring natural gas relative to residual fuel oil.

Despite the recovery in natural gas demand, the financial performance of interstate natural gas pipelines was strongly influenced by the ongoing restructuring of the corporate and competitive environment. The

[7]Calculated as the weighted average refined product price from data contained in Energy Information Administration, *Petroleum Marketing Monthly*, DOE/EIA-0380(87/11) (Washington, DC, February 1988).

[8]Energy Information Administration, *Weekly Petroleum Status Report*, DOE/EIA-0208(88/05) (Washington, DC, January 27, 1988), p. 4.

[9]Energy Information Administration, *Short-Term Energy Outlook*, Quarterly Projections, January 1988, DOE/EIA-0202(88/1Q) (Washington, DC, February 1988), p. 41.

[10]Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(87/11) (Washington, DC, February 1988), p. 59.

Federal Energy Regulatory Commission promulgated a series of Orders designed to encourage competition and open transportation of natural gas to end users and distribution companies and to make supply more responsive to demand. During the mid-1980's those and other regulatory changes began to reduce the transmission companies' role as buyers and sellers of natural gas and to increase their role as providers of transportation services. For example, gas transported for others rose from only 13 percent of total gas deliveries for the major interstate pipelines in 1984 to 33 percent in 1986.[11] The shift was accompanied by problems associated with take-or-pay contracts with suppliers and minimum purchase requirements with customers. As a consequence of these changes, revenue declined and the margin on transported gas narrowed.

On balance, natural gas transmission and distribution companies generally experienced modest income growth in 1987 compared with 1986. For the 37 companies covered by this article, net income totaled $1,483 million in 1987, up 9 percent from the 1986 level (Table FE1).

## Record Production Boosts Coal Income

The five coal producers indicated an improvement in 1987 income compared with 1986. Although coal prices (based on deliveries to electric utilities) were 4 percent lower for the year[12] due to the pressure from low petroleum prices, production volumes grew in 1987. Overall, industry output increased 3 percent, setting a new production record of 917 million short tons.[13] Productivity gains and reduced unit costs more than offset adverse price conditions and contributed to improved financial performance in coal operations. For 1987, the five coal-producing companies reported income of $115 million, a 7-percent increase from the 1986 level.

## Accounting Changes Affect Electric Utilities

Electricity generation exhibited modest growth in 1987, while prices remained essentially stable from year to year. Changes in input prices varied: coal prices fell slightly, residual fuel oil prices rose substantially, and natural gas prices fell. Despite overall favorable operating conditions, reported electric utility income for 1987 declined. The principal reason for the decline relates to losses recorded for abandoned or excessively costly nuclear power plants.

Quantitative assessment of the changes in financial performance is confounded by changes in accounting standards and by the effect of the 1986 tax reform legislation. Recent changes in financial reporting requirements called for explicit recognition of plant abandonments and rate base disallowances through one-time writeoffs of the assets in question. Previously, such writeoffs could be amortized over a period of time. The accounting changes were the primary factor in the reported decline in electric utility net income--the 74 electric utilities reported a 4-percent decline in 1987 income to $14.7 billion.

[11]Energy Information Administration, *Statistics of Interstate Natural Gas Pipeline Companies 1984*, DOE/EIA-0145(84) (Washington, DC, October 1985) and *Statistics of Interstate Natural Gas Pipeline Companies 1986*, DOE/EIA-0145(86) (Washington, DC, October 1987).

[12]Energy Information Administration, *Short-Term Energy Outlook*, Quarterly Projections, January 1988, DOE/EIA-0202(88/1Q) (Washington, DC, February 1988), p. 41.

[13]Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(87/11) (Washington, DC, February 1988), p. 71.

# Section 1. Energy Summary

## U.S. Energy Markets in 1987

During the second half of 1987--a year of relatively stable crude oil prices and continued economic growth--the domestic energy industry began to show signs of recovering from the market disruptions of 1986. The composite refiner acquisition costs of crude oil in 1987 averaged $17.91 per barrel, up from $14.55 in 1986. In addition, 1987 prices were much more stable, ranging from a low of $16.17 in January to a high of $19.36 in August. In contrast, 1986 prices had ranged from $25.63 in January to a low of $11.26 in July. Economic conditions also favored recovery. Domestic gross national product (GNP), measured in billions of 1982 dollars, was up by 2.7 percent compared with 1986 GNP, and the index of industrial production rose 4 percent from 1986 to 1987.

Total U.S. energy production of 65 quadrillion Btu in 1987 was up 0.5 percent (Table 1.1) from the 1986 level, due to improvement during the second half of the year. (First-half 1987 production had been down 2 percent compared with first-half production in 1986.) U.S. consumption of all forms of energy combined rose to 76 quadrillion Btu, the highest level since 1979 and 2 percent above 1986 consumption. An 11-percent increase in net energy imports--to almost 12 quadrillion Btu for the year--was required to meet demand.

### Table 1.1 Energy Summary for December 1987
(Quadrillion ($10^{15}$) Btu)

| | December | | | Cumulative January Through December | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1987 | 1986 | Percent Change[a] | 1987 | 1987 Daily Rate | 1986 | 1986 Daily Rate | Percent Change[a] |
| **Total Production[b]** | **5.714** | **5.533** | **3.3** | **64.546** | **0.177** | **64.246** | **0.176** | **0.5** |
| Petroleum[c] | 1.692 | 1.687 | .3 | 19.820 | .054 | 20.525 | .056 | -3.4 |
| Natural Gas (Dry) | 1.581 | 1.517 | 4.2 | 16.836 | .046 | 16.471 | .045 | 2.2 |
| Coal | 1.747 | 1.612 | 8.3 | 20.121 | .055 | 19.510 | .053 | 3.1 |
| Other[d] | .694 | .717 | -3.2 | 7.768 | .021 | 7.740 | .021 | .4 |
| **Total Consumption[b]** | **7.093** | **6.887** | **3.0** | **75.981** | **.208** | **74.260** | **.203** | **2.3** |
| Petroleum[e] | 2.928 | 2.877 | 1.8 | 32.627 | .089 | 32.196 | .088 | 1.3 |
| Natural Gas[f] | 1.846 | 1.761 | 4.8 | 17.180 | .047 | 16.708 | .046 | 2.8 |
| Coal | 1.588 | 1.498 | 6.0 | 17.973 | .049 | 17.262 | .047 | 4.1 |
| Other[g] | .731 | .750 | -2.5 | 8.200 | .022 | 8.094 | .022 | 1.3 |
| **Net Imports** | **.956** | **1.008** | **-5.1** | **11.527** | **.032** | **10.378** | **.028** | **11.1** |
| Petroleum[h] | 1.014 | 1.058 | -4.1 | 12.224 | .033 | 11.531 | .032 | 6.0 |
| Natural Gas | .114 | .084 | 35.7 | .925 | .003 | .686 | .002 | 35.1 |
| Coal[i] | -.209 | -.167 | 25.1 | -2.053 | -.006 | -2.193 | -.006 | -6.4 |
| Other[j] | .037 | .033 | 12.4 | .432 | .001 | .354 | .001 | 22.1 |

[a]Based on daily rates prior to rounding.
[b]Production and consumption totals exclude wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
[c]Includes crude oil, lease condensate, and natural gas plant liquids.
[d]Other is hydroelectric and nuclear electric power, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[e]Includes petroleum products.
[f]Includes supplemental gaseous fuels.
[g]Other is hydroelectric and nuclear electric power; electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy; and net imports of electricity and coal coke.
[h]Includes crude oil, lease condensate, petroleum products, pentanes plus, unfinished oils, gasoline blending components, and imports of crude oil for the Strategic Petroleum Reserve.
[i]Minus sign indicates exports are greater than imports.
[j]Other is net imports of electricity and coal coke.
Note: Totals may not equal sum of components due to independent rounding.
Sources: Energy Information Administration (EIA), *Monthly Energy Review* Section 1 and EIA calculations.

## Production: Mixed Results

Although oil prices were higher and more stable than in 1986, they were still significantly below prices during the first half of the 1980's, when the highest annual average of composite refiner acquisition costs reached $35.24 per barrel (in 1981). The low price of oil continued to depress domestic oil production, which fell for the second consecutive year.

At 20 quadrillion Btu, domestic production of crude oil (including lease condensate and natural gas plant liquids) was down more than 3 percent from the 1986 level. Although increased production at Lisborne and Endicott fields boosted Alaskan production to a record high, production in the lower 48 States suffered the effects of deferred well maintenance, shut-ins, and a decreasing number of new well completions.

In contrast, production of the other two major fossil fuels increased during 1987. Coal production reached a record high of over 20 quadrillion Btu, surpassing production of crude oil (including lease condensate and natural gas plant liquids) for the first time since the early 1950's. Natural gas production totaled 17 quadrillion Btu in 1987, up 2 percent from the 1986 level.

Nuclear-based electricity generation reached an all-time high of 455 billion kilowatthours in 1987. Coal-fired generation increased by 6 percent, to 1.5 trillion kilowatthours, as competition from cheaply priced heavy oil eased. Coal-fired generation continued to account for over half of total electricity generation from all sources.

In contrast to nuclear-based and coal-fired generation, oil-fired electricity generation declined. The decline, the eighth in the past 9 years, was spurred by a large increase in residual fuel oil prices.

## Continued Growth in Demand

Domestic energy demand grew for the second consecutive year, bringing total energy consumption for 1987 to 76 quadrillion Btu, up 2 percent from the 1986 level. Year-to-year increases in demand for all three major fuels contributed to the growth. On a percentage basis, coal consumption increased the most, up 4 percent to 18 quadrillion Btu. Natural gas consumption rose 3 percent, to 17 quadrillion Btu. Petroleum consumption increased the least--1 percent--but, at 33 quadrillion Btu for the year, continued to account for by far the largest share of the total.

During 1987, the energy intensity of the economy continued its decade-long decline as growth in energy consumption lagged behind growth in the domestic economy. Energy consumption per dollar of GNP averaged 19.9 thousand Btu per 1982 dollar in 1987. The ratio in 1986 was 20.0 thousand Btu per 1982 dollar. By comparison, the ratio a decade earlier, in 1977, was 25.8 thousand Btu per 1982 dollar.

## Slower Growth in Imports

The partial recovery in oil prices contributed to a slower rate of growth in the levels of net energy imports. Net imports of all forms of energy combined rose 11 percent in 1987 compared with 1986, whereas the previous year-to-year increase was 32 percent. However, the level of imports for the year--almost 12 quadrillion Btu--spurred concern about dependence on foreign sources of supply.

Changes in the trade of all three major energy sources contributed to the growth in net imports. Petroleum net imports rose 6 percent, natural gas net imports rose 35 percent, and coal net exports fell 6 percent.

Due to the increase in both the cost and volume of energy imports, the energy trade deficit in 1987 totaled $36.5 billion, about $7 billion higher than the deficit recorded in 1986.

Net imports of petroleum reached 5.8 million barrels per day in 1987, the highest level in 7 years and a 0.3-million-barrel-per-day increase from the 1986 level. However, petroleum net imports were still lower than the all-time high of 8.6 million barrels per day reached in 1977.

Crude oil net imports rose from 4.0 million barrels per day to 4.5 million barrels per day, while petroleum product net imports registered a small decline--from 1.4 million barrels per day to 1.3 million barrels per day.

U.S. reliance on foreign sources of oil increased in 1987, although at a slower rate than in 1986. Petroleum net imports from all countries rose to 35 percent of U.S. petroleum products supplied, up from 33 percent in 1986 and 27 percent in 1985.

Petroleum imports from all members of the Organization of Petroleum Exporting Countries (OPEC) in 1987 averaged 3.0 million barrels per day and accounted for about half of all petroleum imports into the United States during the year. Net imports from OPEC equaled 18 percent of U.S. petroleum products supplied in 1987, up from 17 percent the year before and 12 percent in 1985.

Petroleum imports from Arab members alone averaged 1.3 million barrels per day, up from 1.2 million barrels per day in 1986. Arab OPEC supplied the equivalent

of almost 8 percent of petroleum consumption, up from 7 percent in 1986 and 3 percent in 1985.

## Energy Price Adjustments

Higher crude oil prices--stabilized in part by OPEC's closer adherence to production quotas during much of the year--resulted in increases in the average prices of most petroleum products in 1987. In contrast, prices of natural gas and coal declined.

### *Motor Gasoline*

Demand for motor gasoline was strong and prices roughly paralleled crude oil prices, which increased from January through August and then began to decline somewhat. The price of unleaded regular motor gasoline averaged $0.95 per gallon in 1987. It rose from $0.86 in January 1987 to $1.00 in August before falling off during the last 4 months of the year. Leaded regular and unleaded premium followed similar courses, peaking in August at $0.95 and $1.14, respectively, and averaging $0.90 and $1.09 for the year. The price difference between leaded regular and unleaded regular narrowed from 7 cents in 1986 to 5 cents in 1987.

### *Residual Fuel Oil*

After a precipitous fall from $0.61 per gallon in 1985 to $0.34 in 1986, the average price of residual fuel oil sold to end users climbed to $0.42. The 23-percent price increase, coupled with declines in the prices of competing fuels, led to a noticeable drop in demand.

### *Natural Gas*

In contrast to oil prices, both city-gate and end-use prices of natural gas were lower in 1987 than in 1986. The city-gate price of natural gas averaged $2.87 per thousand cubic feet in 1987, down 11 percent from the city-gate price in 1986.

Price savings to natural gas consumers varied by end-use sector. Industrial consumers, who use the largest quantities of natural gas and pay the second-lowest rates, paid 16 percent less for natural gas in 1987 than in 1986. Commercial consumers, on the other hand, paid only 6 percent less. The average price of natural gas sold to residential consumers declined only about 5 percent, down from $5.83 per thousand cubic feet in 1986 to $5.56 per thousand cubic feet in 1987.

### *Fuels at Electric Utilties*

The average cost of fossil fuels delivered to steam-electric utility plants for the first 11 months of 1987 (most recent available data) was down 3 percent from the same period of 1986. Declines in the prices of coal and natural gas more than offset a 26-percent increase in the price of heavy oil, which accounts for only a small proportion of electricity generation.

### *Electricity*

At about 7 cents per kilowatthour, the average retail price of electricity to residential customers in 1987 was essentially unchanged from the previous-year level. On a dollar-per-Btu basis, electricity remained one of the most expensive sources of energy.

## The Outlook: Petroleum Demand Expected To Grow

In the *Short-Term Energy Outlook*, published by the Energy Information Administration (EIA) in January 1988, world oil prices are projected to average $16 per barrel during the first quarter of 1988 and $17.30 for the year. The downward revision to prices since the last forecast comes as a result of overproduction of oil by OPEC late in 1987.

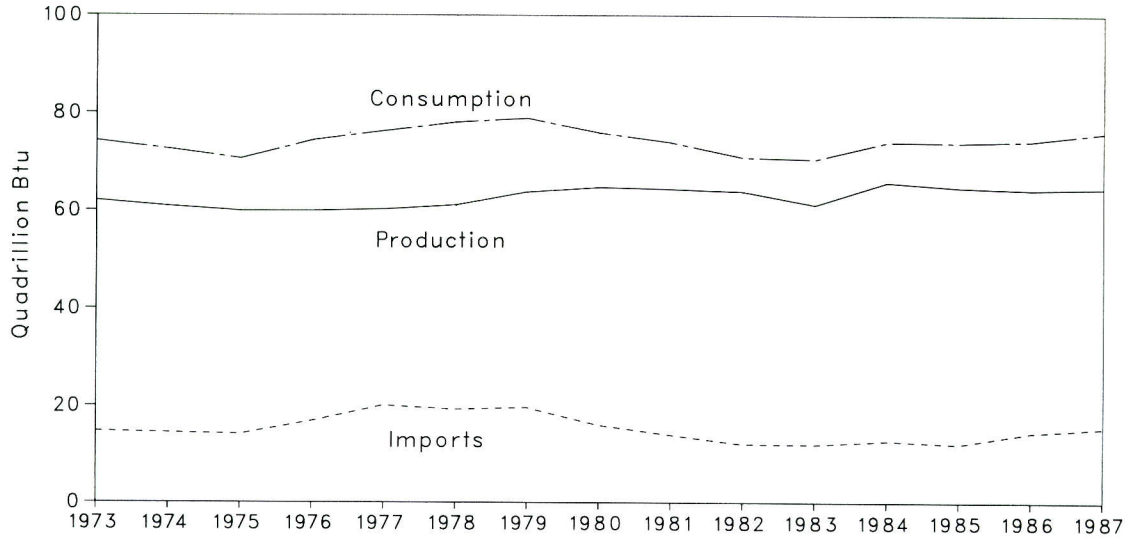
Relatively low oil prices tend to depress domestic production and, at the same time, to encourage consumption and a resulting increase in imports. Domestic crude oil production is projected to decline to 8.2 million barrels per day in 1988, down 0.1 million barrels per day from the 1987 level. That rate of decline is slower than the rate of decline for 1986 and 1987.

Similarly, petroleum demand is expected to grow at a lower rate of increase than during the previous 2 years. Petroleum demand is expected to reach almost 17 million barrels per day, up 1 percent from the 1987 level.

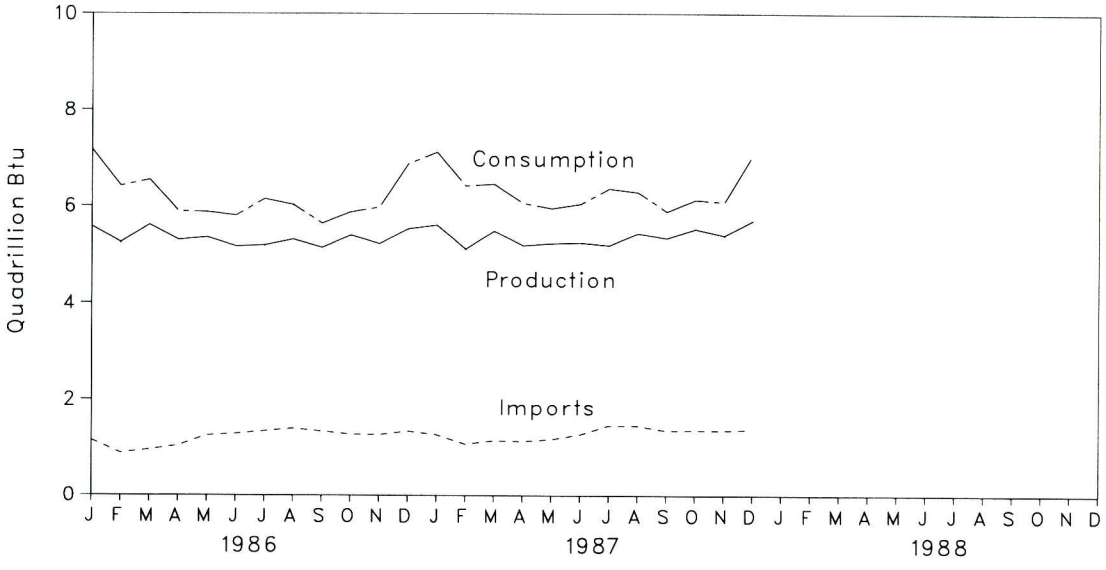
Increases in petroleum net imports are projected to keep pace with the production shortfall. Petroleum net imports are expected to reach 6 million barrels per day, the equivalent of 36 percent of projected petroleum consumption. By comparison, petroleum net imports in 1977 (when imports peaked) equaled 46 percent of consumption.

## Figure 1.1 Energy Overview

Yearly




Monthly



# Table 1.2 Energy Overview[a]
(Quadrillion ($10^{15}$) Btu)

| | Production[b] | Consumption[b] [c] | Imports | Exports | Net Imports |
|---|---|---|---|---|---|
| **1973 Total** | **62.059** | **74.282** | **14.731** | **2.051** | **12.680** |
| **1974 Total** | **60.836** | **72.543** | **14.413** | **2.223** | **12.190** |
| **1975 Total** | **59.860** | **70.545** | **14.111** | **2.359** | **11.752** |
| **1976 Total** | **59.891** | **74.362** | **16.837** | **2.188** | **14.648** |
| **1977 Total** | **60.218** | **76.289** | **20.090** | **2.071** | **18.019** |
| **1978 Total** | **61.103** | **78.089** | **19.254** | **1.931** | **17.323** |
| **1979 Total** | **63.801** | **78.897** | **19.616** | **2.870** | **16.746** |
| **1980 Total** | **64.761** | **75.955** | **15.971** | **3.723** | **12.247** |
| **1981 Total** | R **64.421** | R **73.990** | **13.975** | **4.329** | **9.646** |
| **1982 Total** | **63.889** | R **70.837** | **12.091** | **4.632** | **7.459** |
| **1983 Total** | R **61.190** | R **70.497** | **12.025** | **3.716** | **8.309** |
| **1984 Total** | R **65.810** | R **74.060** | **12.758** | **3.804** | **8.954** |
| **1985** January | R 5.562 | 7.162 | .926 | .305 | .621 |
| February | 5.190 | 6.686 | .756 | .306 | .450 |
| March | R 5.594 | 6.368 | .971 | .318 | .653 |
| April | 5.359 | 5.891 | 1.034 | .332 | .702 |
| May | 5.507 | 5.783 | 1.145 | .381 | .764 |
| June | 5.267 | 5.671 | .960 | .342 | .618 |
| July | 5.274 | 5.973 | .994 | .328 | .666 |
| August | 5.458 | 6.046 | .959 | .420 | .539 |
| September | 5.258 | R 5.570 | .964 | .364 | .600 |
| October | R 5.490 | R 5.845 | 1.029 | .365 | .664 |
| November | 5.215 | 5.887 | 1.170 | .406 | .764 |
| December | 5.591 | 7.063 | 1.189 | .368 | .821 |
| **Total** | R **64.764** | R **73.944** | **12.098** | **4.232** | **7.866** |
| **1986** January | R 5.775 | R 7.175 | 1.145 | .320 | .825 |
| February | 5.247 | R 6.417 | .875 | .291 | .584 |
| March | 5.612 | R 6.546 | .943 | .313 | .630 |
| April | 5.296 | R 5.888 | 1.028 | .380 | .648 |
| May | 5.350 | R 5.877 | 1.242 | .365 | .877 |
| June | 5.167 | R 5.803 | 1.275 | .315 | .960 |
| July | R 5.192 | R 6.146 | 1.336 | .338 | .998 |
| August | R 5.312 | R 6.024 | 1.389 | .374 | 1.015 |
| September | R 5.142 | R 5.642 | 1.333 | .347 | .986 |
| October | 5.396 | R 5.878 | 1.268 | .352 | .916 |
| November | 5.222 | R 5.978 | 1.261 | .331 | .929 |
| December | R 5.533 | R 6.887 | 1.336 | .329 | 1.008 |
| **Total** | R **64.246** | R **74.260** | **14.432** | **4.055** | **10.378** |
| **1987** January | R 5.610 | R 7.123 | R 1.263 | R .303 | R .960 |
| February | R 5.117 | R 6.427 | R 1.068 | R .292 | R .776 |
| March | R 5.487 | R 6.462 | R 1.138 | R .319 | R .819 |
| April | R 5.192 | R 6.064 | R 1.127 | R .329 | R .799 |
| May | R 5.235 | R 5.959 | R 1.169 | R .303 | R .866 |
| June | R 5.251 | R 6.048 | R 1.266 | R .321 | R .945 |
| July | R 5.198 | R 6.375 | R 1.454 | R .310 | R 1.143 |
| August | R 5.446 | R 6.297 | R 1.454 | R .335 | R 1.119 |
| September | R 5.350 | R 5.900 | R 1.353 | R .322 | R 1.031 |
| October | R 5.541 | R 6.140 | R 1.382 | R .299 | R 1.083 |
| November | R 5.407 | 6.093 | R 1.358 | R .328 | R 1.030 |
| December | 5.714 | 7.093 | 1.373 | .417 | .956 |
| **Total** | **64.546** | **75.981** | **15.406** | **3.879** | **11.527** |

[a]For definitions, see Notes at end of section.

[b]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

[c]The sum of domestic energy production and net imports of energy does not equal domestic energy consumption. The difference is attributed to stock changes; losses and gains in conversion, transportation, and distribution; the addition of blending compounds; shipments of anthracite to U.S. Armed Forces in Europe; and adjustments to account for discrepancies between reporting systems.

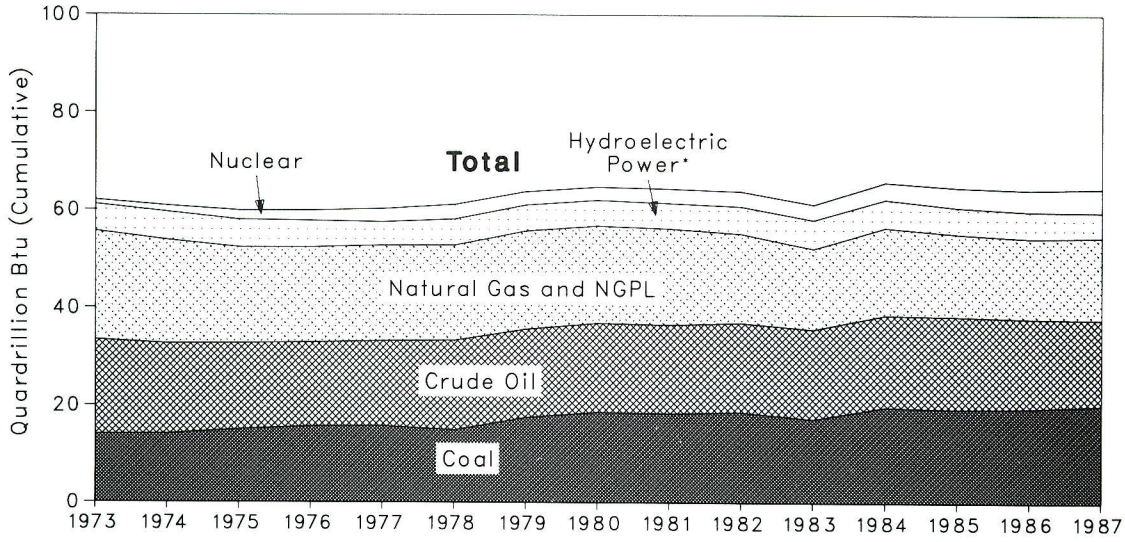
R=Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

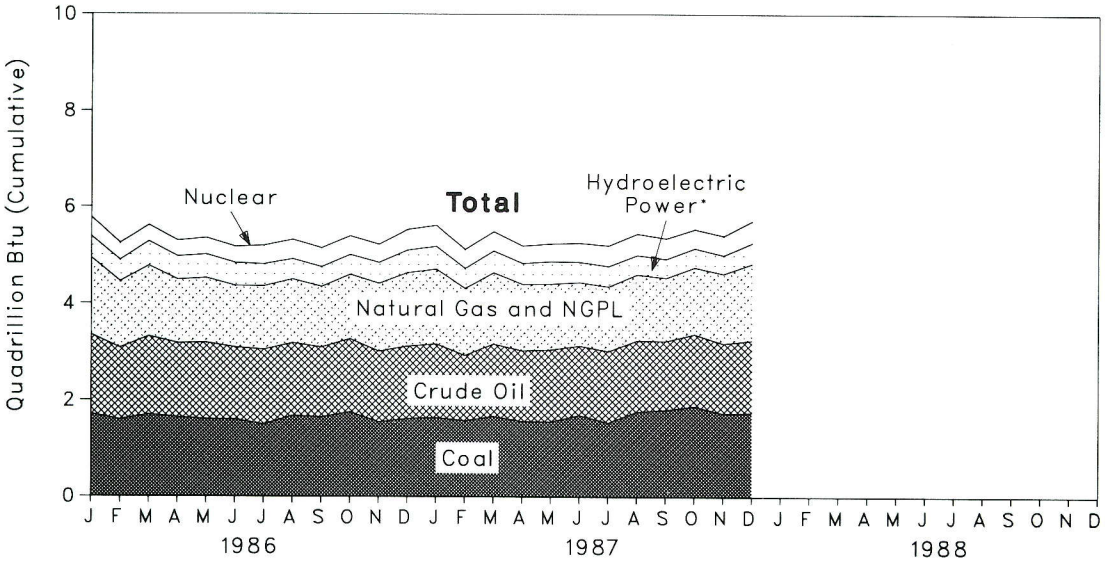
Source: Energy Information Administration calculations based on data appearing elsewhere in this publication.

## Figure 1.2 Production of Energy by Source

Yearly




Monthly




*Includes other.

# Table 1.3 Production of Energy by Source
(Quadrillion ($10^{15}$) Btu)

| | Coal | Crude Oil[a] | NGPL[b] | Natural Gas (Dry) | Hydro-electric Power[c] | Nuclear Electric Power | Other[d] | Total[e] | Year to Date |
|---|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **13.993** | **19.493** | **2.569** | **22.187** | **2.861** | **0.910** | **0.046** | **62.059** | |
| **1974 Total** | **14.074** | **18.575** | **2.471** | **21.210** | **3.177** | **1.272** | **.056** | **60.836** | |
| **1975 Total** | **14.990** | **17.729** | **2.374** | **19.640** | **3.155** | **1.900** | **.072** | **59.860** | |
| **1976 Total** | **15.654** | **17.262** | **2.327** | **19.480** | **2.976** | **2.111** | **.081** | **59.891** | |
| **1977 Total** | **15.755** | **17.454** | **2.327** | **19.565** | **2.333** | **2.702** | **.082** | **60.218** | |
| **1978 Total** | **14.910** | **18.434** | **2.245** | **19.485** | **2.937** | **3.024** | **.068** | **61.103** | |
| **1979 Total** | **17.539** | **18.104** | **2.286** | **20.076** | **2.931** | **2.776** | **.089** | **63.801** | |
| **1980 Total** | **18.597** | **18.249** | **2.254** | **19.908** | **2.900** | **2.739** | **.114** | **64.761** | |
| **1981 Total** | **R 18.376** | **18.146** | **2.307** | **19.699** | **2.758** | **3.008** | **.127** | **R 64.421** | |
| **1982 Total** | **18.639** | **18.309** | **2.191** | **18.255** | **3.256** | **3.131** | **.108** | **63.889** | |
| **1983 Total** | **R 17.246** | **18.392** | **2.184** | **16.530** | **3.502** | **3.203** | **.133** | **R 61.190** | |
| **1984 Total** | **R 19.719** | **18.848** | **2.274** | **17.931** | **3.312** | **3.553** | **.174** | **R 65.810** | |
| **1985** January | 1.493 | 1.571 | .192 | 1.609 | .288 | .391 | .018 | R 5.562 | R 5.562 |
| February | R 1.470 | 1.466 | .173 | 1.461 | .270 | .333 | .016 | 5.190 | R 10.752 |
| March | R 1.700 | 1.635 | .189 | 1.458 | .258 | .336 | .018 | R 5.594 | R 16.347 |
| April | 1.674 | 1.574 | .181 | 1.374 | .255 | .286 | .016 | 5.359 | R 21.706 |
| May | R 1.714 | 1.642 | .188 | 1.359 | .277 | .310 | .016 | 5.507 | R 27.213 |
| June | 1.602 | 1.570 | .183 | 1.314 | .250 | .333 | .016 | 5.267 | R 32.480 |
| July | 1.514 | 1.609 | .185 | 1.345 | .223 | .380 | .018 | 5.274 | R 37.754 |
| August | R 1.741 | 1.583 | .189 | 1.342 | .209 | .376 | .018 | 5.458 | R 43.212 |
| September | 1.618 | 1.558 | .180 | 1.315 | .196 | .373 | .017 | 5.258 | R 48.469 |
| October | 1.753 | 1.613 | .190 | 1.370 | .209 | .337 | .017 | R 5.490 | R 53.959 |
| November | 1.515 | 1.549 | .190 | 1.375 | .240 | .326 | .021 | 5.215 | R 59.174 |
| December | 1.531 | 1.624 | .199 | 1.586 | .265 | .365 | .022 | 5.591 | R 64.765 |
| **Total** | **R 19.325** | **18.992** | **2.241** | **16.906** | **2.939** | **4.147** | **.213** | **R 64.764** | |
| **1986** January | R 1.711 | 1.643 | .201 | 1.582 | .224 | .391 | .023 | R 5.775 | R 5.775 |
| February | R 1.588 | 1.490 | .180 | 1.373 | .242 | .354 | .019 | 5.247 | R 11.022 |
| March | 1.696 | 1.621 | .189 | 1.457 | .297 | .333 | .020 | 5.612 | R 16.634 |
| April | R 1.636 | 1.542 | .173 | 1.309 | .287 | .329 | .018 | 5.296 | R 21.930 |
| May | 1.598 | 1.589 | .182 | 1.334 | .284 | .345 | .018 | 5.350 | R 27.279 |
| June | 1.587 | 1.500 | .171 | 1.276 | .274 | .339 | .020 | 5.167 | R 32.446 |
| July | R 1.481 | 1.557 | .177 | 1.316 | .251 | .388 | .021 | R 5.192 | R 37.639 |
| August | 1.672 | 1.506 | .170 | 1.317 | .221 | .405 | .021 | R 5.312 | R 42.951 |
| September | 1.639 | 1.449 | .167 | 1.254 | .220 | .395 | .018 | R 5.142 | R 48.093 |
| October | 1.751 | 1.514 | .174 | 1.327 | .222 | .391 | .017 | 5.396 | R 53.489 |
| November | 1.538 | 1.464 | .179 | 1.407 | .241 | .378 | .015 | 5.222 | R 58.711 |
| December | R 1.612 | 1.502 | .185 | 1.517 | .270 | .426 | .020 | R 5.533 | R 64.245 |
| **Total** | **R 19.510** | **18.376** | **2.149** | **16.471** | **3.034** | **4.475** | **.232** | **R 64.246** | |
| **1987** January | R 1.635 | 1.524 | R .188 | 1.545 | .265 | .432 | .020 | R 5.610 | R 5.610 |
| February | R 1.569 | 1.351 | .173 | 1.387 | .221 | .396 | .019 | R 5.117 | R 10.726 |
| March | R 1.661 | 1.501 | R .190 | 1.469 | .243 | .403 | .021 | R 5.487 | R 16.213 |
| April | R 1.555 | 1.466 | R .183 | 1.376 | .230 | .362 | .019 | R 5.192 | R 21.405 |
| May | R 1.549 | 1.493 | .188 | 1.360 | .253 | .371 | .020 | R 5.235 | R 26.640 |
| June | R 1.688 | 1.438 | .181 | 1.309 | .218 | .395 | .021 | R 5.251 | R 31.891 |
| July | R 1.528 | 1.482 | .187 | 1.339 | .211 | .428 | .022 | R 5.198 | R 37.088 |
| August | R 1.767 | 1.473 | .186 | 1.359 | .193 | .447 | .022 | R 5.446 | R 42.534 |
| September | R 1.806 | 1.425 | .181 | 1.299 | .190 | .429 | .020 | R 5.350 | R 47.884 |
| October | R 1.881 | 1.491 | R .190 | 1.377 | .187 | .394 | .020 | R 5.541 | R 53.425 |
| November | R 1.734 | 1.449 | .187 | R 1.436 | .176 | .405 | .020 | R 5.407 | R 58.832 |
| December | 1.747 | 1.500 | .192 | 1.581 | .220 | .454 | .020 | 5.714 | 64.546 |
| **Total** | **20.121** | **17.593** | **2.226** | **16.836** | **2.609** | **4.915** | **.245** | **64.546** | |

[a]Includes lease condensate.
[b]Natural gas plant liquids.
[c]Includes industrial and utility production of hydroelectric power.
[d]Other is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[e]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

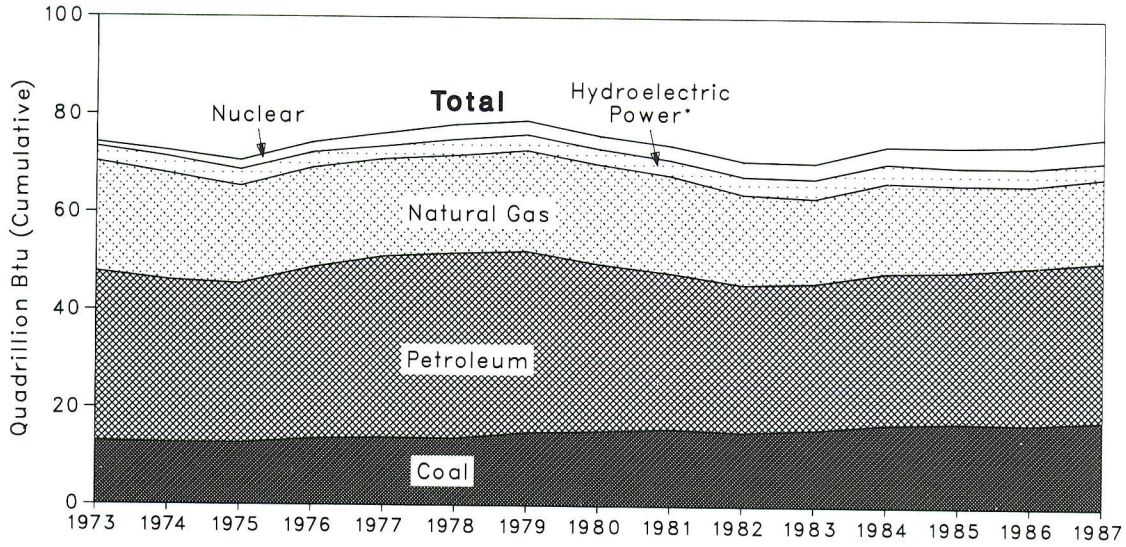
R = Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

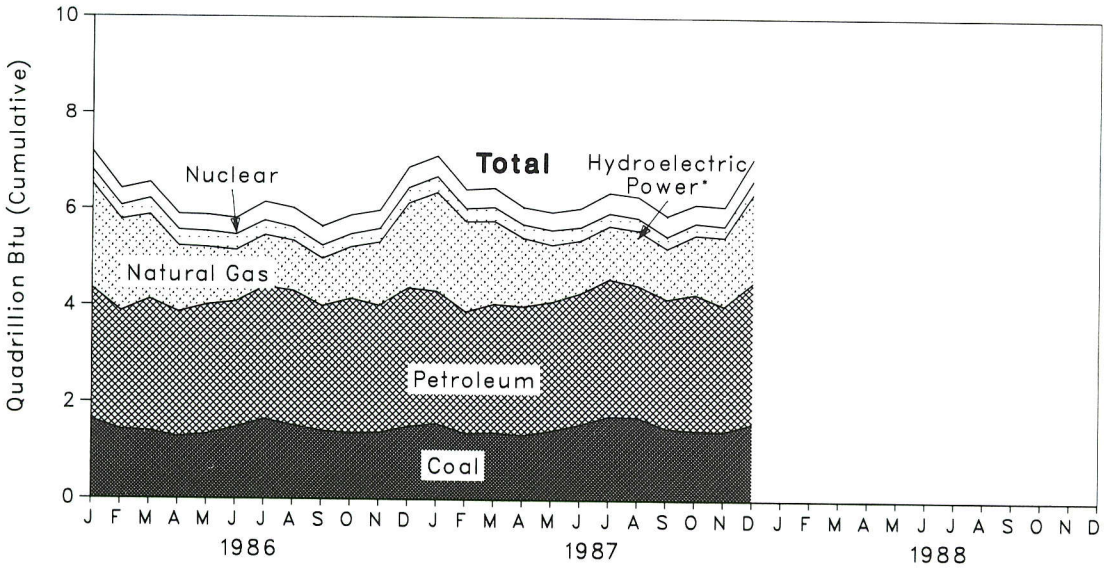
Source: Energy Information Administration calculations based on data appearing elsewhere in this publication.

## Figure 1.3 Consumption of Energy by Source

Yearly




Monthly




*Includes other.

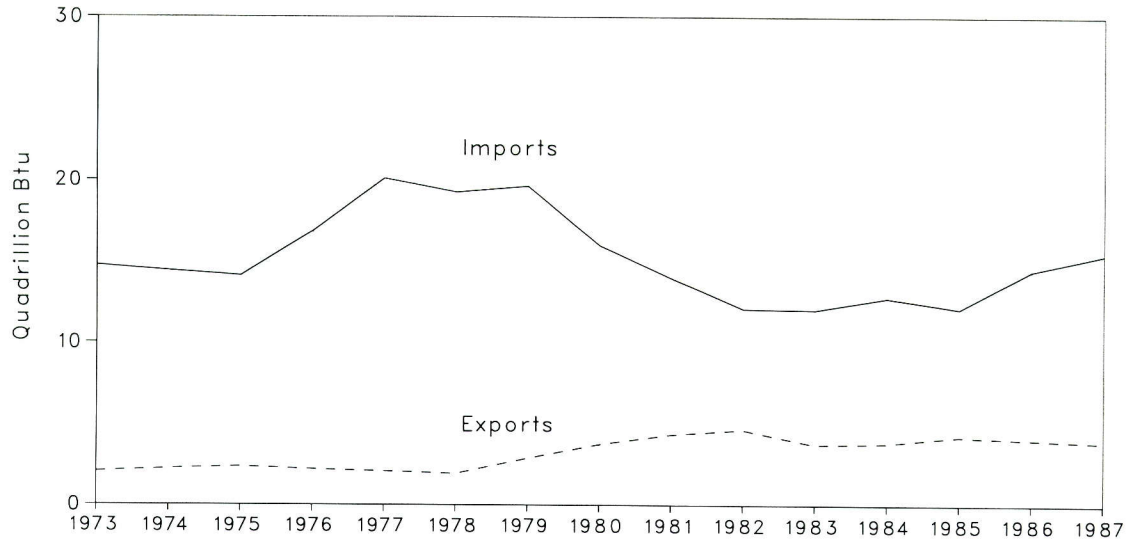
# Table 1.4 Consumption of Energy by Source
(Quadrillion ($10^{15}$) Btu)

| | Coal | Natural Gas[a] | Petroleum | Hydroelectric Power[b] | Nuclear Electric Power | Other[c] | Total[d] | Year to Date |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **12.971** | **22.512** | **34.840** | **3.010** | **0.910** | **0.039** | **74.282** | |
| **1974 Total** | **12.663** | **21.732** | **33.455** | **3.309** | **1.272** | **.112** | **72.543** | |
| **1975 Total** | **12.663** | **19.948** | **32.731** | **3.219** | **1.900** | **.086** | **70.545** | |
| **1976 Total** | **13.584** | **20.345** | **35.175** | **3.065** | **2.111** | **.081** | **74.362** | |
| **1977 Total** | **13.922** | **19.931** | **37.122** | **2.515** | **2.702** | **.097** | **76.289** | |
| **1978 Total** | **13.765** | **20.000** | **37.965** | **3.142** | **3.024** | **.193** | **78.089** | |
| **1979 Total** | **15.039** | **20.666** | **37.123** | **3.141** | **2.776** | **.152** | **78.897** | |
| **1980 Total** | **15.423** | **20.394** | **34.202** | **3.118** | **2.739** | **.079** | **75.955** | |
| **1981 Total** | **R 15.907** | **19.928** | **31.931** | **3.105** | **3.008** | **.111** | **R 73.990** | |
| **1982 Total** | **15.322** | **18.505** | **30.231** | **3.561** | **3.131** | **.086** | **R 70.837** | |
| **1983 Total** | **R 15.894** | **17.357** | **30.054** | **3.871** | **3.203** | **.118** | **R 70.497** | |
| **1984 Total** | **R 17.070** | **18.507** | **31.051** | **3.717** | **3.553** | **.163** | **R 74.060** | |
| **1985** January | R 1.599 | 2.146 | 2.690 | .317 | .391 | .018 | 7.162 | 7.162 |
| February | R 1.405 | 2.203 | 2.432 | .295 | .333 | .017 | 6.686 | R 13.847 |
| March | 1.386 | 1.766 | 2.567 | .295 | .336 | .018 | 6.368 | R 20.215 |
| April | R 1.319 | 1.484 | 2.500 | .285 | .286 | .016 | 5.891 | R 26.106 |
| May | R 1.384 | 1.175 | 2.589 | .310 | .310 | .013 | 5.783 | R 31.889 |
| June | 1.431 | 1.104 | 2.502 | .287 | .333 | .014 | 5.671 | R 37.560 |
| July | 1.585 | 1.148 | 2.577 | .267 | .380 | .016 | 5.973 | R 43.533 |
| August | 1.562 | 1.153 | 2.682 | .256 | .376 | .017 | 6.046 | R 49.579 |
| September | 1.425 | 1.084 | 2.440 | .234 | .373 | .015 | R 5.570 | R 55.149 |
| October | R 1.389 | 1.196 | 2.663 | .245 | .337 | .015 | R 5.845 | R 60.994 |
| November | 1.386 | 1.379 | 2.505 | .273 | .326 | .018 | 5.887 | R 66.881 |
| December | 1.607 | 1.997 | 2.774 | .299 | .365 | .021 | 7.063 | R 73.944 |
| **Total** | **R 17.478** | **17.834** | **30.922** | **3.363** | **4.147** | **.199** | **R 73.944** | |
| **1986** January | R 1.628 | 2.169 | R 2.702 | .261 | .391 | .023 | R 7.175 | R 7.175 |
| February | 1.415 | 1.904 | R 2.455 | .270 | .354 | .019 | R 6.417 | R 13.592 |
| March | 1.385 | 1.754 | R 2.734 | .321 | .333 | .019 | R 6.546 | R 20.138 |
| April | 1.265 | 1.373 | R 2.592 | .312 | .329 | .018 | R 5.888 | R 26.025 |
| May | R 1.321 | 1.196 | R 2.686 | .313 | .345 | .016 | R 5.877 | R 31.903 |
| June | 1.464 | 1.070 | R 2.609 | .302 | .339 | .020 | R 5.803 | R 37.705 |
| July | 1.648 | 1.070 | R 2.739 | .282 | .388 | .019 | R 6.146 | R 43.852 |
| August | 1.515 | 1.037 | R 2.791 | .260 | .405 | .016 | R 6.024 | R 49.876 |
| September | R 1.401 | .987 | R 2.586 | .255 | .395 | .017 | R 5.642 | R 55.518 |
| October | 1.356 | 1.072 | R 2.789 | .253 | .391 | .017 | R 5.878 | R 61.396 |
| November | 1.367 | 1.314 | R 2.637 | .271 | .378 | .012 | R 5.978 | R 67.374 |
| December | 1.498 | 1.761 | R 2.877 | .304 | .426 | .020 | R 6.887 | R 74.261 |
| **Total** | **R 17.262** | **16.708** | **R 32.196** | **3.405** | **4.475** | **.215** | **R 74.260** | |
| **1987** January | R 1.564 | 2.058 | R 2.742 | .308 | .432 | .019 | R 7.123 | R 7.123 |
| February | R 1.358 | 1.873 | R 2.528 | .253 | .396 | .020 | R 6.427 | R 13.550 |
| March | R 1.373 | 1.724 | R 2.672 | .271 | .403 | .019 | R 6.462 | R 20.012 |
| April | R 1.324 | 1.428 | R 2.673 | .258 | .362 | .020 | R 6.064 | R 26.076 |
| May | R 1.420 | 1.187 | R 2.674 | .287 | .371 | .021 | R 5.959 | R 32.035 |
| June | R 1.554 | 1.102 | R 2.723 | .250 | .395 | .023 | R 6.048 | R 38.083 |
| July | R 1.732 | 1.102 | R 2.845 | .246 | .428 | .022 | R 6.375 | R 44.458 |
| August | R 1.721 | 1.137 | R 2.732 | .238 | .447 | .022 | R 6.297 | R 50.755 |
| September | R 1.485 | 1.056 | R 2.678 | .229 | .429 | .024 | R 5.900 | R 56.656 |
| October | R 1.435 | 1.235 | R 2.830 | .223 | .394 | .022 | R 6.140 | R 62.795 |
| November | R 1.420 | R 1.435 | R 2.602 | .210 | .405 | .022 | 6.093 | R 68.889 |
| December | 1.588 | 1.846 | 2.928 | .259 | .454 | .019 | 7.093 | 75.982 |
| **Total** | **17.973** | **17.180** | **32.627** | **3.032** | **4.915** | **.253** | **75.981** | |

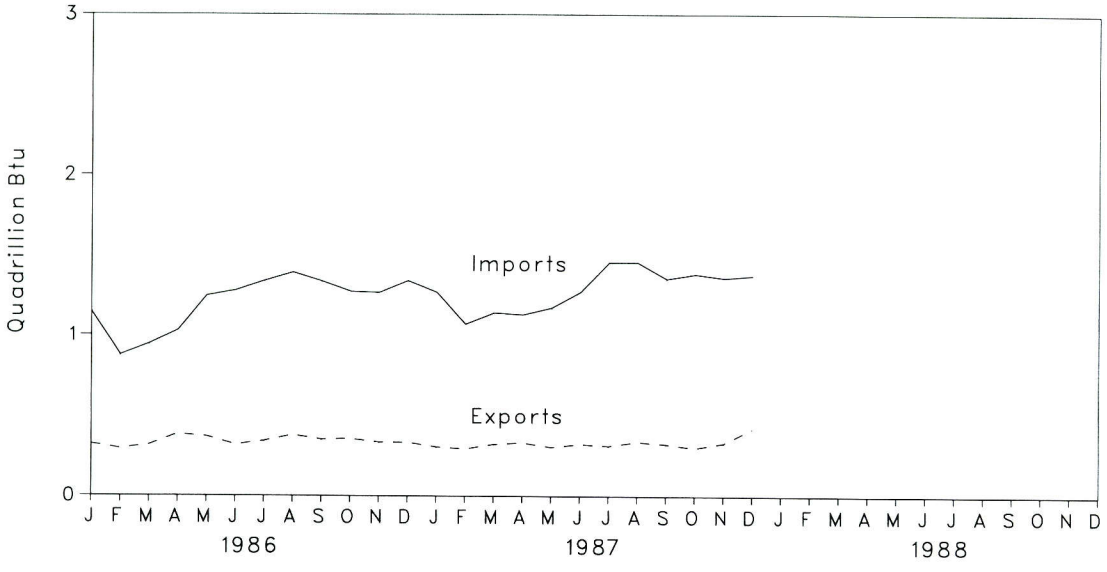
[a]Includes supplemental gaseous fuels.
[b]Includes industrial and utility production and net imports of electricity.
[c]Other is net imports of coal coke and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[d]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
R = Revised data.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Source: Energy Information Administration calculations based on data appearing elsewhere in this publication.

## Figure 1.4 Energy Imports and Exports

Yearly




Monthly



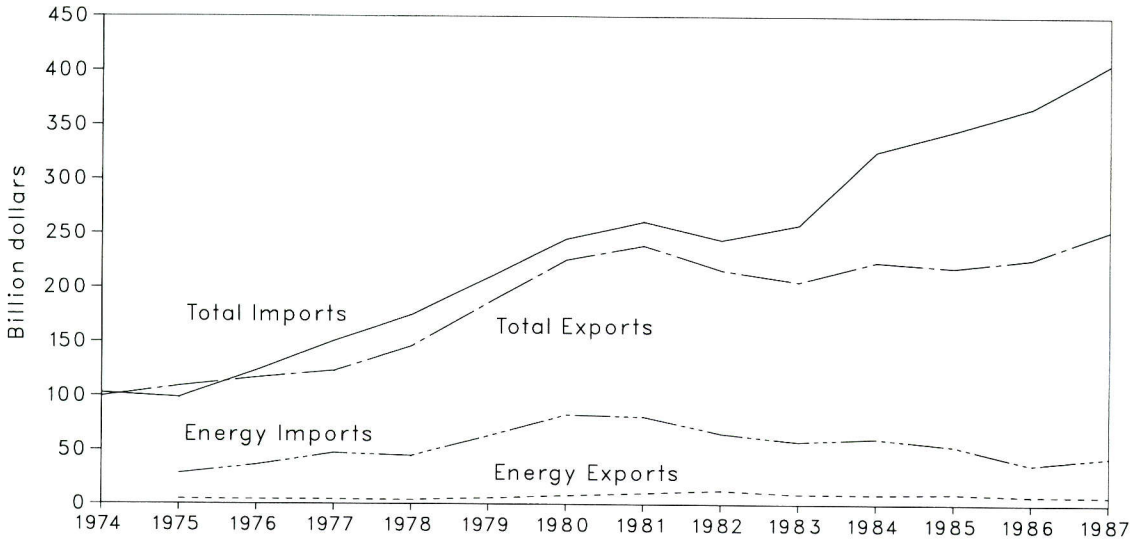
# Table 1.5 Net Imports[a] of Energy by Source
(Quadrillion ($10^{15}$) Btu)

| | Coal | Crude Oil[b] | Petroleum Products[c] | Natural Gas | Electricity[d] | Coal Coke | Total | Year to Date |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **-1.422** | **6.883** | **6.097** | **0.981** | **0.148** | **-0.007** | **12.680** | |
| **1974 Total** | **-1.568** | **7.389** | **5.273** | **.907** | **.133** | **.056** | **12.190** | |
| **1975 Total** | **-1.738** | **8.708** | **3.800** | **.904** | **.064** | **.014** | **11.752** | |
| **1976 Total** | **-1.567** | **11.221** | **3.982** | **.922** | **.089** | **0** | **14.648** | |
| **1977 Total** | **-1.401** | **13.921** | **4.321** | **.981** | **.182** | **.015** | **18.019** | |
| **1978 Total** | **-1.004** | **13.125** | **3.932** | **.941** | **.204** | **.125** | **17.323** | |
| **1979 Total** | **-1.702** | **13.328** | **3.603** | **1.243** | **.211** | **.063** | **16.746** | |
| **1980 Total** | **-2.391** | **10.586** | **2.912** | **.957** | **.217** | **-.035** | **12.247** | |
| **1981 Total** | **-2.918** | **8.854** | **2.522** | **.857** | **.347** | **-.016** | **9.646** | |
| **1982 Total** | **-2.768** | **6.917** | **2.128** | **.898** | **.306** | **-.022** | **7.459** | |
| **1983 Total** | **-2.013** | **6.731** | **2.351** | **.887** | **.369** | **-.016** | **8.309** | |
| **1984 Total** | **-2.119** | **6.918** | **2.970** | **.792** | **.405** | **-.011** | **8.954** | |
| **1985** January | -.150 | .465 | .177 | .099 | .030 | 0 | .621 | 0.621 |
| February | -.156 | .308 | .178 | .094 | .025 | .001 | .450 | 1.071 |
| March | -.174 | .470 | .235 | .084 | .038 | 0 | .653 | 1.724 |
| April | -.181 | .554 | .228 | .071 | .030 | .001 | .702 | 2.427 |
| May | -.239 | .629 | .271 | .071 | .034 | -.003 | .764 | 3.191 |
| June | -.205 | .519 | .210 | .060 | .037 | -.002 | .618 | 3.809 |
| July | -.188 | .551 | .208 | .053 | .044 | -.002 | .666 | 4.475 |
| August | -.268 | .520 | .185 | .056 | .047 | -.001 | .539 | 5.014 |
| September | -.208 | .519 | .196 | .058 | .038 | -.003 | .600 | 5.614 |
| October | -.227 | .563 | .223 | .071 | .035 | -.001 | .664 | 6.278 |
| November | -.211 | .650 | .223 | .072 | .033 | -.003 | .764 | 7.043 |
| December | -.183 | .633 | .237 | .101 | .034 | -.001 | .821 | 7.863 |
| **Total** | **-2.389** | **6.381** | **2.570** | **.894** | **.423** | **-.013** | **7.866** | |
| **1986** January | -.152 | .607 | .240 | .094 | .037 | 0 | .825 | .825 |
| February | -.130 | .464 | .152 | .071 | .028 | 0 | .584 | 1.409 |
| March | -.159 | .509 | .206 | .050 | .025 | -.001 | .630 | R 2.039 |
| April | -.213 | .636 | .164 | .037 | .025 | 0 | .648 | 2.687 |
| May | -.220 | .760 | .262 | .049 | .029 | -.003 | .877 | 3.564 |
| June | -.188 | .779 | .303 | .038 | .028 | 0 | .960 | 4.524 |
| July | -.200 | .853 | .274 | .042 | .031 | -.002 | .998 | 5.522 |
| August | -.199 | .847 | .288 | .045 | .039 | -.006 | 1.015 | R 6.536 |
| September | -.211 | .863 | .250 | .049 | .035 | 0 | .986 | R 7.522 |
| October | -.187 | .782 | .227 | .064 | .031 | -.001 | .916 | 8.439 |
| November | -.167 | .797 | .210 | .064 | .029 | -.003 | .929 | R 9.368 |
| December | -.167 | .779 | .279 | .084 | .034 | -.001 | 1.008 | 10.376 |
| **Total** | **-2.193** | **8.676** | **2.855** | **.686** | **.370** | **-.017** | **10.378** | |
| **1987** January | -.141 | .785 | R .179 | .096 | E .042 | -.001 | R .960 | R .960 |
| February | -.120 | .595 | R .192 | .076 | E .032 | .001 | R .776 | R 1.736 |
| March | R -.168 | .655 | R .223 | .082 | E .028 | -.002 | R .819 | R 2.555 |
| April | -.158 | .686 | R .179 | .064 | E .028 | 0 | R .799 | R 3.354 |
| May | -.169 | .764 | R .183 | .055 | E .033 | 0 | R .866 | R 4.220 |
| June | -.190 | .828 | R .222 | .052 | E .032 | .002 | R .945 | R 5.165 |
| July | -.171 | R .935 | R .284 | .060 | E .035 | 0 | R 1.143 | R 6.308 |
| August | R -.200 | R .975 | R .228 | R .070 | E .045 | .001 | R 1.119 | R 7.428 |
| September | -.171 | .880 | R .211 | R .068 | E .040 | .004 | R 1.031 | R 8.459 |
| October | R -.173 | .922 | R .207 | R .089 | E .036 | .002 | R 1.083 | R 9.541 |
| November | -.183 | .846 | R .229 | R .102 | E .034 | .003 | R 1.030 | R 10.571 |
| December | -.209 | .797 | .218 | .114 | .039 | -.001 | .956 | 11.527 |
| **Total** | **-2.053** | **9.668** | **2.556** | **.925** | **.423** | **.009** | **11.527** | |

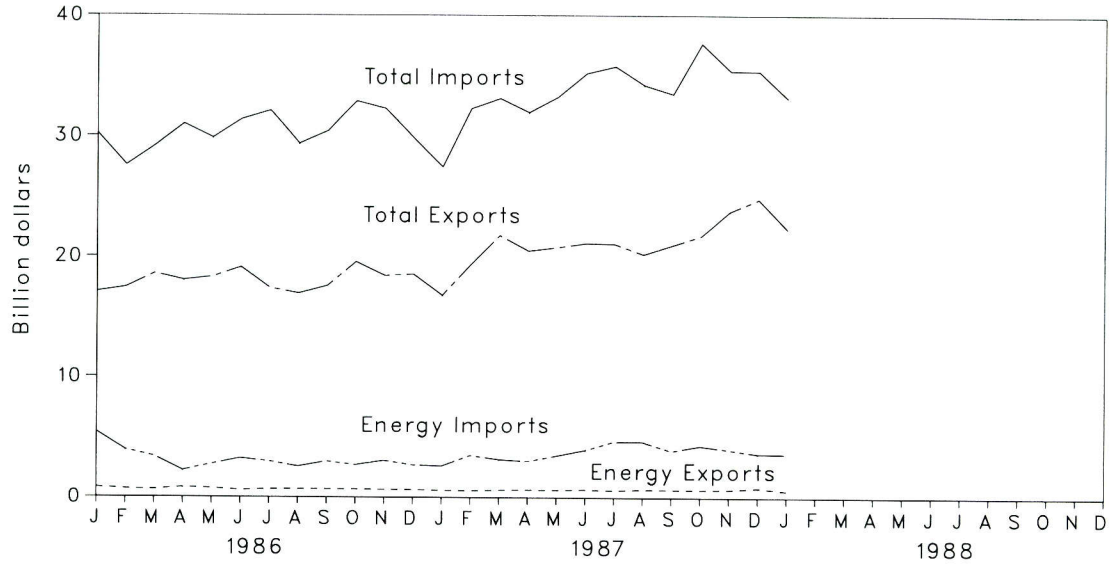
[a]Net imports equals imports minus exports. Minus sign indicates exports are greater than imports.
[b]Includes crude oil, lease condensate, and imports of crude oil for the Strategic Petroleum Reserve.
[c]Includes petroleum products, unfinished oils, pentanes plus, and gasoline blending components.
[d]Assumed to be hydroelectricity.
R=Revised data. E=Estimate.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Source: Energy Information Administration calculations based on data appearing elsewhere in this publication.

## Figure 1.5 Merchandise Trade Value

Yearly




Monthly



# Table 1.6 Merchandise Trade Value
(Million Dollars)

| | Exports | | | Imports | | | Trade Balance | | |
|---|---|---|---|---|---|---|---|---|---|
| | Energy | All Other | Total | Energy | All Other | Total | Energy | All Other | Total |
| **1974 Total** | **NA** | **NA** | **99,437** | **NA** | **NA** | **102,559** | **NA** | **NA** | **-3,122** |
| **1975 Total** | **4,470** | **104,386** | **108,856** | **28,325** | **70,178** | **98,503** | **-23,855** | **34,208** | **10,353** |
| **1976 Total** | **4,226** | **112,568** | **116,794** | **36,384** | **87,093** | **123,477** | **-32,158** | **25,475** | **-6,683** |
| **1977 Total** | **4,184** | **118,998** | **123,182** | **47,153** | **103,237** | **150,390** | **-42,969** | **15,761** | **-27,208** |
| **1978 Total** | **3,882** | **141,965** | **145,847** | **44,763** | **129,994** | **174,757** | **-40,881** | **11,971** | **-28,910** |
| **1979 Total** | **5,675** | **180,688** | **186,363** | **63,077** | **146,381** | **209,458** | **-57,402** | **34,307** | **-23,095** |
| **1980 Total** | **7,982** | **217,584** | **225,566** | **82,924** | **161,947** | **244,871** | **-74,942** | **55,637** | **-19,305** |
| **1981 Total** | **10,279** | **228,436** | **238,715** | **81,360** | **179,622** | **260,982** | **-71,081** | **48,814** | **-22,267** |
| **1982 Total** | **12,729** | **203,713** | **216,442** | **65,409** | **178,543** | **243,952** | **-52,680** | **25,170** | **-27,510** |
| **1983 Total** | **9,500** | **196,139** | **205,639** | **57,952** | **200,096** | **258,048** | **-48,452** | **-3,957** | **-52,409** |
| **1984 Total** | **9,311** | **214,665** | **223,976** | **60,980** | **264,746** | **325,726** | **-51,669** | **-50,081** | **-101,750** |
| **1985** January | 804 | 16,624 | 17,428 | 4,434 | 24,402 | 28,836 | -3,630 | -7,778 | -11,408 |
| February | 786 | 17,060 | 17,846 | 3,989 | 21,952 | 25,941 | -3,203 | -4,892 | -8,095 |
| March | 754 | 19,011 | 19,765 | 3,351 | 25,374 | 28,725 | -2,597 | -6,363 | -8,960 |
| April | 738 | 17,246 | 17,984 | 4,876 | 23,696 | 28,572 | -4,138 | -6,450 | -10,588 |
| May | 837 | 18,078 | 18,915 | 4,748 | 24,554 | 29,302 | -3,911 | -6,476 | -10,387 |
| June | 708 | 17,360 | 18,068 | 5,088 | 25,048 | 30,136 | -4,380 | -7,688 | -12,068 |
| July | 760 | 15,793 | 16,553 | 4,146 | 22,854 | 27,000 | -3,386 | -7,061 | -10,447 |
| August | 934 | 15,467 | 16,401 | 3,937 | 22,310 | 26,247 | -3,003 | -6,843 | -9,846 |
| September | 868 | 15,922 | 16,790 | 4,597 | 26,752 | 31,349 | -3,729 | -10,830 | -14,559 |
| October | 903 | 16,965 | 17,868 | 4,699 | 23,730 | 28,429 | -3,796 | 6,765 | 10,561 |
| November | 991 | 16,752 | 17,743 | 4,824 | 25,186 | 30,010 | -3,833 | -8,434 | -12,267 |
| December | 888 | 16,529 | 17,417 | 5,228 | 25,500 | 30,728 | -4,340 | -8,971 | -13,311 |
| **Total** | **9,971** | ***208,844** | ***218,815** | **53,917** | **291,359** | **345,276** | **-43,946** | ***-82,515** | ***-126,461** |
| **1986** January | 812 | 16,229 | 17,041 | 5,344 | 24,746 | 30,090 | -4,532 | -8,517 | -13,049 |
| February | 676 | 16,725 | 17,401 | 3,874 | 23,647 | 27,521 | -3,198 | -6,922 | -10,120 |
| March | 622 | 17,935 | 18,557 | 3,331 | 26,072 | 29,403 | -2,709 | -8,137 | -10,846 |
| April | 791 | 17,210 | 18,001 | 2,176 | 28,722 | 30,898 | -1,385 | -11,512 | -12,897 |
| May | 728 | 17,542 | 18,270 | 2,700 | 27,334 | 30,034 | -1,972 | -9,791 | -11,763 |
| June | 584 | 18,508 | 19,092 | 3,185 | 27,757 | 30,942 | -2,601 | -9,249 | -11,850 |
| July | 653 | 16,693 | 17,346 | 2,933 | 28,915 | 31,848 | -2,280 | -12,222 | -14,502 |
| August | 661 | 16,234 | 16,895 | 2,511 | 26,971 | 29,482 | -1,850 | -10,737 | -12,587 |
| September | 657 | 16,874 | 17,531 | 2,933 | 27,875 | 30,808 | -2,276 | -11,001 | -13,277 |
| October | 670 | 18,892 | 19,562 | 2,662 | 30,109 | 32,771 | -1,992 | -11,218 | -13,210 |
| November | 641 | 17,770 | 18,411 | 3,014 | 29,399 | 32,413 | -2,373 | -11,629 | -14,002 |
| December | 620 | 17,903 | 18,523 | 2,647 | 27,207 | 29,854 | -2,027 | -9,304 | -11,331 |
| **Total** | **8,115** | ***218,693** | ***226,808** | **37,310** | **328,753** | **366,063** | **-29,195** | ***-110,060** | ***-139,255** |
| **1987** January | 573 | 16,182 | 16,755 | 2,564 | 24,902 | 27,466 | -1,991 | -8,720 | -10,711 |
| February | 564 | 18,796 | 19,360 | 3,440 | 28,867 | 32,307 | -2,876 | -10,070 | -12,946 |
| March | 620 | 21,156 | 21,776 | 3,120 | 30,077 | 33,197 | -2,500 | -8,921 | -11,421 |
| April | 633 | 19,863 | 20,496 | 2,979 | 29,004 | 31,983 | -2,346 | -9,141 | -11,487 |
| May | 623 | 20,161 | 20,784 | 3,425 | 29,888 | 33,313 | -2,802 | -9,727 | -12,529 |
| June | 654 | 20,472 | 21,126 | 3,895 | 31,371 | 35,266 | -3,241 | -10,899 | -14,140 |
| July | 605 | 20,403 | 21,008 | 4,593 | 31,251 | 35,844 | -3,988 | -10,848 | -14,836 |
| August | 675 | 19,547 | 20,222 | 4,582 | 29,738 | 34,320 | -3,907 | -10,191 | -14,098 |
| September | 657 | 20,329 | 20,986 | 3,830 | 29,743 | 33,573 | -3,173 | -9,414 | -12,587 |
| October | 630 | 21,122 | 21,752 | 4,240 | 33,474 | 37,714 | -3,610 | -12,352 | -15,962 |
| November | 660 | 23,139 | 23,799 | 3,940 | 31,534 | 35,474 | -3,280 | -8,396 | -11,676 |
| December | 817 | 23,984 | 24,801 | 3,612 | 31,832 | 35,444 | -2,795 | -7,847 | -10,642 |
| **Total** | **7,713** | **245,153** | **252,866** | **44,220** | **361,681** | **405,901** | **-36,507** | **-116,528** | **-153,035** |
| **1988** January | 560 | 21,770 | 22,330 | 3,576 | 29,642 | 33,218 | -3,016 | -7,872 | -10,888 |

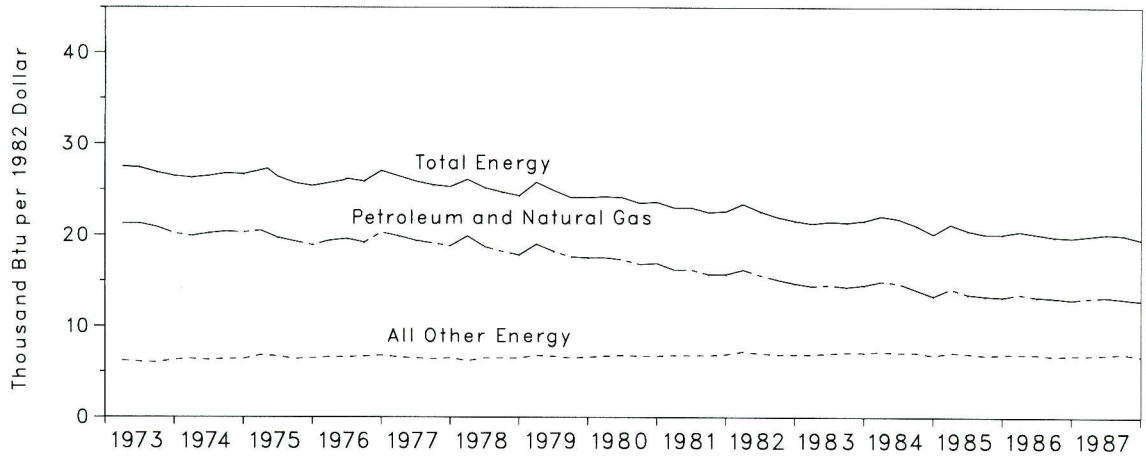
*Annual export totals for 1985 and 1986 incorporate adjustments to account for undocumented U.S. exports to Canada; monthly export data for 1985 and 1986 do not incorporate similar adjustments and, consequently, do not sum to the annual totals presented here. The adjustments to the annual export data are reflected in four data series: "Exports - All Other," "Exports - Total," "Trade Balance - All Other," and "Trade Balance - Total." Beginning with January 1987, adjustments to reflect the value of undocumented U.S. exports to Canada are incorporated in the monthly data.

NA = Not available.

Notes: • In accordance with current Bureau of the Census procedures, monthly data are not adjusted for seasonal variations. • The U.S. import statistics reflect both government and nongovernment imports of merchandise from foreign countries into the U.S. customs territory (which comprises the 50 States, the District of Columbia, and Puerto Rico) and the Virgin Islands.

Additional Notes and Sources: See end of section.

## Figure 1.6 Quarterly Energy Consumption per Dollar of Gross National Product (Seasonally Adjusted at Annual Rates)




## Table 1.7 Energy Consumption per Dollar of Gross National Product (Seasonally Adjusted at Annual Rates)

| | Energy Consumption[a] | Gross National Product (GNP) | Energy Consumption per Dollar of GNP | | |
|---|---|---|---|---|---|
| | | | Total Energy | Petroleum and Natural Gas | All Other Energy |
| | Quadrillion Btu | Trillion 1982 Dollars | Thousand Btu per 1982 Dollar | | |
| **1973 Year** | **74.282** | **2.744** | **27.1** | **20.9** | **6.2** |
| **1974 Year** | **72.543** | **2.729** | **26.6** | **20.2** | **6.4** |
| **1975 Year** | **70.545** | **2.695** | **26.2** | **19.5** | **6.7** |
| **1976 Year** | **74.362** | **2.827** | **26.3** | **19.6** | **6.7** |
| **1977 Year** | **76.289** | **2.959** | **25.8** | **19.3** | **6.5** |
| **1978 Year** | **78.089** | **3.115** | **25.1** | **18.6** | **6.5** |
| **1979 Year** | **78.897** | **3.192** | **24.7** | **18.1** | **6.6** |
| **1980 Year** | **75.955** | **3.187** | **23.8** | **17.1** | **6.7** |
| **1981 Year** | R **73.990** | **3.249** | **22.8** | **16.0** | **6.8** |
| **1982 Year** | R **70.837** | **3.166** | **22.4** | **15.4** | **7.0** |
| **1983 Year** | R **70.497** | **3.279** | **21.5** | **14.5** | **7.0** |
| **1984 Year** | R **74.060** | **3.501** | **21.2** | **14.2** | **7.0** |
| **1985** 1st Quarter[b] | R 75.827 | 3.569 | R 21.2 | 14.1 | R 7.1 |
| 2nd Quarter[b] | R 73.638 | 3.587 | 20.5 | 13.5 | 7.0 |
| 3rd Quarter[b] | R 72.881 | 3.623 | 20.1 | 13.3 | 6.8 |
| 4th Quarter[b] | R 73.468 | 3.651 | 20.1 | 13.2 | 6.9 |
| **Year** | R **73.944** | **3.608** | **20.5** | **13.5** | **7.0** |
| **1986** 1st Quarter[b] | R 75.543 | 3.699 | 20.4 | 13.5 | 6.9 |
| 2nd Quarter[b] | R 74.400 | 3.705 | 20.1 | 13.2 | 6.9 |
| 3rd Quarter[b] | R 73.730 | 3.718 | R 19.8 | 13.1 | R 6.7 |
| 4th Quarter[b] | R 73.405 | 3.732 | R 19.7 | 12.9 | R 6.8 |
| **Year** | R **74.260** | **3.713** | **20.0** | **13.2** | **6.8** |
| **1987** 1st Quarter[b] | R 74.999 | 3.772 | 19.9 | 13.1 | 6.8 |
| 2nd Quarter[b] | R 76.413 | 3.795 | R 20.1 | 13.2 | R 6.9 |
| 3rd Quarter[b] | R 76.809 | 3.836 | R 20.0 | R 13.0 | 7.0 |
| 4th Quarter[b] | 75.686 | 3.878 | 19.5 | 12.8 | 6.7 |
| **Year** | **75.981** | **3.820** | **19.9** | **13.0** | **6.9** |

[a]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.

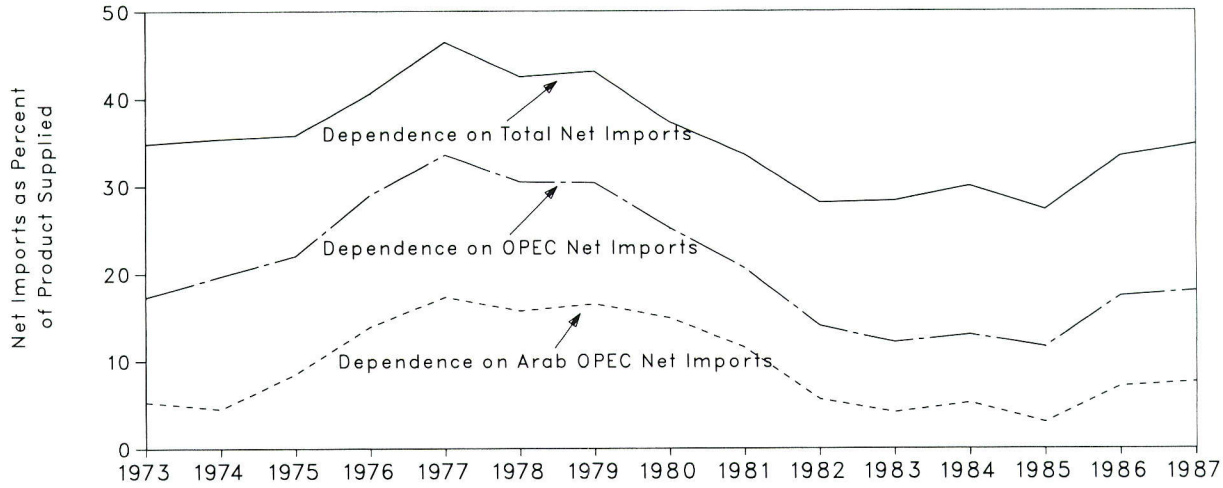
[b]Quarterly data are seasonally adjusted and shown at annual rates.

R = Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Yearly data may not equal average of quarters due to seasonality adjustments and independent rounding.

Sources: See end of section.

## Figure 1.7 U.S. Dependence on Petroleum Net Imports




## Table 1.8 U.S. Dependence on Petroleum Net Imports[a]

| Annual Rate | Net Imports[b] | | | Petroleum Products Supplied | Net Imports as Percent of U.S. Petroleum Products Supplied | | |
|---|---|---|---|---|---|---|---|
| | From Arab OPEC[c] | From OPEC[d] | From All Countries | | From Arab OPEC[c] | From OPEC[d] | From All Countries |
| | Thousand Barrels per Day | | | | Percent | | |
| **1973 Average** | **914** | **2,991** | **6,025** | **17,308** | **5.3** | **17.3** | **34.8** |
| **1974 Average** | **752** | **3,277** | **5,892** | **16,653** | **4.5** | **19.7** | **35.4** |
| **1975 Average** | **1,382** | **3,599** | **5,846** | **16,322** | **8.5** | **22.0** | **35.8** |
| **1976 Average** | **2,423** | **5,063** | **7,090** | **17,461** | **13.9** | **29.0** | **40.6** |
| **1977 Average** | **3,184** | **6,190** | **8,565** | **18,431** | **17.3** | **33.6** | **46.5** |
| **1978 Average** | **2,962** | **5,747** | **8,002** | **18,847** | **15.7** | **30.5** | **42.5** |
| **1979 Average** | **3,054** | **5,633** | **7,985** | **18,513** | **16.5** | **30.4** | **43.1** |
| **1980 Average** | **2,549** | **4,293** | **6,365** | **17,056** | **14.9** | **25.2** | **37.3** |
| **1981 Average** | **1,844** | **3,315** | **5,401** | **16,058** | **11.5** | **20.6** | **33.6** |
| **1982 Average** | **852** | **2,136** | **4,298** | **15,296** | **5.6** | **14.0** | **28.1** |
| **1983 Average** | **630** | **1,843** | **4,312** | **15,231** | **4.1** | **12.1** | **28.3** |
| **1984 Average** | **817** | **2,037** | **4,715** | **15,726** | **5.2** | **13.0** | **30.0** |
| **1985** 1st Quarter | 331 | 1,371 | 3,570 | 15,859 | 2.1 | 8.6 | 22.5 |
| 2nd Quarter | 529 | 1,857 | 4,625 | 15,486 | 3.4 | 12.0 | 29.9 |
| 3rd Quarter | 288 | 1,780 | 4,136 | 15,536 | 1.9 | 11.5 | 26.6 |
| 4th Quarter | 730 | 2,266 | 4,802 | 16,025 | 4.6 | 14.1 | 30.0 |
| **Average** | **470** | **1,821** | **4,286** | **15,726** | **3.0** | **11.6** | **27.3** |
| **1986** 1st Quarter | 845 | 2,086 | 4,177 | 16,183 | 5.2 | 12.9 | 25.8 |
| 2nd Quarter | 1,131 | 2,766 | 5,493 | 15,996 | 7.1 | 17.3 | 34.3 |
| 3rd Quarter | 1,359 | 3,337 | 6,310 | 16,282 | 8.3 | 20.5 | 38.8 |
| 4th Quarter | 1,300 | 3,105 | 5,749 | 16,656 | 7.8 | 18.6 | 34.5 |
| **Average** | **1,160** | **2,828** | **5,439** | **16,281** | **7.1** | **17.4** | **33.4** |
| **1987** 1st Quarter | 1,067 | 2,551 | 5,042 | 16,344 | 6.5 | 15.6 | 30.8 |
| 2nd Quarter | 955 | 2,669 | 5,414 | 16,426 | 5.8 | 16.2 | 33.0 |
| 3rd Quarter | 1,478 | 3,540 | 6,571 | 16,619 | 8.9 | 21.3 | 39.5 |
| 4th Quarter | 1,505 | 3,172 | 6,023 | 16,830 | 8.9 | 18.8 | 35.8 |
| **Average** | **1,253** | **2,986** | **5,767** | **16,556** | **7.6** | **18.0** | **34.8** |

[a]Beginning in October 1977, Strategic Petroleum Reserves are included.

[b]Net imports equals imports minus exports. Imports from members of the Organization of Petroleum Exporting Countries (OPEC) exclude indirect imports, which are petroleum products imported primarily from Caribbean and West European areas and refined from crude oil produced by OPEC.

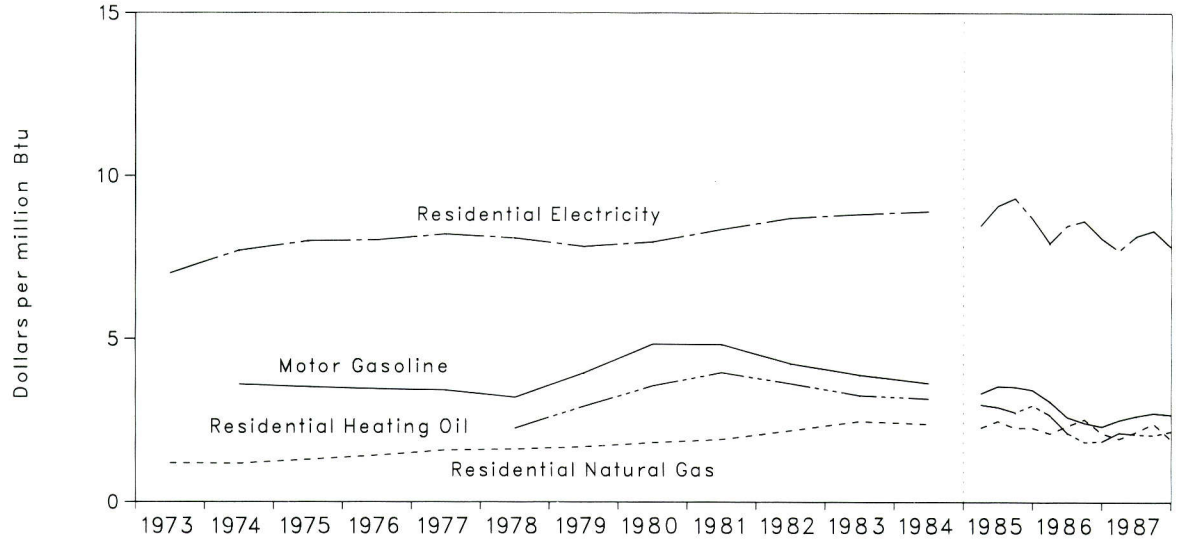
[c]The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

[d]OPEC consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Annual averages may not equal average of quarters due to independent rounding.

Sources: See end of section.

## Figure 1.8 Cost of Fuels to End Users in Constant (1972) Dollars




## Table 1.9 Cost of Fuels to End Users in Constant (1972) Dollars[a]

| | Leaded Regular Motor Gasoline | | Residential Heating Oil | | Residential Natural Gas | | Residential Electricity[b] | |
|---|---|---|---|---|---|---|---|---|
| | Cent/Gal | $/MMBtu | Cent/Gal | $/MMBtu | Cent/Mcf | $/MMBtu | Cent/kWh | $/MMBtu |
| **1973 Average** | **NA** | **NA** | **NA** | **NA** | **121.4** | **1.19** | **2.39** | **7.00** |
| **1974 Average** | **45.1** | **3.61** | **NA** | **NA** | **121.3** | **1.18** | **2.63** | **7.71** |
| **1975 Average** | **44.1** | **3.53** | **NA** | **NA** | **132.9** | **1.30** | **2.73** | **8.00** |
| **1976 Average** | **43.4** | **3.47** | **NA** | **NA** | **145.5** | **1.43** | **2.74** | **8.03** |
| **1977 Average** | **42.9** | **3.43** | **NA** | **NA** | **162.2** | **1.59** | **2.80** | **8.21** |
| **1978 Average** | **40.1** | **3.21** | **31.4** | **2.26** | **164.2** | **1.62** | **2.76** | **8.09** |
| **1979 Average** | **49.4** | **3.95** | **40.6** | **2.93** | **171.8** | **1.69** | **2.67** | **7.83** |
| **1980 Average** | **60.5** | **4.84** | **49.4** | **3.56** | **186.8** | **1.82** | **2.72** | **7.97** |
| **1981 Average** | **60.4** | **4.83** | **54.9** | **3.96** | **197.3** | **1.92** | **2.85** | **8.35** |
| **1982 Average** | **53.0** | **4.24** | **50.3** | **3.63** | **224.1** | **2.19** | **2.97** | **8.70** |
| **1983 Average** | **48.6** | **3.89** | **45.3** | **3.27** | **254.5** | **2.47** | **3.01** | **8.82** |
| **1984 Average** | **45.5** | **3.64** | **43.9** | **3.17** | **246.5** | **2.39** | **3.04** | **8.91** |
| **1985** 1st Quarter | 41.7 | 3.33 | 41.5 | 2.99 | 234.5 | 2.28 | 2.89 | 8.47 |
| 2nd Quarter | 44.4 | 3.55 | 40.3 | 2.91 | 255.5 | 2.48 | 3.10 | 9.09 |
| 3rd Quarter | 44.2 | 3.53 | 38.1 | 2.75 | 275.3 | 2.27 | 3.18 | 9.32 |
| 4th Quarter | 43.0 | 3.44 | 41.2 | 2.97 | 234.5 | 2.28 | 2.97 | 8.70 |
| **Average** | **43.4** | **3.47** | **41.0** | **2.96** | **238.0** | **2.31** | **3.03** | **8.88** |
| **1986** 1st Quarter | 38.7 | 3.09 | 37.1 | 2.67 | 217.1 | 2.11 | 2.71 | 7.94 |
| 2nd Quarter | 32.7 | 2.61 | 29.6 | 2.13 | 239.5 | 2.33 | 2.89 | 8.47 |
| 3rd Quarter | 30.4 | 2.43 | 25.6 | 1.85 | 261.7 | 2.54 | 2.94 | 8.62 |
| 4th Quarter | 29.0 | 2.32 | 26.0 | 1.87 | 216.6 | 2.12 | 2.76 | 8.09 |
| **Average** | **32.7** | **2.61** | **31.9** | **2.30** | **222.4** | **2.16** | **2.83** | **8.29** |
| **1987** 1st Quarter | 31.4 | 2.51 | 29.6 | 2.13 | 200.8 | 1.95 | 2.63 | 7.71 |
| 2nd Quarter | 33.0 | 2.64 | 28.8 | 2.08 | 222.6 | 2.16 | 2.78 | 8.15 |
| 3rd Quarter | 34.2 | 2.73 | 28.6 | 2.06 | 247.6 | 2.41 | 2.84 | 8.32 |
| 4th Quarter | 33.5 | 2.68 | 30.1 | 2.17 | 198.7 | 1.93 | 2.67 | 7.83 |
| **Average** | **33.0** | **2.64** | **29.5** | **2.13** | **204.4** | **1.99** | **2.73** | **8.00** |

[a]Fuel costs shown on this page are calculated using the Urban Consumer Price Index developed by the Bureau of Labor Statistics. See Note 6 at end of section.

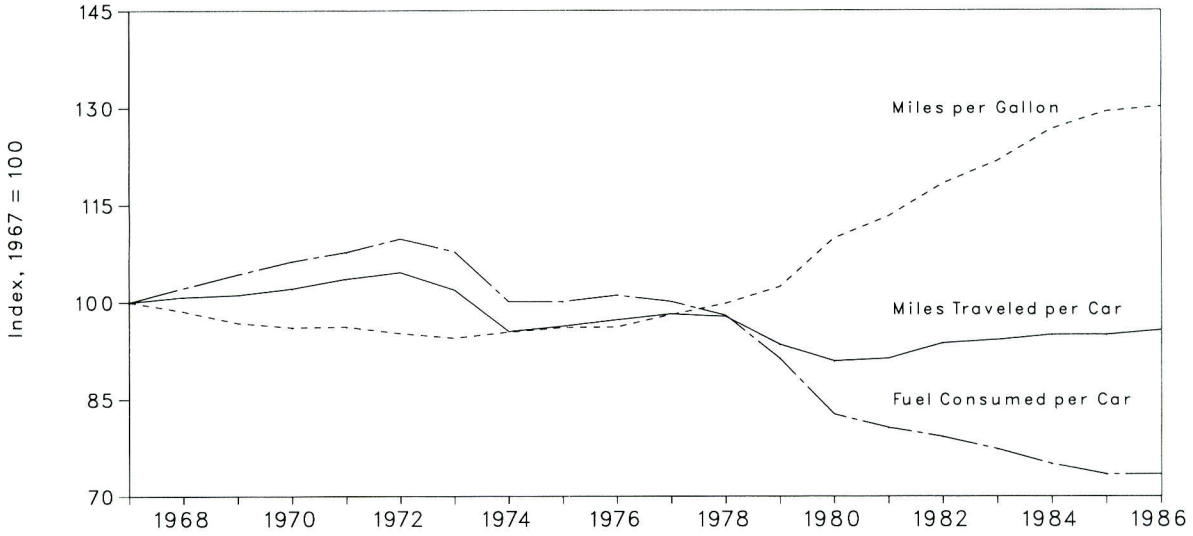
[b]Calculated from Table 9.9 "Old Series" for 1973 through 1985 and "New Series" for 1986 forward.

NA = Not available.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Annual averages may not equal average of quarters due to independent rounding.

Sources: See end of section.

## Figure 1.9 Passenger Car Efficiency




## Table 1.10 Passenger Car Efficiency

| | Average Fuel Consumed per Car | | Average Miles Traveled per Car | | Average Miles Traveled per Gallon of Fuel Consumed | |
|---|---|---|---|---|---|---|
| | Gallons | Index | Miles | Index | Miles | Index |
| 1967 | 715 | 100.0 | 10,060 | 100.0 | 14.07 | 100.0 |
| 1968 | 731 | 102.2 | 10,144 | 100.8 | 13.87 | 98.6 |
| 1969 | 746 | 104.3 | 10,158 | 101.0 | 13.62 | 96.8 |
| 1970 | 760 | 106.3 | 10,272 | 102.1 | 13.52 | 96.1 |
| 1971 | 770 | 107.7 | 10,422 | 103.6 | 13.54 | 96.2 |
| 1972 | 785 | 109.8 | 10,521 | 104.6 | 13.40 | 95.2 |
| 1973 | 771 | 107.8 | 10,256 | 101.9 | 13.30 | 94.5 |
| 1974 | 716 | 100.1 | 9,606 | 95.5 | 13.42 | 95.4 |
| 1975 | 716 | 100.1 | 9,690 | 96.3 | 13.52 | 96.1 |
| 1976 | 723 | 101.1 | 9,785 | 97.3 | 13.53 | 96.2 |
| 1977 | 716 | 100.1 | 9,879 | 98.2 | 13.80 | 98.1 |
| 1978 | 701 | 98.0 | 9,835 | 97.8 | 14.04 | 99.8 |
| 1979 | 653 | 91.3 | 9,403 | 93.5 | 14.41 | 102.4 |
| 1980 | 591 | 82.7 | 9,141 | 90.9 | 15.46 | 109.9 |
| 1981 | 576 | 80.6 | 9,186 | 91.3 | 15.94 | 113.3 |
| 1982 | 566 | 79.2 | 9,428 | 93.7 | 16.65 | 118.3 |
| 1983 | 553 | 77.3 | 9,475 | 94.2 | 17.14 | 121.8 |
| 1984 | 536 | 75.0 | 9,558 | 95.0 | 17.83 | 126.7 |
| 1985 | 525 | 73.4 | 9,560 | 95.0 | 18.20 | 129.4 |
| 1986[a] | 525 | 73.4 | 9,625 | 95.7 | 18.32 | 130.2 |

[a]Preliminary data.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

# Table 1.11 Population-Weighted Heating Degree-Days[a]

| Census Divisions | February 1 through February 29 | | | | | Cumulative July 1 through February 29 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Percent Change | | | | | Percent Change | |
| | Normal[b] | 1987 | 1988 | Normal to 1988 | 1987 to 1988 | Normal[b] | 1987 | 1988 | Normal to 1988 | 1987 to 1988 |
| **New England** | | | | | | | | | | |
| CT, ME, MA, NH, RI, VT | 1,108 | 1,131 | 1,065 | -3.9 | -5.8 | 4,758 | 4,879 | 4,790 | 0.7 | -1.8 |
| **Middle Atlantic** | | | | | | | | | | |
| NJ, NY, PA | 1,031 | 1,024 | 1,012 | -1.8 | -1.2 | 4,325 | 4,272 | 4,318 | -.2 | 1.1 |
| **East North Central** | | | | | | | | | | |
| IL, IN, MI, OH, WI | 1,110 | 935 | 1,192 | 7.4 | 27.5 | 4,771 | 4,532 | 4,826 | 1.2 | 6.5 |
| **West North Central** | | | | | | | | | | |
| IA, KS, MN, MO, NE, ND, SD | 1,143 | 854 | 1,235 | 8.0 | 44.6 | 5,096 | 4,681 | 5,112 | .3 | 9.2 |
| **South Atlantic** | | | | | | | | | | |
| DE, FL, GA, MD and DC, NC, SC, VA, WV | 568 | 552 | 583 | 2.6 | 5.6 | 2,381 | 2,267 | 2,447 | 2.8 | 7.9 |
| **East South Central** | | | | | | | | | | |
| AL, KY, MS, TN | 659 | 586 | 709 | 7.6 | 21.0 | 2,846 | 2,699 | 2,897 | 1.8 | 7.3 |
| **West South Central** | | | | | | | | | | |
| AR, LA, OK, TX | 448 | 384 | 481 | 7.4 | 25.3 | 1,942 | 1,935 | 1,993 | 2.6 | 3.0 |
| **Mountain** | | | | | | | | | | |
| AZ, CO, ID, MT, NV, NM, UT, WY | 819 | 767 | 771 | -5.9 | .5 | 4,030 | 4,028 | 3,998 | -.8 | -.7 |
| **Pacific** | | | | | | | | | | |
| CA, OR, WA | 469 | 436 | 407 | -13.2 | -6.7 | 2,255 | 2,189 | 2,116 | -6.2 | -3.3 |
| **U.S. Average[c]** | **810** | **734** | **825** | **1.9** | **12.4** | **3,529** | **3,413** | **3,540** | **.3** | **3.7** |

[a]See Note 7 at end of section.
[b]Normal is based on calculations of data from 1951 through 1980.
[c]Excludes Alaska and Hawaii.
Source: See end of section.

# Notes and Sources for the Energy Summary Section

## *Notes*

**1. Energy Production:** Production of energy includes production of coal, crude oil and lease condensate, natural gas plant liquids, natural gas (dry), electric utility and industrial production of hydroelectric power, and electricity generated from nuclear power. Production also includes electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available. The volumetric data are converted to approximate heat contents (Btu values) of these energy sources using the conversion factors provided in the Conversion Factors section of this publication.

**2. Energy Consumption:** Consumption of energy includes consumption of coal, natural gas (including supplemental gaseous fuels), petroleum products supplied, electric utility and industrial production of hydroelectric power, net imports of electricity (assumed to be hydroelectricity), net imports of coal coke, and electricity generated from nuclear power. Consumption also includes electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available. Approximate heat contents (Btu values) are derived using the conversion factors provided in the Conversion Factors section of this publication.

**3. Energy Imports:** Energy imports include imports of coal, crude oil (including crude oil imported for the Strategic Petroleum Reserve), petroleum products, natural gas, electricity (assumed to be hydroelectricity), and coal coke. Approximate heat contents (Btu values) are derived using the conversion factors provided in the Conversion Factors section of this publication. For further information on electricity, see "Note for imports and exports of electricity" under Note 7 of the Notes and Sources for the Consumption Section.

**4. Energy Exports:** Energy exports include coal, crude oil, petroleum products, natural gas, electricity produced from hydroelectric power, and coal coke. Approximate heat contents (Btu values) are derived using the conversion factors provided in the Conversion Factors section of this publication. For more information on electricity, see "Note for imports and exports of electricity" under Note 7 of the Notes and Sources for the Consumption Section.

**5. Merchandise Trade Value:** Import data presented are based on the customs value. That value does not include insurance and freight and is consequently lower than the cost, insurance, and freight (CIF) value, which is also reported by the Bureau of the Census. All export data, and import data prior to 1981, are on a free alongside ship (f.a.s.) basis.

"Trade Balance" is exports minus imports; a positive balance indicates a surplus trade value and a negative balance indicates a deficit trade value. The "Energy" columns include mineral fuels, lubricants, and related material. "All Other" and "Total" columns include foreign exports (i.e., reexports) and nonmonetary gold and Department of Defense Grant-aid shipments. The "All Other" columns are calculated by subtracting "Energy" from "Total."

"Imports" represent general imports (i.e., entries for immediate consumption, entries into customs bonded warehouses, and entries for the Strategic Petroleum Reserve). The statistics reflect both government and nongovernment imports of merchandise from foreign countries into the U.S. customs territory (which includes the 50 United States, the District of Columbia, and Puerto Rico) and the Virgin Islands. The statistics exclude imports into Guam, American Samoa, and other U.S. possessions, as well as shipments between the United States and Puerto Rico and the Virgin Islands, between the United States and other U.S. possessions, and between any two of those outlying areas.

**6. The Consumer Price Index:** The Consumer Price Index, All Urban Consumers, All Items, for 1967 = 100.0 is rebased to 1972 = 100.0 by the Energy Information Administration. The values are:

| | | | | |
|---|---|---|---|---|
| 1972 | 100.0 | 1985: | 1st Quarter | 253.3 |
| 1973 | 106.2 | | 2nd Quarter | 256.3 |
| 1974 | 117.9 | | 3rd Quarter | 258.3 |
| 1975 | 128.7 | | 4th Quarter | 260.6 |
| 1976 | 136.1 | | Year | 257.1 |
| 1977 | 144.9 | 1986: | 1st Quarter | 261.2 |
| 1978 | 155.9 | | 2nd Quarter | 260.6 |
| 1979 | 173.5 | | 3nd Quarter | 262.5 |
| 1980 | 197.0 | | 4th Quarter | 264.0 |
| 1981 | 217.4 | | Year | 262.1 |
| 1982 | 230.7 | 1987: | 1st Quarter | 267.0 |
| 1983 | 238.1 | | 2nd Quarter | 270.4 |
| 1984 | 248.3 | | 3rd Quarter | 273.4 |
| | | | 4th Quarter | 275.8 |
| | | | Year | 271.7 |

**7. Degree-Days:** Degree-days are relative measurements of outdoor air temperature. Cooling degree-days are defined as deviations of the mean daily temperature at a sampling station above a base temperature equal to 65 °F by convention. Heating degree-days are deviations of the mean daily temperature below 65 °F. For example, if a weather station recorded a mean daily temperature of 78 °F, cooling degree-days for that station would be 13 (and heating degree-days, 0). A weather station recording a mean daily temperature of 40 °F would report 25 heating degree-days (and 0 cooling degree-days).

There are several degree-day data bases maintained by the National Oceanic and Atmospheric Administration. The information published in the *Monthly Energy Review (MER)* is developed by the National Weather Service Climate Analysis Center, Camp Springs, MD. The data are available weekly with monthly summaries and are based on mean daily temperatures recorded at about 200 major weather stations around the country. The temperature information recorded at those weather stations is used to calculate statewide degree-day averages based on population. The State figures are then aggregated into Census Divisions and into the national average. The population weights currently used represent resident State population data estimated for 1980 by the U.S. Department of Commerce, Bureau of the Census. The data shown in the *MER* are available sooner than the Historical Climatology Series 5-1 and 5-2 developed by the National Climatic Center, Asheville, NC, which compiles data from some 8,000 weather stations.

## Sources

**Merchandise Trade Value:** 1974 through 1980: U.S. Department of Commerce, Bureau of the Census, "Highlights of U.S. Export and Import Trade," FT990 (January 1982), Appendix for total imports and exports. Energy imports and exports from U.S. Department of Commerce, Bureau of the Census, "Summary of U.S. Export and Import Merchandise Trade," December issues, plus Bureau of the Census reports EA691 "Exports from the Virgin Islands to Foreign Countries," and IA245V "U.S. Imports for Consumption and General Imports into the Virgin Islands." 1981 forward: U.S. Department of Commerce, Bureau of the Census, "Summary of U.S. Export and Import Merchandise Trade," most recent monthly issue.

**Gross National Product:** U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business.*

**U.S. Dependence on Petroleum Net Imports:** Imports and products supplied--Section 3 of this publication. Exports--1973 through 1976: Bureau of Mines, *Mineral Industry Surveys.* 1977 through 1980: Energy Information Administration (EIA), *Energy Data Reports* , "Petroleum Statement, Annual". 1981-1986: EIA, *Petroleum Supply Annual.* 1987 forward: EIA, *Petroleum Supply Monthly.*

**Cost of Fuels to End Users in Constant (1972) Dollars:**

- Leaded Regular Motor Gasoline--Bureau of Labor Statistics (BLS).
- Residential Heating Oil--EIA, 1983 forward: EIA Form-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report" and EIA Form-782B, "Resellers/Retailers' Monthly Petroleum Product Sales Report." Prices prior to 1983 are EIA estimates using data from FEA Form P112-M1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report" and EIA Form 9-A, "No. 2 Distillate Price Monitoring Report." See Note 6 in the Notes and Sources *Monthly Energy Review* Section 9, Price, for additional information.
- Residential Natural Gas--EIA, Annual data from Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition." Monthly data from Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."
- Residential Electricity--Federal Energy Regulatory Commission (FERC), 1973 through February 1980: FPC Form 5, "Monthly Statement of Electric Operating Revenue and Income"; March 1980 forward: FERC Form 5, "Electric Utility Company Monthly Statement."
- Deflator (The Urban Consumer Price Index)--BLS.

**Passenger Car Efficiency:** Indices are prepared from statistics published by the U.S. Department of Transportation, Federal Highway Administration, Federal Highway Statistics Division, "Highway Statistics Summary to 1985," Table VM-201A and preliminary data for 1986.

# Section 2. Consumption

Total U.S. energy consumption in 1987 was 76.0 quadrillion Btu. Petroleum products accounted for 43 percent[14] of the energy consumed in 1987, while coal accounted for 24 percent, and natural gas accounted for 23 percent.

Residential and commercial sector consumption was 27.6 quadrillion Btu in 1987, up 2 percent from the 1986 level. The sector accounted for 36 percent of 1987 total consumption, about the same share as in 1986.

Industrial sector consumption was 27.2 quadrillion Btu in 1987, up 3 percent from the 1986 level. The industrial sector accounted for 36 percent of 1987 total consumption, about the same share as in 1986.

Transportation sector consumption of energy was 21.2 quadrillion Btu in 1987, up 2 percent from the 1986 level. The sector consumed 28 percent of 1987 total consumption, about the same share as in 1986.

Electric utility consumption of energy totaled 27.5 quadrillion Btu in 1987, up 3 percent from the 1986 level. Coal contributed 55 percent of the energy consumed by electric utilities in 1987, while nuclear electric power contributed 18 percent; natural gas and hydroelectric power, 11 percent each; petroleum products, about 5 percent; and wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, about 1 percent.

## Table 2.1 Energy Consumption Summary for 1987
(Quadrillion ($10^{15}$) Btu)

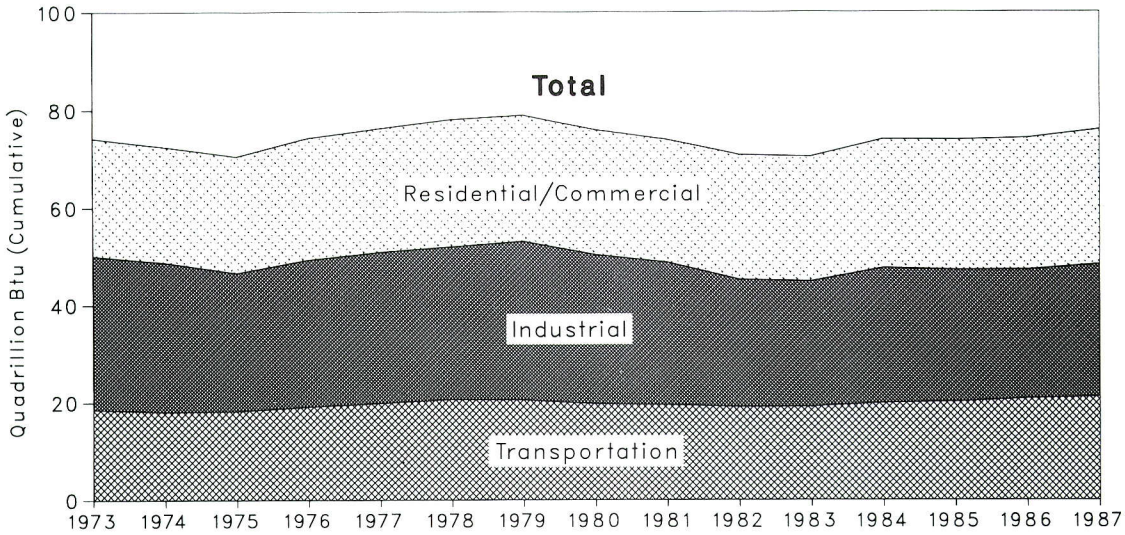
| Energy Source | Sector | | | | Total |
|---|---|---|---|---|---|
| | Residential and Commercial | Industrial | Transportation | Electric Utilities | |
| Coal | 0.167 | 2.610 | [a] | 15.190 | 17.973 |
| Natural Gas[b] | 6.853 | 6.873 | 0.513 | 2.940 | 17.180 |
| Petroleum Products | 2.606 | 8.156 | 20.606 | 1.258 | 32.627 |
| Hydroelectric Power | - | .033 | - | 2.999 | 3.032 |
| Nuclear Electric Power | - | - | - | 4.915 | 4.915 |
| Net Imports of Coal Coke | - | .009 | - | - | .009 |
| Other[c] | - | - | - | .245 | .245 |
| **Primary Consumption** | **9.626** | **17.680** | **21.120** | **27.547** | **75.981** |
| Electricity | 5.475 | 2.891 | .013 | | |
| **Net Energy Consumption** | **15.100** | **20.570** | **21.133** | | **56.811** |
| Electrical System Energy Losses | 12.526 | 6.614 | .030 | | 19.169 |
| **Total Energy Consumption[d]** | **27.626** | **27.184** | **21.162** | | **75.981** |

[a]Small amounts of coal consumed for transportation are reported as industrial sector consumption.
[b]Includes supplemental gaseous fuels. Transportation sector is pipeline fuel only.
[c]Other is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[d]Excludes wood, waste, geothermal, wind, photovotaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
Note: Totals may not equal sum of components due to independent rounding and the use of sector-specific conversion factors.
Additional Notes and Sources: See end of section.

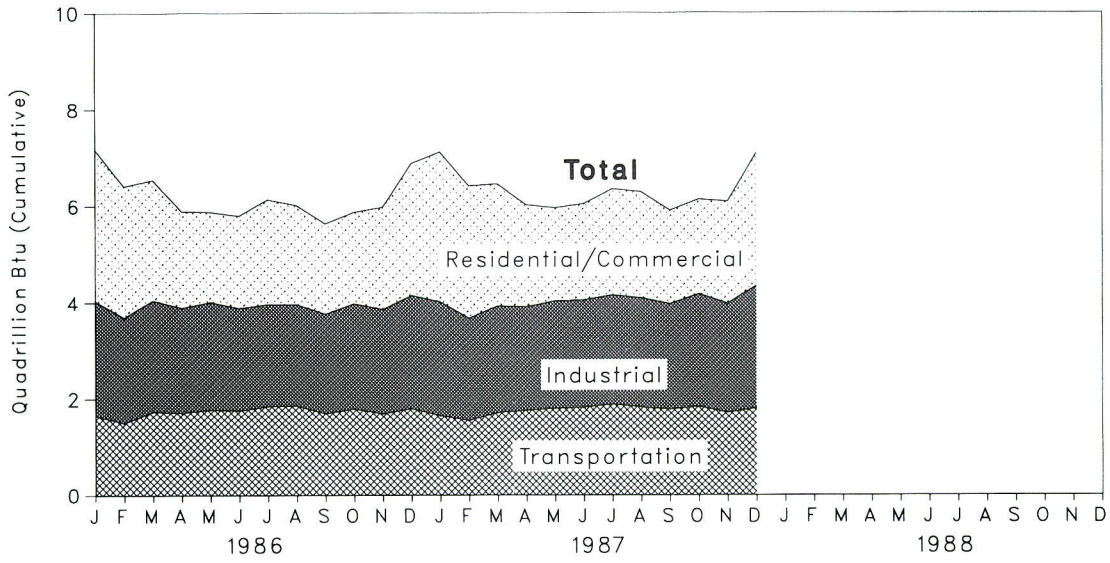
[14]Percentage changes are calculated using unrounded data.

## Figure 2.1 Consumption of Energy by End-Use Sector

Yearly




Monthly



# Table 2.2 Consumption of Energy by End-Use Sector
(Quadrillion ($10^{15}$) Btu)

| | Residential and Commercial | | Industrial | | Transportation | | Total Net | Total Gross |
|---|---|---|---|---|---|---|---|---|
| | Net | Gross | Net | Gross | Net | Gross | | |
| **1973 Total** | **15.766** | **24.142** | **25.926** | **31.536** | **18.575** | **18.595** | **60.274** | **74.282** |
| **1974 Total** | **15.246** | **23.724** | **24.998** | **30.697** | **18.091** | **18.113** | **58.341** | **72.543** |
| **1975 Total** | **15.200** | **23.900** | **22.742** | **28.405** | **18.215** | **18.240** | **56.156** | **70.545** |
| **1976 Total** | **15.997** | **25.019** | **24.045** | **30.240** | **19.068** | **19.094** | **59.118** | **74.362** |
| **1977 Total** | **15.828** | **25.387** | **24.606** | **31.086** | **19.783** | **19.808** | **60.223** | **76.289** |
| **1978 Total** | **16.023** | **26.088** | **24.659** | **31.411** | **20.567** | **20.589** | **61.251** | **78.089** |
| **1979 Total** | **15.709** | **25.809** | **25.688** | **32.623** | **20.439** | **20.464** | **61.836** | **78.897** |
| **1980 Total** | **15.075** | **25.653** | **23.852** | **30.607** | **19.669** | **19.695** | **58.596** | **75.955** |
| **1981 Total** | R **14.541** | R **25.243** | R **22.544** | R **29.249** | R **19.470** | **19.496** | R **56.556** | R **73.990** |
| **1982 Total** | R **14.629** | R **25.624** | R **20.018** | R **26.138** | R **19.040** | R **19.067** | R **53.696** | R **70.837** |
| **1983 Total** | R **14.395** | R **25.613** | R **19.396** | R **25.742** | R **19.108** | R **19.134** | R **52.907** | R **70.497** |
| **1984 Total** | **15.008** | **26.461** | R **21.058** | R **27.717** | **19.852** | **19.881** | R **55.920** | R **74.060** |
| **1985** January | 1.926 | R 3.073 | 1.894 | 2.476 | 1.608 | 1.611 | 5.430 | 7.162 |
| February | 2.031 | R 2.978 | 1.745 | 2.219 | 1.485 | 1.488 | 5.261 | 6.686 |
| March | R 1.528 | 2.445 | 1.727 | 2.259 | 1.662 | 1.665 | R 4.916 | 6.368 |
| April | R 1.189 | 2.013 | 1.680 | 2.203 | 1.678 | 1.680 | 4.542 | 5.891 |
| May | .893 | 1.787 | 1.671 | 2.262 | 1.735 | 1.737 | 4.295 | 5.783 |
| June | .837 | 1.816 | 1.589 | 2.173 | 1.679 | 1.681 | R 4.105 | 5.671 |
| July | .864 | 2.007 | 1.606 | 2.208 | 1.754 | 1.757 | 4.225 | 5.973 |
| August | .877 | 2.008 | 1.647 | 2.239 | 1.794 | 1.797 | 4.320 | 6.046 |
| September | .885 | R 1.845 | 1.591 | 2.103 | 1.620 | 1.623 | 4.095 | R 5.570 |
| October | R .948 | 1.852 | 1.713 | 2.266 | 1.725 | 1.728 | R 4.386 | R 5.845 |
| November | R 1.127 | 2.030 | 1.669 | 2.218 | 1.637 | 1.640 | 4.433 | 5.887 |
| December | R 1.794 | 2.898 | 1.878 | 2.445 | 1.714 | 1.717 | R 5.389 | 7.063 |
| **Total** | R **14.899** | R **26.754** | **20.410** | **27.071** | **20.091** | **20.123** | R **55.397** | R **73.944** |
| **1986** January | R 2.034 | R 3.143 | R 1.880 | R 2.387 | R 1.642 | R 1.644 | R 5.556 | R 7.175 |
| February | R 1.795 | R 2.723 | R 1.736 | R 2.209 | R 1.485 | R 1.488 | R 5.013 | R 6.417 |
| March | R 1.573 | R 2.503 | R 1.802 | R 2.320 | R 1.724 | R 1.726 | R 5.095 | R 6.546 |
| April | R 1.152 | R 2.002 | R 1.669 | R 2.186 | R 1.705 | R 1.707 | R 4.519 | R 5.888 |
| May | R .945 | R 1.869 | R 1.668 | R 2.241 | R 1.769 | R 1.772 | R 4.378 | R 5.877 |
| June | R .860 | R 1.917 | R 1.569 | R 2.132 | R 1.751 | R 1.753 | R 4.181 | R 5.803 |
| July | .905 | 2.177 | R 1.525 | R 2.114 | R 1.846 | R 1.849 | R 4.283 | R 6.146 |
| August | R .905 | R 2.059 | R 1.566 | R 2.102 | R 1.856 | R 1.858 | R 4.331 | R 6.024 |
| September | R .869 | R 1.877 | 1.545 | 2.070 | R 1.690 | R 1.692 | R 4.106 | R 5.642 |
| October | R .960 | R 1.899 | R 1.651 | R 2.182 | R 1.793 | R 1.795 | R 4.406 | R 5.878 |
| November | R 1.170 | R 2.121 | R 1.628 | R 2.168 | R 1.685 | R 1.687 | R 4.485 | R 5.978 |
| December | R 1.661 | R 2.743 | R 1.806 | R 2.342 | R 1.796 | R 1.799 | R 5.265 | R 6.887 |
| **Total** | R **14.827** | **27.032** | R **20.043** | R **26.454** | R **20.746** | R **20.775** | R **55.617** | R **74.260** |
| **1987** January | R 1.957 | R 3.109 | R 1.834 | R 2.361 | R 1.647 | R 1.650 | R 5.441 | R 7.123 |
| February | R 1.816 | R 2.752 | R 1.667 | R 2.129 | R 1.542 | R 1.544 | R 5.027 | R 6.427 |
| March | R 1.572 | R 2.537 | R 1.686 | R 2.210 | R 1.712 | R 1.714 | R 4.971 | R 6.462 |
| April | R 1.236 | R 2.113 | R 1.680 | R 2.194 | R 1.759 | R 1.761 | R 4.671 | R 6.064 |
| May | R .952 | R 1.932 | R 1.642 | R 2.222 | R 1.804 | R 1.806 | R 4.397 | R 5.959 |
| June | R .891 | R 1.997 | R 1.628 | R 2.223 | R 1.822 | R 1.825 | R 4.345 | R 6.048 |
| July | .941 | R 2.208 | R 1.673 | R 2.275 | R 1.886 | R 1.889 | R 4.504 | R 6.375 |
| August | R .945 | R 2.207 | R 1.671 | R 2.259 | R 1.826 | R 1.828 | R 4.444 | R 6.297 |
| September | R .920 | R 1.934 | R 1.651 | R 2.185 | R 1.781 | R 1.783 | R 4.350 | R 5.900 |
| October | R 1.034 | R 1.971 | R 1.772 | R 2.326 | R 1.840 | 1.843 | R 4.647 | R 6.140 |
| November | R 1.187 | R 2.121 | R 1.701 | R 2.259 | R 1.710 | R 1.713 | R 4.598 | 6.093 |
| December | 1.648 | 2.746 | 1.964 | 2.539 | 1.804 | 1.807 | 5.418 | 7.093 |
| **Total** | **15.100** | **27.626** | **20.570** | **27.184** | **21.133** | **21.162** | **56.811** | **75.981** |

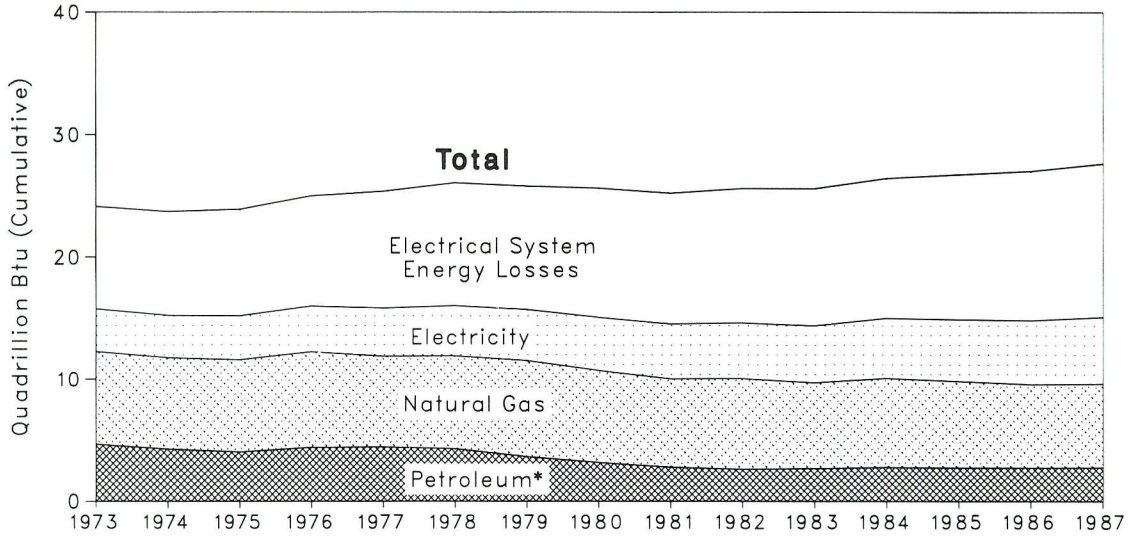
R = Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding and the use of sector-specific conversion factors.

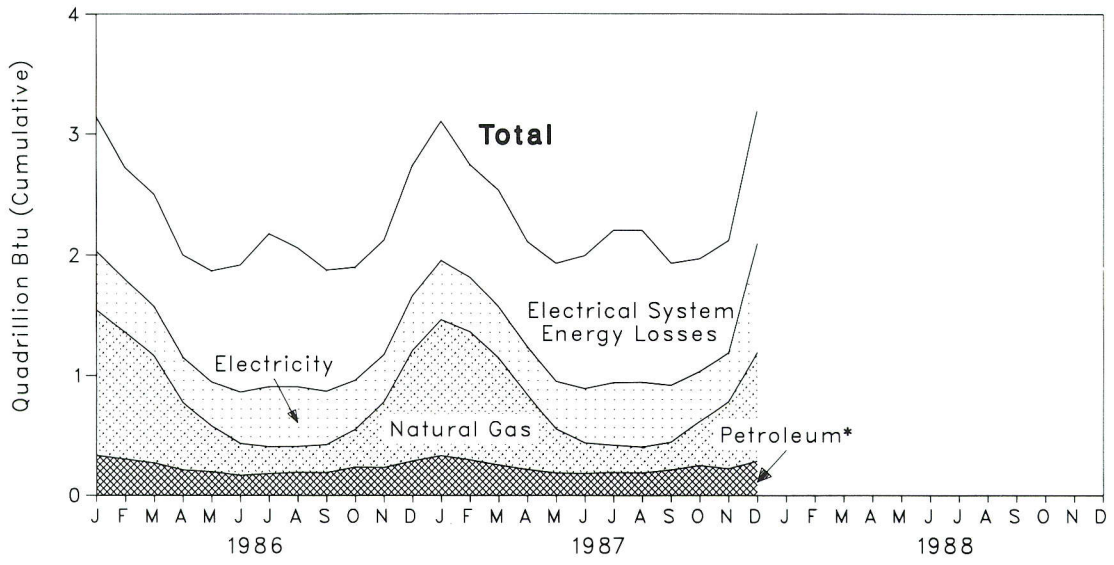
Additional Notes and Sources: See end of section.

## Figure 2.2 Consumption of Energy by the Residential and Commercial Sector

Yearly




Monthly




*Includes coal.

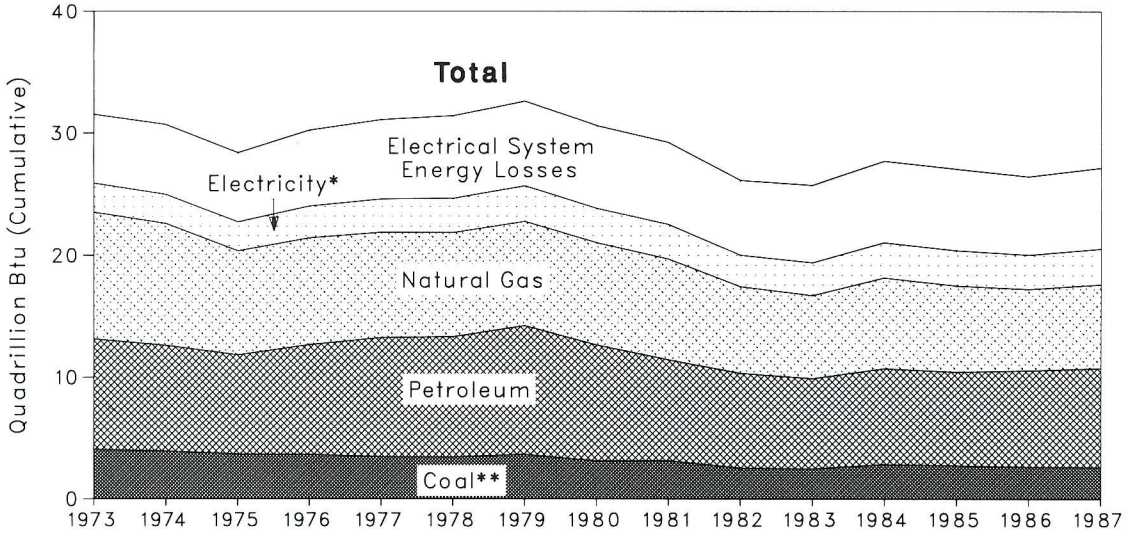
# Table 2.3 Consumption of Energy by the Residential and Commercial Sector
(Quadrillion ($10^{15}$) Btu)

| | Coal | Natural Gas[a] | Petroleum | Electricity[b] | Net Energy | Electrical System Energy Losses | Total[c] | Year to Date |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **0.254** | **7.626** | **4.391** | **3.495** | **15.766** | **8.377** | **24.142** | |
| **1974 Total** | **.257** | **7.518** | **3.996** | **3.475** | **15.246** | **8.478** | **23.724** | |
| **1975 Total** | **.209** | **7.581** | **3.805** | **3.604** | **15.200** | **8.701** | **23.900** | |
| **1976 Total** | **.203** | **7.866** | **4.181** | **3.747** | **15.997** | **9.023** | **25.019** | |
| **1977 Total** | **.205** | **7.461** | **4.206** | **3.955** | **15.828** | **9.559** | **25.387** | |
| **1978 Total** | **.214** | **7.624** | **4.070** | **4.116** | **16.023** | **10.065** | **26.088** | |
| **1979 Total** | **.187** | **7.891** | **3.448** | **4.184** | **15.709** | **10.100** | **25.809** | |
| **1980 Total** | **.145** | **7.540** | **3.035** | **4.355** | **15.075** | **10.578** | **25.653** | |
| **1981 Total** | R **.167** | **7.243** | **2.634** | **4.497** | R **14.541** | **10.703** | R **25.243** | |
| **1982 Total** | R **.187** | **7.427** | **2.449** | **4.566** | R **14.629** | R **10.995** | R **25.624** | |
| **1983 Total** | R **.192** | **7.024** | R **2.498** | **4.680** | R **14.395** | **11.218** | R **25.613** | |
| **1984 Total** | R **.209** | **7.292** | R **2.585** | **4.922** | **15.008** | **11.453** | **26.461** | |
| **1985** January | .019 | 1.150 | .299 | .458 | 1.926 | 1.148 | R 3.073 | R 3.073 |
| February | R .016 | 1.288 | .267 | .459 | 2.031 | .948 | R 2.978 | R 6.051 |
| March | .012 | .883 | .233 | .401 | R 1.528 | .917 | 2.445 | 8.497 |
| April | R .017 | .622 | .179 | .372 | R 1.189 | .823 | 2.013 | R 10.509 |
| May | R .010 | .351 | .165 | .367 | .893 | .894 | 1.787 | R 12.296 |
| June | .008 | .265 | .157 | .406 | .837 | .979 | 1.816 | R 14.113 |
| July | .012 | .233 | .160 | .458 | .864 | 1.143 | 2.007 | R 16.120 |
| August | .011 | .219 | .176 | .471 | .877 | 1.131 | 2.008 | R 18.128 |
| September | .015 | .234 | .177 | .459 | .885 | .961 | R 1.845 | R 19.973 |
| October | R .016 | .325 | .217 | .391 | R .948 | .904 | 1.852 | R 21.825 |
| November | .017 | .501 | .227 | .382 | R 1.127 | .903 | 2.030 | R 23.855 |
| December | .022 | 1.010 | .316 | .447 | R 1.794 | 1.103 | 2.898 | R 26.753 |
| **Total** | R **.176** | **7.079** | **2.573** | **5.072** | R **14.899** | **11.854** | R **26.754** | |
| **1986** January | R .020 | 1.217 | R .308 | .488 | R 2.034 | 1.109 | R 3.143 | R 3.143 |
| February | .018 | 1.060 | R .280 | .437 | R 1.795 | .928 | R 2.723 | R 5.866 |
| March | .013 | .896 | R .254 | .410 | R 1.573 | .930 | R 2.503 | R 8.368 |
| April | R .018 | .568 | R .190 | .375 | R 1.152 | .850 | R 2.002 | R 10.370 |
| May | .011 | .378 | R .182 | .374 | R .945 | .924 | R 1.869 | R 12.239 |
| June | .009 | .261 | R .154 | .436 | R .860 | 1.057 | R 1.917 | R 14.156 |
| July | .011 | .221 | R .166 | .507 | .905 | 1.272 | 2.177 | R 16.333 |
| August | .010 | .212 | R .178 | .505 | R .905 | 1.154 | R 2.059 | R 18.393 |
| September | R .013 | .228 | R .173 | .454 | R .869 | 1.008 | R 1.877 | R 20.270 |
| October | R .015 | .310 | R .216 | .419 | R .960 | .939 | R 1.899 | R 22.169 |
| November | .016 | .551 | R .212 | .392 | R 1.170 | .951 | R 2.121 | R 24.290 |
| December | .021 | .924 | R .262 | .454 | R 1.661 | 1.082 | R 2.743 | R 27.033 |
| **Total** | R **.176** | R **6.825** | R **2.576** | **5.251** | R **14.827** | **12.204** | **27.032** | |
| **1987** January | .017 | 1.140 | R .309 | .490 | R 1.957 | R 1.152 | R 3.109 | R 3.109 |
| February | .015 | 1.071 | R .278 | .452 | R 1.816 | R .936 | R 2.752 | R 5.861 |
| March | .011 | .895 | R .239 | .427 | R 1.572 | R .965 | R 2.537 | R 8.397 |
| April | .014 | .628 | R .198 | .396 | R 1.236 | R .877 | R 2.113 | R 10.510 |
| May | .009 | .365 | R .174 | .404 | R .952 | R .980 | R 1.932 | R 12.442 |
| June | .007 | .252 | R .172 | .460 | R .891 | R 1.106 | R 1.997 | R 14.439 |
| July | .012 | .224 | R .176 | .529 | .941 | R 1.267 | R 2.208 | R 16.647 |
| August | .011 | .213 | R .173 | .548 | R .945 | R 1.262 | R 2.207 | R 18.855 |
| September | .015 | .227 | R .194 | .483 | R .920 | R 1.014 | R 1.934 | R 20.789 |
| October | .016 | .367 | R .230 | .421 | R 1.034 | R .937 | R 1.971 | R 22.760 |
| November | .017 | .562 | R .203 | .405 | R 1.187 | R .934 | R 2.121 | R 24.881 |
| December | .022 | .908 | .260 | .458 | 1.648 | 1.098 | 2.746 | 27.627 |
| **Total** | **.167** | **6.853** | **2.606** | **5.475** | **15.100** | **12.526** | **27.626** | |

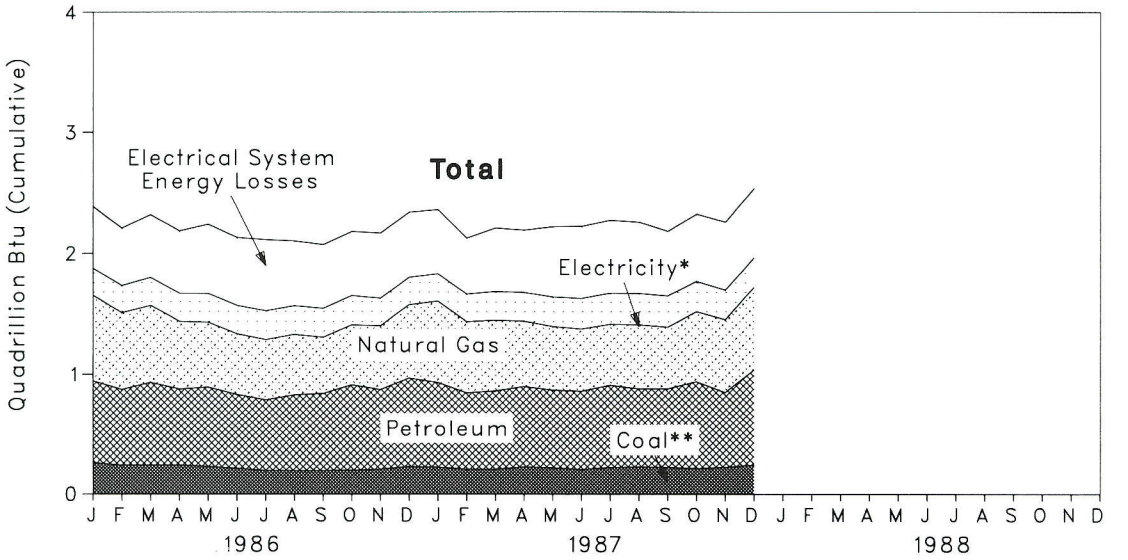
[a]Includes supplemental gaseous fuels.
[b]Includes electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[c]Excludes wood, waste, geothermal wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
R = Revised data.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Additional Notes and Sources: See end of section.

## Figure 2.3 Consumption of Energy by the Industrial Sector

Yearly




Monthly




*Includes hydroelectric power.
**Includes net imports of coal coke.

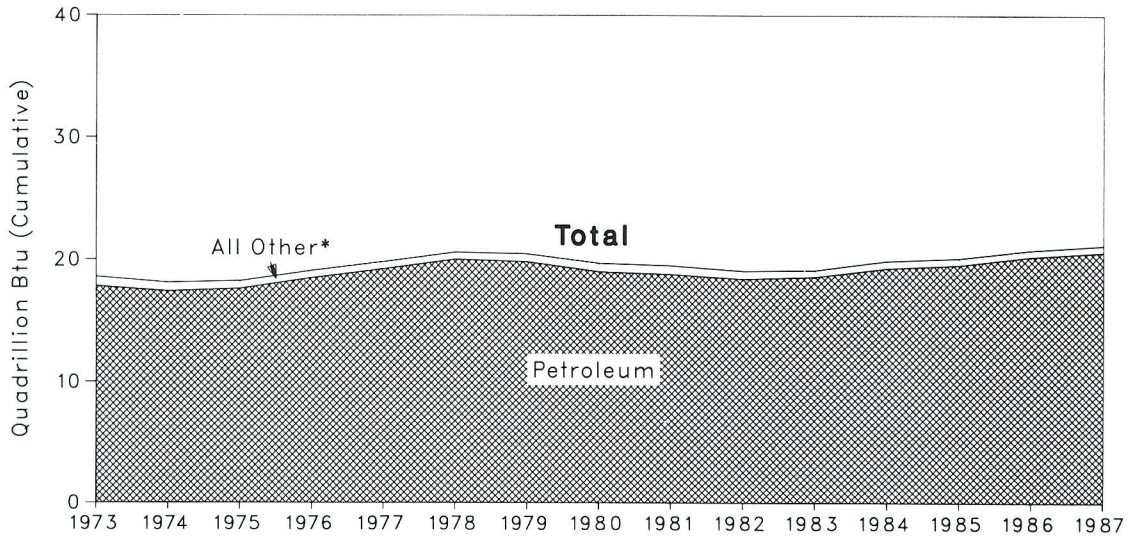
# Table 2.4 Consumption of Energy by the Industrial Sector
(Quadrillion ($10^{15}$) Btu)

| | Coal | Natural Gas[a] | Petroleum | Hydroelectric Power | Net Imports of Coal Coke | Electricity[b] | Net Energy | Electrical System Energy Losses | Total[c] | Year to Date |
|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **4.057** | **10.388** | **9.113** | **0.035** | **-0.007** | **2.341** | **25.926** | **5.611** | **31.536** | |
| **1974 Total** | **3.868** | **10.003** | **8.698** | **.033** | **.056** | **2.337** | **24.998** | **5.701** | **30.697** | |
| **1975 Total** | **3.666** | **8.532** | **8.151** | **.032** | **.014** | **2.346** | **22.742** | **5.664** | **28.405** | |
| **1976 Total** | **3.660** | **8.761** | **9.018** | **.033** | **0** | **2.573** | **24.045** | **6.196** | **30.240** | |
| **1977 Total** | **3.453** | **8.636** | **9.786** | **.033** | **.015** | **2.682** | **24.606** | **6.481** | **31.086** | |
| **1978 Total** | **3.314** | **8.539** | **9.890** | **.032** | **.125** | **2.761** | **24.659** | **6.751** | **31.411** | |
| **1979 Total** | **3.593** | **8.549** | **10.576** | **.034** | **.063** | **2.873** | **25.688** | **6.935** | **32.623** | |
| **1980 Total** | **3.155** | **8.394** | **9.524** | **.033** | **-.035** | **2.781** | **23.852** | **6.755** | **30.607** | |
| **1981 Total** | **3.157** | **8.257** | **R 8.295** | **.033** | **-.016** | **2.817** | **R 22.544** | **6.705** | **R 29.249** | |
| **1982 Total** | **2.552** | **7.116** | **R 7.797** | **.033** | **-.022** | **2.542** | **R 20.018** | **6.120** | **R 26.138** | |
| **1983 Total** | **2.490** | **6.821** | **R 7.420** | **.033** | **-.016** | **2.648** | **R 19.396** | **6.346** | **R 25.742** | |
| **1984 Total** | **2.842** | **7.449** | **R 7.885** | **.032** | **-.011** | **2.862** | **R 21.058** | **6.659** | **R 27.717** | |
| **1985** January | .245 | .705 | .708 | .003 | 0 | .232 | 1.894 | .582 | 2.476 | 2.476 |
| February | .226 | .657 | .627 | .003 | .001 | .230 | 1.745 | .475 | 2.219 | 4.695 |
| March | .227 | .624 | .639 | .003 | 0 | .233 | 1.727 | .532 | 2.259 | 6.954 |
| April | .241 | .580 | .620 | .003 | .001 | .237 | 1.680 | .524 | 2.203 | 9.158 |
| May | .233 | .539 | .656 | .003 | -.003 | .242 | 1.671 | .591 | 2.262 | 11.419 |
| June | .213 | .508 | .624 | .003 | -.002 | .242 | 1.589 | .584 | 2.173 | 13.592 |
| July | .223 | .525 | .615 | .003 | -.002 | .241 | 1.606 | .601 | 2.208 | 15.800 |
| August | .226 | .527 | .646 | .002 | -.001 | .247 | 1.647 | .592 | 2.239 | 18.039 |
| September | .219 | .527 | .600 | .002 | -.003 | .245 | 1.591 | .512 | 2.103 | 20.142 |
| October | .221 | .573 | .680 | .002 | -.001 | .239 | 1.713 | .553 | 2.266 | 22.408 |
| November | .231 | .599 | .608 | .002 | -.003 | .232 | 1.669 | .548 | 2.218 | 24.626 |
| December | .254 | .715 | .678 | .002 | -.001 | .229 | 1.878 | .567 | 2.445 | 27.071 |
| **Total** | **2.760** | **7.080** | **7.702** | **.033** | **-.013** | **2.850** | **20.410** | **6.661** | **27.071** | |
| **1986** January | .259 | .709 | R .686 | .003 | 0 | .223 | R 1.880 | .507 | R 2.387 | R 2.387 |
| February | .239 | .637 | R .634 | .003 | 0 | .223 | R 1.736 | .474 | R 2.209 | R 4.597 |
| March | .240 | .638 | R .693 | .003 | -.001 | .229 | R 1.802 | .519 | R 2.320 | R 6.917 |
| April | .239 | .563 | R .637 | .003 | 0 | .228 | R 1.669 | .517 | R 2.186 | R 9.103 |
| May | .231 | .540 | R .664 | .003 | -.003 | .232 | R 1.668 | .574 | R 2.241 | R 11.344 |
| June | .212 | .502 | R .620 | .003 | 0 | .232 | R 1.569 | .563 | R 2.132 | R 13.476 |
| July | .196 | .499 | R .593 | .003 | -.002 | .235 | R 1.525 | .589 | R 2.114 | R 15.589 |
| August | .199 | .501 | R .635 | .002 | -.006 | .235 | R 1.566 | .536 | R 2.102 | R 17.692 |
| September | .193 | .466 | .647 | .002 | 0 | .237 | 1.545 | .526 | 2.070 | R 19.762 |
| October | .198 | .499 | R .715 | .002 | -.001 | .237 | R 1.651 | .531 | R 2.182 | R 21.944 |
| November | .208 | .531 | R .668 | .002 | -.003 | .223 | R 1.628 | .540 | R 2.168 | R 24.112 |
| December | .229 | .607 | R .742 | .002 | -.001 | .225 | R 1.806 | .536 | R 2.342 | R 26.454 |
| **Total** | **2.643** | **6.693** | **R 7.934** | **.033** | **-.017** | **2.758** | **R 20.043** | **6.410** | **R 26.454** | |
| **1987** January | R .224 | .673 | R .710 | .003 | -.001 | .224 | R 1.834 | R .527 | R 2.361 | R 2.361 |
| February | R .206 | .592 | R .642 | .003 | .001 | .223 | R 1.667 | R .462 | R 2.129 | R 4.491 |
| March | R .206 | .588 | R .659 | .003 | -.002 | .232 | R 1.686 | R .524 | R 2.210 | R 6.701 |
| April | R .225 | .545 | R .674 | .003 | 0 | .232 | R 1.680 | R .514 | R 2.194 | R 8.895 |
| May | R .217 | .529 | R .653 | .003 | 0 | .239 | R 1.642 | R .580 | R 2.222 | R 11.117 |
| June | R .200 | .518 | R .658 | .003 | .002 | .248 | R 1.628 | R .595 | R 2.223 | R 13.340 |
| July | R .221 | .508 | R .690 | .003 | 0 | .252 | R 1.673 | R .602 | R 2.275 | R 15.615 |
| August | R .224 | .534 | R .655 | .002 | .001 | .255 | R 1.671 | R .588 | R 2.259 | R 17.874 |
| September | R .217 | .513 | R .660 | .002 | .004 | .254 | R 1.651 | R .534 | R 2.185 | R 20.059 |
| October | R .209 | .581 | R .729 | .002 | .002 | .249 | R 1.772 | R .553 | R 2.326 | R 22.385 |
| November | R .219 | R .606 | R .628 | .002 | .003 | .242 | R 1.701 | R .559 | R 2.259 | R 24.644 |
| December | .242 | .684 | .798 | .002 | -.001 | .240 | 1.964 | .574 | 2.539 | 27.183 |
| **Total** | **2.610** | **6.873** | **8.156** | **.033** | **.009** | **2.891** | **20.570** | **6.614** | **27.184** | |

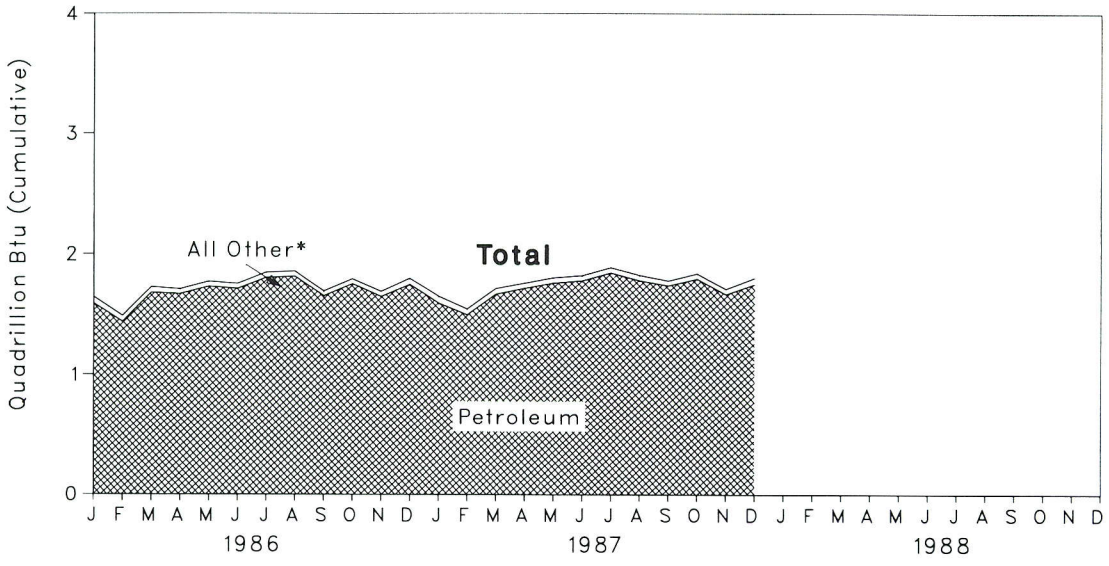
[a]Includes supplemental gaseous fuels.
[b]Includes electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[c]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
R = Revised data.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Additional Notes and Sources: See end of section.

## Figure 2.4 Consumption of Energy by the Transportation Sector

Yearly




Monthly




*Includes coal, natural gas, electricity, and electrical system energy losses.

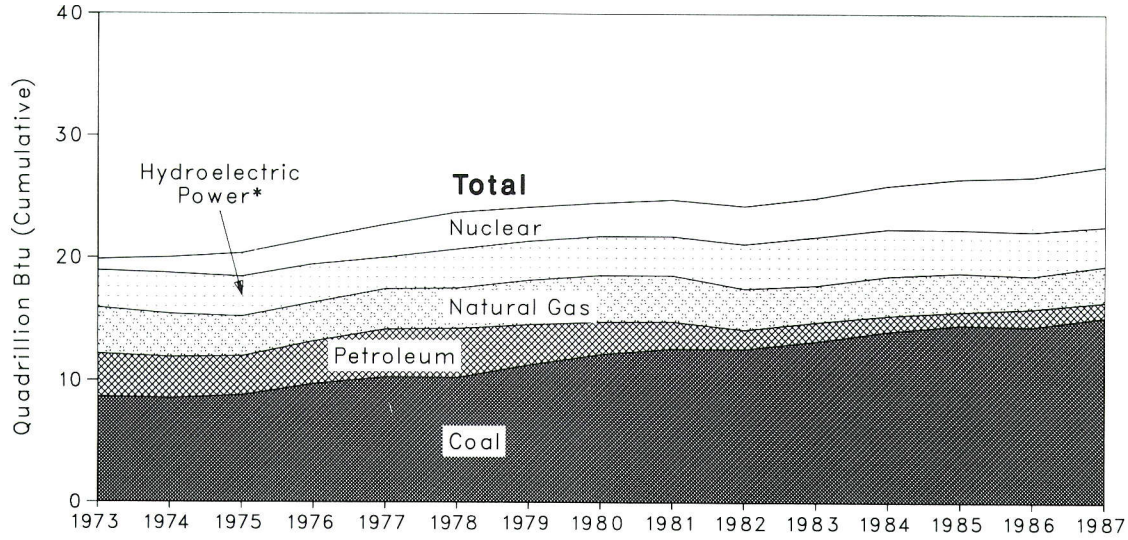
# Table 2.5 Consumption of Energy by the Transportation Sector
(Quadrillion ($10^{15}$) Btu)

| | Coal | Natural Gas[a] | Petroleum | Electricity[b] | Net Energy | Electrical System Energy Losses | Total[c] | Year to Date |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | 0.003 | 0.743 | 17.821 | 0.008 | 18.575 | 0.020 | 18.595 | |
| **1974 Total** | .002 | .685 | 17.396 | .009 | 18.091 | .022 | 18.113 | |
| **1975 Total** | .001 | .595 | 17.610 | .010 | 18.215 | .025 | 18.240 | |
| **1976 Total** | [d] | .559 | 18.499 | .010 | 19.068 | .025 | 19.094 | |
| **1977 Total** | [d] | .543 | 19.230 | .010 | 19.783 | .025 | 19.808 | |
| **1978 Total** | [e] | .539 | 20.019 | .009 | 20.567 | .022 | 20.589 | |
| **1979 Total** | [e] | .612 | 19.817 | .010 | 20.439 | .025 | 20.464 | |
| **1980 Total** | [e] | .650 | 19.009 | .011 | 19.669 | .026 | 19.695 | |
| **1981 Total** | [e] | .658 | 18.800 | .011 | R 19.470 | .026 | 19.496 | |
| **1982 Total** | [e] | .612 | R 18.418 | .011 | R 19.040 | .026 | R 19.067 | |
| **1983 Total** | [e] | .505 | R 18.592 | .011 | R 19.108 | .026 | R 19.134 | |
| **1984 Total** | [e] | .545 | 19.295 | .013 | 19.852 | .029 | 19.881 | |
| **1985** January | [e] | .056 | 1.551 | .001 | 1.608 | .003 | 1.611 | 1.611 |
| February | [e] | .047 | 1.437 | .001 | 1.485 | .002 | 1.488 | 3.098 |
| March | [e] | .043 | 1.618 | .001 | 1.662 | .003 | 1.665 | 4.763 |
| April | [e] | .040 | 1.636 | .001 | 1.678 | .003 | 1.680 | 6.443 |
| May | [e] | .041 | 1.692 | .001 | 1.735 | .003 | 1.737 | 8.181 |
| June | [e] | .039 | 1.638 | .001 | 1.679 | .003 | 1.681 | 9.862 |
| July | [e] | .041 | 1.711 | .001 | 1.754 | .003 | 1.757 | 11.619 |
| August | [e] | .040 | 1.753 | .001 | 1.794 | .003 | 1.797 | 13.416 |
| September | [e] | .038 | 1.581 | .001 | 1.620 | .002 | 1.623 | 15.038 |
| October | [e] | .040 | 1.684 | .001 | 1.725 | .003 | 1.728 | 16.766 |
| November | [e] | .040 | 1.596 | .001 | 1.637 | .003 | 1.640 | 18.406 |
| December | [e] | .053 | 1.661 | .001 | 1.714 | .003 | 1.717 | 20.123 |
| **Total** | [e] | **.519** | **19.558** | **.014** | **20.091** | **.032** | **20.123** | |
| **1986** January | [e] | .051 | R 1.589 | .001 | R 1.642 | .002 | R 1.644 | R 1.644 |
| February | [e] | .044 | R 1.440 | .001 | R 1.485 | .002 | R 1.488 | R 3.132 |
| March | [e] | .043 | R 1.679 | .001 | R 1.724 | .002 | R 1.726 | R 4.858 |
| April | [e] | .037 | R 1.667 | .001 | R 1.705 | .002 | R 1.707 | R 6.565 |
| May | [e] | .039 | R 1.729 | .001 | R 1.769 | R .003 | R 1.772 | R 8.336 |
| June | [e] | .038 | R 1.712 | .001 | R 1.751 | .002 | R 1.753 | R 10.090 |
| July | [e] | .039 | R 1.806 | .001 | R 1.846 | .003 | R 1.849 | R 11.939 |
| August | [e] | .039 | R 1.816 | .001 | R 1.856 | .002 | R 1.858 | R 13.797 |
| September | [e] | .037 | R 1.651 | .001 | R 1.690 | .002 | R 1.692 | R 15.489 |
| October | [e] | .039 | R 1.753 | .001 | R 1.793 | .002 | R 1.795 | R 17.284 |
| November | [e] | .039 | R 1.645 | .001 | R 1.685 | .002 | R 1.687 | R 18.972 |
| December | [e] | .048 | R 1.747 | .001 | R 1.796 | .003 | R 1.799 | R 20.771 |
| **Total** | [e] | **.499** | **R 20.235** | **.012** | **R 20.746** | **.029** | **R 20.775** | |
| **1987** January | [e] | .052 | R 1.593 | .001 | R 1.647 | .003 | R 1.650 | R 1.650 |
| February | [e] | .044 | R 1.497 | .001 | R 1.542 | .002 | R 1.544 | R 3.194 |
| March | [e] | .044 | R 1.667 | .001 | R 1.712 | .002 | R 1.714 | R 4.908 |
| April | [e] | .041 | R 1.717 | .001 | R 1.759 | .002 | R 1.761 | R 6.669 |
| May | [e] | .041 | R 1.762 | .001 | R 1.804 | .003 | R 1.806 | R 8.476 |
| June | [e] | .039 | R 1.782 | .001 | R 1.822 | .003 | R 1.825 | R 10.300 |
| July | [e] | .040 | R 1.845 | .001 | R 1.886 | .003 | R 1.889 | R 12.189 |
| August | [e] | .040 | R 1.784 | .001 | R 1.826 | .003 | R 1.828 | R 14.017 |
| September | [e] | .038 | R 1.741 | .001 | R 1.781 | .002 | R 1.783 | R 15.800 |
| October | [e] | .040 | R 1.799 | .001 | R 1.840 | .002 | 1.843 | R 17.643 |
| November | [e] | .042 | R 1.667 | .001 | R 1.710 | .002 | R 1.713 | R 19.356 |
| December | [e] | .050 | 1.752 | .001 | 1.804 | .003 | 1.807 | 21.162 |
| **Total** | [e] | **.513** | **20.606** | **.013** | **21.133** | **.030** | **21.162** | |

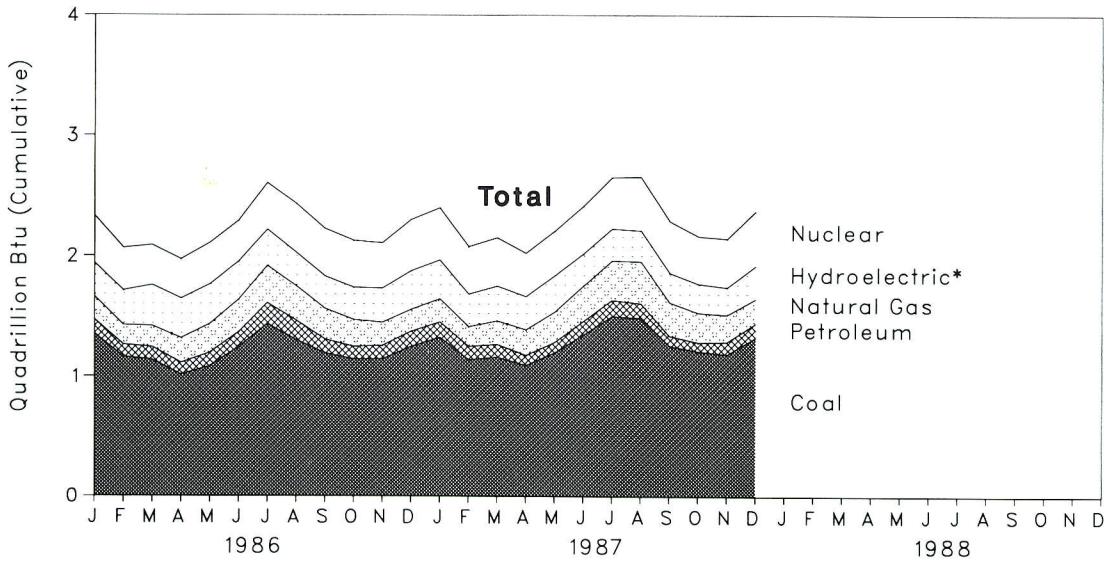
[a]Pipeline fuel only, including supplemental gaseous fuels.
[b]Includes electricity generated for distribution from wood, waste, geothermal, wind photovoltaic, and solar thermal energy.
[c]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy for small amounts used by electric utilities to generate electricity for distribution.
[d]Less than 0.5 trillion Btu.
[e]Since 1978, the small amounts of coal consumed for transportation have been reported as industrial sector consumption.
R = Revised data.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Additional Notes and Sources: See end of section.

## Figure 2.5 Energy Input at Electric Utilities

Yearly




Monthly




*Includes other.

# Table 2.6 Energy Input at Electric Utilities
(Quadrillion ($10^{15}$) Btu)

| | Coal | Natural Gas[a] | Petroleum[b] | Hydroelectric Power[c] | Nuclear Electric Power | Other[d] | Total | Year to Date |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **8.658** | **3.748** | **3.515** | **2.975** | **0.910** | **0.046** | **19.853** | |
| **1974 Total** | **8.534** | **3.519** | **3.365** | **3.276** | **1.272** | **.056** | **20.022** | |
| **1975 Total** | **8.786** | **3.240** | **3.166** | **3.187** | **1.900** | **.072** | **20.350** | |
| **1976 Total** | **9.720** | **3.152** | **3.477** | **3.032** | **2.111** | **.081** | **21.573** | |
| **1977 Total** | **10.262** | **3.284** | **3.901** | **2.482** | **2.702** | **.082** | **22.713** | |
| **1978 Total** | **10.238** | **3.297** | **3.987** | **3.110** | **3.024** | **.068** | **23.724** | |
| **1979 Total** | **11.260** | **3.613** | **3.283** | **3.107** | **2.776** | **.089** | **24.128** | |
| **1980 Total** | **12.123** | **3.810** | **2.634** | **3.085** | **2.739** | **.114** | **24.505** | |
| **1981 Total** | **12.583** | **3.768** | **2.202** | **3.072** | **3.008** | **.127** | **24.760** | |
| **1982 Total** | **12.582** | **3.342** | **1.568** | **3.528** | **3.131** | **.108** | **24.260** | |
| **1983 Total** | **13.213** | **2.998** | **1.544** | **3.838** | **3.203** | **.133** | **24.929** | |
| **1984 Total** | **14.020** | **3.220** | **1.286** | **3.684** | **3.553** | **.174** | **25.937** | |
| **1985** January | 1.334 | .235 | .132 | .314 | .391 | .018 | 2.424 | 2.424 |
| February | 1.163 | .210 | .101 | .292 | .333 | .016 | 2.115 | 4.539 |
| March | 1.148 | .215 | .077 | .292 | .336 | .018 | 2.087 | 6.626 |
| April | 1.067 | .243 | .066 | .282 | .286 | .016 | 1.959 | 8.585 |
| May | 1.144 | .245 | .075 | .307 | .310 | .016 | 2.098 | 10.684 |
| June | 1.208 | .293 | .083 | .283 | .333 | .016 | 2.216 | 12.899 |
| July | 1.347 | .349 | .090 | .264 | .380 | .018 | 2.448 | 15.347 |
| August | 1.322 | .368 | .107 | .253 | .376 | .018 | 2.445 | 17.793 |
| September | 1.190 | .285 | .082 | .232 | .373 | .017 | 2.180 | 19.973 |
| October | 1.152 | .259 | .082 | .242 | .337 | .017 | 2.090 | 22.062 |
| November | 1.138 | .239 | .075 | .271 | .326 | .021 | 2.070 | 24.132 |
| December | 1.329 | .218 | .120 | .296 | .365 | .022 | 2.350 | 26.482 |
| **Total** | **14.542** | **3.160** | **1.090** | **3.330** | **4.147** | **.213** | **26.482** | |
| **1986** January | 1.350 | .190 | .119 | .258 | .391 | .023 | 2.331 | 2.331 |
| February | 1.161 | .162 | .101 | .268 | .354 | .019 | 2.065 | 4.396 |
| March | 1.136 | .175 | .107 | .318 | .333 | .020 | 2.090 | 6.486 |
| April | 1.014 | .205 | .097 | .309 | .329 | .018 | 1.972 | 8.458 |
| May | 1.084 | .239 | .111 | .310 | .345 | .018 | 2.107 | 10.565 |
| June | 1.242 | .269 | .123 | .299 | .339 | .020 | 2.291 | 12.856 |
| July | 1.434 | .311 | .173 | .279 | .388 | .021 | 2.607 | 15.463 |
| August | 1.301 | .286 | .163 | .258 | .405 | .021 | 2.433 | 17.896 |
| September | 1.192 | .255 | .115 | .253 | .395 | .018 | 2.228 | 20.124 |
| October | 1.141 | .224 | .105 | .251 | .391 | .017 | 2.130 | 22.254 |
| November | 1.142 | .193 | .112 | .268 | .378 | .015 | 2.108 | 24.363 |
| December | 1.246 | .181 | .126 | .302 | .426 | .020 | 2.302 | 26.665 |
| **Total** | **14.444** | **2.691** | **1.452** | **3.372** | **4.475** | **.232** | **26.665** | |
| **1987** January | R 1.321 | .191 | .129 | .305 | .432 | .020 | R 2.398 | R 2.398 |
| February | R 1.136 | .164 | .111 | .251 | .396 | .019 | R 2.077 | R 4.474 |
| March | R 1.156 | .196 | .107 | .268 | .403 | .021 | R 2.151 | R 6.625 |
| April | R 1.089 | .213 | .084 | .255 | .362 | .019 | R 2.023 | R 8.649 |
| May | R 1.195 | .251 | .086 | .283 | .371 | .020 | R 2.207 | R 10.855 |
| June | R 1.344 | .293 | .112 | .247 | .395 | .021 | R 2.412 | R 13.267 |
| July | R 1.497 | .330 | .134 | .243 | .428 | .022 | R 2.654 | R 15.921 |
| August | R 1.483 | .350 | .120 | .235 | .447 | .022 | R 2.657 | R 18.578 |
| September | R 1.254 | .277 | .082 | .227 | .429 | .020 | R 2.289 | R 20.866 |
| October | R 1.209 | .246 | .073 | .221 | .394 | .020 | R 2.163 | R 23.030 |
| November | R 1.184 | .224 | .103 | .208 | .405 | .020 | R 2.143 | R 25.173 |
| December | 1.323 | .203 | .117 | .256 | .454 | .020 | 2.374 | 27.547 |
| **Total** | **15.190** | **2.940** | **1.258** | **2.999** | **4.915** | **.245** | **27.547** | |

[a]Includes supplemental gaseous fuels.

[b]Includes petroleum products reported as "oil consumed in steam plants" through 1979 and "heavy oil" from 1980 forward, which are assumed to be residual fuel oil; petroleum products reported as "oil consumed in gas turbine and internal combustion engine plants" through 1979 and "light oil" from 1980 forward, which are assumed to be distillate fuel oil and kerosene; and petroleum coke.

[c]Includes net imports of electricity.

[d]Other is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

R = Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Additional Notes and Sources: See end of section.

# Table 2.7 Energy Consumption Summary for December 1987
(Quadrillion ($10^{15}$) Btu)

| Energy Source | Sector | | | | Total |
|---|---|---|---|---|---|
| | Residential and Commercial | Industrial | Transportation | Electric Utilities | |
| Coal | 0.022 | 0.242 | [a] | 1.323 | 1.588 |
| Natural Gas[b] | .908 | .684 | 0.050 | .203 | 1.846 |
| Petroleum Products | .260 | .798 | 1.752 | .117 | 2.928 |
| Hydroelectric Power | - | .002 | - | .256 | .259 |
| Nuclear Electric Power | - | - | - | .454 | .454 |
| Net Imports of Coal Coke | - | -.001 | - | - | -.001 |
| Other[c] | - | - | - | .020 | .020 |
| **Primary Consumption** | **1.190** | **1.725** | **1.803** | **2.374** | **7.093** |
| Electricity | .458 | .240 | .001 | | |
| **Net Energy Consumption** | **1.648** | **1.964** | **1.804** | | **5.418** |
| Electrical System Energy Losses | 1.098 | .574 | .003 | | 1.675 |
| **Total Energy Consumption[d]** | **2.746** | **2.539** | **1.807** | | **7.093** |

[a]Small amounts of coal consumed for transportation are reported as industrial sector consumption.
[b]Includes supplemental gaseous fuels. Transportation sector is pipeline fuel only.
[c]Other is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[d]Excludes wood, waste, geothermal, wind, photovotaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
Note: Totals may not equal sum of components due to independent rounding and the use of sector-specific conversion factors.
Additional Notes and Sources: See end of section.

# Notes and Sources for the Consumption Section

**1. Total Energy Consumed:** Total energy consumed includes coal, natural gas (including supplemental gaseous fuels), petroleum products supplied, electric utility and industrial generation of hydroelectric power, net imports of electricity generated from hydroelectric power, and electricity generated from nuclear power. Total energy consumed also includes electricity generated from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available.

**2. Economic Sectors:** Energy use is assigned to the major economic sectors according to the following guidelines as closely as possible:

- Residential and Commercial Sector-- private household establishments (which consume energy primarily for space heating, water heating, air conditioning, refrigeration, cooking, and clothes drying); nonmanufacturing business establishments, including hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public swimming pools are also included.
- Industrial sector--manufacturing, construction, mining, agriculture, fishing, and forestry establishments.
- Transportation sector--private and public vehicles that move people and commodities. Included are automobiles, trucks, buses, motorcycles, railroads and railways (including streetcars), aircraft, ships, barges, and natural gas pipelines.
- Electric utility sector--privately- and publicly-owned establishments that generate electricity primarily for use by the public.

**3. Conversion Factors:** See the Conversion Factors section of this publication.

**4. Coal:** Coal is anthracite, bituminous coal, (including sub-bituminous coal), and lignite. Sources:

- 1973 through September 1977: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook* and *Minerals Industry Surveys.*
- Electric Utilities--October 1977 forward: Energy Information Administration (EIA), EIA Form 759 (formerly FPC Form 4), "Monthly Power Plant Report."
- Other Industrial--October 1977 through December 1979: EIA, EIA Form 3, "Monthly Fuel Consumption Report - Manufacturing Plants"; January 1980 forward: EIA, EIA Form 3, "Quarterly Fuel Consumption Report - Manufacturing Plants" and EIA Form 6, "Coal Distribution Report."
- Coke Plants--October 1977 through December 1980: EIA, EIA Form 5/5A, "Coke and Coal Chemicals - Monthly/Annual"; January 1981 forward: EIA, EIA Form 5/5A, "Coke and Coal Chemicals - Quarterly/Annual."
- Residential and Commercial--October 1977 through December 1979: EIA, EIA Form 2, "Monthly Coal Report, Retail Dealers and Upper Lake Docks"; January 1980 forward: EIA, EIA Form 6, "Coal Distribution Report."

**5. Natural Gas:** Natural gas consumption by end-use sector is based on data presented in Table 4.3 of this report. For Section 2 calculations, lease and plant fuel consumption are added to the industrial sector deliveries and pipeline fuel represents the transportation sector's use of natural gas. Values in Btu are derived using the conversion factors provided in the Conversion Factors section of this publication. Sources:

- 1973 through 1975: DOI, BOM, *Minerals Yearbook,* "Natural Gas" chapter.
- 1976 through 1978: EIA, *Energy Data Reports,* "Natural Gas, Annual."
- 1979: EIA, *Natural Gas Production and Consumption 1979.*
- 1980 through 1986: EIA, *Natural Gas Annual.*
- 1987 forward: EIA, EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," and EIA computations.
- Electric utilities consumption--1973 through 1976: FPC Form 4, "Monthly Power Plant Report." 1977 through 1981: Federal Energy Regulatory Commission (FERC), FPC Form 4, "Monthly Power Plant Report." 1982 forward: EIA, EIA Form 759, "Monthly Power Plant Report."
- American Gas Association, "Monthly Gas Utility Statistical Report."

**6. Petroleum:** Petroleum consumption by end-use is the sum of all individual petroleum products estimated to be consumed in each end-use sector. First, total consumption by product is determined. Petroleum consumption in this section of the *Monthly Energy Review (MER)* is the series called "petroleum products supplied" in Section 3. Sources for petroleum products supplied by individual products are:

- 1973 through 1975: DOI, BOM, *Mineral Industry Surveys,* "Petroleum Statement, Annual."
- 1976 through 1980: EIA, *Energy Data Reports,* "Petroleum Statement, Annual."
- 1981 through 1986: EIA, *Petroleum Supply Annual.*
- 1987 forward: EIA, *Petroleum Supply Monthly.*

Specific petroleum products' end-use allocation procedures follow:

- **Aviation Gasoline**--All product supplied is assigned to the transportation sector.
- **Asphalt**--All product supplied is assigned to the industrial sector.
- **Distillate Fuel**

*Electric Utility Sector, All Periods.*

Monthly and annual consumption in 1973 through 1979 is assumed to be the amount of oil (minus small amounts of kerosene and kerosene-type jet fuel deliveries) reported as consumed in internal combustion and gas turbine engine plants. From January 1980, electric utility consumption of distillate fuel is assumed to be the petroleum products reported as "light oil" (minus small amounts of kerosene deliveries through 1982) consumed at utilities.

Sources: 1973 through September 1977--FPC Form 4, "Monthly Power Plant Report;" October 1977 through 1981--FERC, FPC Form 4, "Monthly Power Plant Report;" 1982 forward--EIA, Form EIA-759, "Monthly Power Plant Report."

*Non-Electric Utility Sectors, Annual Estimates Through 1986.*

The aggregate non-electric utility use of distillate fuel is total distillate fuel supplied minus the electric utility consumption. The non-electric utility annual totals are allocated into the individual non-electric utility sectors in proportion to the amount of distillate fuel delivered to end users, grouped into sectors from EIA's "Deliveries of Fuel Oil and Kerosene" ( "Deliveries") reports (based primarily on data collected by Form EIA-821, previously Form EIA-172) as follows:

- Residential sector deliveries are directly from the "Deliveries" reports for 1979 through 1986. Prior to 1979, each year's deliveries subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares;

- Commercial sector deliveries are directly from the "Deliveries" reports for 1979 through 1986. Prior to 1979, each year's deliveries subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares;

- Industrial sector deliveries for 1979 through 1986 are the sum of deliveries for industrial, farm, oil company, off-highway, diesel, and all other uses. Prior to 1979, each year's deliveries subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares, and this estimated industrial portion is added to oil company, off-highway diesel, and all other uses; and

- Transportation sector deliveries are the sum of deliveries for railroad, vessel bunkering, on-highway diesel, and military uses for all years.

*Non-Electric Utility Sectors, Monthly Estimates Through 1986.*

- Residential and commercial sector monthly consumption is estimated by allocating the annual sector estimates described above into months in proportion to each month's share of the year's sales of No. 2 heating oil as reported in the "Monthly Report of Heating Oil Sales" by the Ethyl Corporation from 1973 through 1980 and the American Petroleum Institute for 1981 and 1982, and the Energy Information Administration, Form EIA-782-A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale, for 1983 through 1986.

- The transportation sector highway use portion is allocated into the months in proportion to each month's share of the year's total sales for highway use as reported by the Federal Highway Administration's Table MF-25, "Private and Commercial Highway Use of Special Fuels by Months." The remaining transportation use of distillate fuel (i.e., for railroads, vessel bunkering, and military use) is evenly distributed over the months, adjusted for the number of days per month.

- Industrial sector monthly estimates are made by subtracting the residential and commercial, transportation, and electric utility sector estimates from each month's total distillate fuel supplied.

*Non-Electric Utility Sectors, 1987 Forward.*

Each month's non-electric utility consumption subtotal is disaggregated into the major end-use sectors in proportion to the shares each sector held of the non-electric utility subtotal in the same month in 1986.

- **Jet Fuel**--Through 1982, small amounts of kerosene-type jet fuel were consumed by the electric utility sector. Kerosene-type jet fuel deliveries to electric utilities as reported on the FERC-423 (formerly FPC-423) were used as estimates of this consumption. All remaining jet fuel (kerosene-type and naphtha-type) is consumed by the transportation sector.
- **Kerosene**--Total product supplied monthly is allocated to the major end-use sectors in proportion to annual deliveries grouped into end-use sectors from EIA's "Deliveries of Fuel Oil and Kerosene" ( "Deliveries") reports (based primarily on data collected by Form EIA-821, previously Form EIA-172) as follows:

- Residential sector deliveries are directly from the "Deliveries" reports for 1979 through 1986. Deliveries for 1986 are used as estimates for suc-

ceeding periods. Prior to 1979, each year's deliveries category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares;

- Commercial sector deliveries are directly from the "Deliveries" reports for 1979 through 1986. Deliveries for 1986 are used as estimates for succeeding periods. Prior to 1979, each year's deliveries category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares; and

- Industrial sector deliveries are directly from the "Deliveries" reports for 1979 through 1986. Deliveries for 1986 are used as estimates for succeeding periods. Prior to 1979, each year's deliveries category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares, and this estimated industrial (including farm) portion is added to "all other uses."

- **Liquefied Petroleum Gases (LPG)**--The annual shares of LPG's total consumption that are estimated to be consumed by each end-use sector are applied to each month's total LPG consumption (i.e., product supplied) to create monthly end-use consumption estimates. The annual end-use shares are calculated in the following manner:

  - Sales of LPG to the residential and commercial sector are converted from thousand gallons per year to thousand barrels per year and are assumed to be the annual consumption of LPG by the sector;

  - The quantity of LPG sold each year that is consumed in internal combustion engines is allocated between the transportation and industrial sectors according to a 5-year moving average of the percentage of carburetors sold to each end-use category. The proportions range from 31 percent transportation and 69 percent industrial in 1973 to 63 percent transportation and 37 percent industrial in 1985.

  - LPG consumed annually by the industrial sector is estimated as the difference between LPG's total supplied and the estimated consumption by the sum of the residential and commercial sector and the transportation sector. The industrial sector includes LPG used by chemical plants as raw materials or solvents and for use in the production of synthetic rubber; refinery fuel use; use as synthetic natural gas feedstock and use in secondary recovery projects; all farm use; LPG sold to gas utility companies for distribution through the mains; and a portion of the use of LPG as an internal combustion engine fuel.

The sources of the annual sales data for creating annual end-use shares are:

- 1973 through 1982: EIA's "Sales of Liquefied Petroleum Gases and Ethane" reports, based primarily on data collected by Form EIA-174.

- 1983: End-use consumption estimates for 1983 are based on 1982 end-use consumption because the collection of data under Form EIA-174 was discontinued after data year 1982.

- 1984 through 1986: American Petroleum Institute (API), "Sales of Natural Gas Liquids and Liquefied Refinery Gases" based on an LPG sales survey jointly sponsored by API, the Gas Processors Association, and the National Liquefied Petroleum Gas Association.

- Succeeding periods: The 1986 source is used to estimate succeeding periods.

- **Lubricants**--Total product supplied is allocated to the industrial and transportation sectors for all months according to proportions developed from annual sales of lubricants to those two sectors from U.S. Department of Commerce, Bureau of the Census, *Current Industrial Reports,* "Sales of Lubricating and Industrial Oils and Greases." The 1973 shares are applied to 1973 and 1974; the 1975 shares are applied to 1975 and 1976; and the 1977 shares are applied to 1977 forward.

- **Motor Gasoline**--Total product supplied monthly is allocated to the major end-use sectors in proportion to aggregations of annual sales categories formed from the U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics,* Tables MF-21, MF-24, and MF-25, as follows:

  - Commercial sales are the sum of sales for public non-highway use, miscellaneous use, and unclassified use;

  - Industrial sales are the sum of sales for agriculture, construction, and industrial and commercial use as classified in the *Highway Statistics;* and

  - Transportation sales are the sum of sales for highway use (minus the sales of special fuels, which are primarily diesel fuel and are accounted for in the transportation sector of distillate fuel) and sales for marine use.

- **Petroleum Coke**--The portion consumed by the electric utility sector is from EIA Form 759, "Monthly Power Plant Report" (formerly FPC Form 4). The remaining petroleum coke is assigned to the industrial sector.

- **Residual Fuel**

  *Electric Utility Sector, All Periods.*

  Monthly and annual consumption 1973 through 1979 is assumed to be the amount of oil reported as consumed in steam-electric power plants. From January 1980, electric utility consumption of residual fuel is assumed to be the petroleum

products reported as "heavy oil" consumed at utilities.

Sources: 1973 through September 1977--FPC Form 4, "Monthly Power Plant Report;" October 1977 through 1981--FERC, FPC Form 4, "Monthly Power Plant Report;" 1982 forward--EIA, Form EIA-759, "Monthly Power Plant Report."

*Non-Electric Utility Sectors, Annual Estimates Through 1986.*

The aggregate non-electric utility use of residual fuel is total residual fuel supplied minus the electric utility consumption. The non-electric utility annual totals are allocated into the individual non-electric utility sectors in proportion to the amount of residual fuel delivered to end users, grouped into sectors from EIA's "Deliveries of Fuel Oil and Kerosene" ( "Deliveries") reports (based primarily on data collected by Form EIA-821, previously Form EIA-172) as follows:

- Commercial sector deliveries are directly from the "Deliveries" reports for 1979 through 1986. Prior to 1979, each year's deliveries subtotal of the heating plus industrial category is split into commercial and industrial in proportion to the 1979 shares;

- Industrial sector deliveries for 1979 through 1986 are the sum of deliveries for industrial, oil company, and all other uses. Prior to 1979, each year's deliveries subtotal of the heating plus industrial category is split into commercial and industrial in proportion to the 1979 shares; and this estimated industrial portion is added to oil company and all other uses; and

- Transportation sector deliveries are the sum of deliveries for railroad, vessel bunkering, and military uses for all years.

*Non-Electric Utility Sectors, Monthly Estimates Through 1986.*

- Commercial sector monthly consumption is estimated by allocating the annual commercial sector estimates described above into months in proportion to each month's share of the year's sales of No. 2 fuel oil as reported in the "Monthly Report of Heating Oil Sales" by the Ethyl Corporation for 1973 through 1980 and the American Petroleum Institute for 1981 and 1982, and the Energy Information Administration, Form EIA-782-A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale, 1983 through 1986.

- Transportation sector monthly estimates are made by evenly distributing the annual sector estimate over the months, adjusted for the number of days per month.

- Industrial sector monthly estimates are made by subtracting the commercial, transportation, and electric utility sector estimates from each month's total residual fuel supplied.

*Non-Electric Utility Sectors, 1987 Forward.*

Each month's non-electric utility consumption subtotal is disaggregated into the major end-use sectors in proportion to the shares each sector held of the non-electric utility subtotal in the same month in 1986.

- **Road Oil**--All product supplied is assigned to the industrial sector.
- **All Other Petroleum Products**--The product supplied of all remaining petroleum products is assigned to the industrial sector.

**7. Hydroelectric Power:** Includes electricity generated by hydroelectric power at electric utilities, small amounts in the industrial sector, and net imports of electricity, which are assumed to be generated by hydroelectric power and are included in the electric utilities sector.

Sources for electric utilities sector:

- 1973 through 1976: FPC, Form 4, "Monthly Power Plant Report."
- 1977 through 1981: FERC, FPC Form 4, "Monthly Power Plant Report."
- 1982 forward: EIA, EIA Form 759, "Monthly Power Plant Report."

Sources for industrial sector:

- 1973 through 1978: FPC Form 4, *Monthly Power Plant Report* for plants with generating capacity exceeding 10 megawatts and FPC Form 12-C, *Industrial Electric Generating Capacity*, for all other plants.
- 1979: FPC Form 4, *Monthly Power Plant Report* for plants with generating capacity exceeding 10 megawatts and EIA estimates for all other plants.
- 1980 forward: Annual generation estimated by EIA as the average generation over the 6-year period of 1974 through 1979; monthly generation estimated to be in proportion to each month's hydroelectricity generation in the electric utility industry in 1980.

Note for imports and exports of electricity:

- Monthly electricity imports and exports estimates for 1982 forward were revised in the May 1984 *MER*. The revisions do not cause discontinuity in the annual data series: the data continue to come from the same source. The monthly data series, however, are discontinuous because monthly data from January 1982 forward are now available from the same source as the annual data. Estimates for monthly values prior to 1982, published in previous issues, were developed by con-

verting the annual value to a daily rate and multiplying by the number of days in the month. Accordingly, month-to-month analyses are not comparable when taken across the transition date of January 1982. Monthly analyses on either side of that date will be comparable. There is no known bias in either the annual data or the monthly data since January 1982.

Sources for imports and exports of electricity:

- 1973 through 1980: DOE, Economic Regulatory Administration, "Report on Electric Energy Exchanges with Canada and Mexico."
- 1981: DOE, Office of Energy Emergency Operations, "Report on Electric Energy Exchanges with Canada and Mexico for Calendar Year 1981," April 1982 (revised June 1982).
- 1982 through 1986: DOE, Economic Regulatory Administration, *Electricity Transactions Across International Borders* (DOE/RG-0069) from the ERA-781, "Annual Report of International Electric Import/Export Data."
- 1987 forward: EIA estimates.

**8. Nuclear Electric Power and Wood, Waste, Geothermal, Wind, Photovoltaic, and Solar Thermal Energy Sources Connected to Electric Utility Distribution Systems:**
Sources:

- 1973 through 1976: FPC, Form 4, "Monthly Power Plant Report."
- 1977 through 1981: FERC, FPC Form 4, "Monthly Power Plant Report."
- 1982 forward: EIA, EIA Form 759, "Monthly Power Plant Report."

**9. Net Imports of Coal Coke:** Net imports means imports minus exports, and a minus sign indicates that exports are greater than imports.
Sources:

- 1973 through 1975: DOI, BOM, *Minerals Yearbook,* "Coke and Coal Chemicals," chapter.
- 1976 through 1980: EIA, *Energy Data Report,* "Coke and Coal Chemicals," annual.
- 1981: EIA, *Energy Data Report,* "Coke Plant Report," quarterly.
- 1982 forward: EIA, *Quarterly Coal Report.*

**10. Electricity:** Sales of electricity represent consumption. From the sources cited below the following electricity sales categories are available: residential, commercial, industrial, and other. For the end-use estimates in this section, the "other" category (which is primarily sales for use in government buildings) is added to the commercial sector except for approximately 4 percent used by railroads and railways and accounted for in the transportation sector. Sales of electricity are converted into Btu at the rate of 3,412 Btu per kilowatthour.
Sources of sales data:

- 1973 through 1976: FPC, Form 5, "Monthly Statement of Electric Operating Revenue and Income."
- 1977 through February 1980: EIA, FPC Form 5, "Monthly Statement of Electric Operating Revenue and Income."
- March 1980 through December 1982: EIA, FERC Form 5, "Electric Utility Company Monthly Statement."
- January 1983 forward: EIA, EIA Form 826, "Electric Utility Company Monthly Statement."

**11. Electrical System Energy Losses:** Electrical system energy losses are calculated as the difference between total energy input at electric utilities and the total energy content of electricity sold to end-use consumers. Most of those losses occur at steam-electric power plants (conventional and nuclear) in the conversion of heat energy into mechanical energy to turn electric generators. The loss is a thermodynamically necessary feature of the steam-electric cycle. Part of the energy input-to-output losses are a result of imputing fossil energy equivalent inputs for hydroelectric and other energy sources, since there is no generally accepted practice for measuring those thermal conversion rates. In addition to conversion losses, other losses include power plant use of electricity, transmission and distribution of electricity from power plants to end-use consumers (also called "line-losses"), and unaccounted for electricity. Total losses are allocated to the end-use sectors in proportion to each sector's share of total electricity sales. Overall, approximately 67 percent of total energy input is lost in conversion; of electricity generated, approximately 5 percent is lost in plant use and 9 percent in transmission and distribution. Calculated electrical system energy losses may be less than actual losses, because primary consumption does not include the energy equivalent of utility purchases of electricity from non-electric utilities and from Canada and Mexico, although they are included in electricity sales.

# Section 3. Petroleum

Domestic crude oil production during February 1988 was estimated to be 8.4 million barrels per day, 1 percent higher than the January 1988 rate, and slightly higher than the rate in February 1987.

Total petroleum imports averaged 6.6 million barrels per day in February 1988, 5 percent[15] less than the January 1988 rate, but 12 percent more than the February 1987 rate.

In February 1988, 17.2 million barrels per day of petroleum products were supplied for domestic use, slightly less than in the previous month, but 3 percent above the level 1 year earlier. Motor gasoline accounted for 39 percent of the total; distillate fuel oil, 20 percent; and residual fuel oil, 9 percent.

Motor gasoline supplied during February 1988 averaged 6.8 million barrels per day, 1 percent above the rate in January 1988 and 1 percent above the rate of the previous February. Stocks of motor gasoline totaled 240 million barrels at the end of February 1988, 1 million barrels above the stock level at the end of January 1988, but 11 million barrels below the stock level 1 year earlier.

In February 1988, 3.4 million barrels of distillate fuel oil were supplied per day, 3 percent lower than the January 1988 rate, but 2 percent higher than the February 1987 rate. Distillate fuel oil ending stocks for February 1988 were 110 million barrels, 17 million barrels lower than the previous month and 14 million barrels lower than the February 1987 ending stock level.

Residual fuel oil supplied in February 1988 averaged 1.5 million barrels per day, 4 percent lower than in January 1988, but 3 percent higher than the February 1987 rate. Residual fuel oil stocks measured 44 million barrels at the end of February 1988, 3 million barrels lower than the previous month, but 6 million barrels higher than the stock level 1 year earlier.

Estimates for the most current month are based on Energy Information Administration (EIA) weekly data (except crude production) and will be revised to conform with data from the EIA Petroleum Reporting System as available. For the most recent month, crude production is an EIA estimate based on historical and provisional data through November 1987. The total import data above include imports into the Strategic Petroleum Reserve.

[15]Percentage changes are calculated using unrounded data.

# Table 3.1a Crude Oil[a] and Petroleum Products Overview

| | Field Production | | | Stock Withdrawal[b] | | | Ending Stocks[c] |
|---|---|---|---|---|---|---|---|
| | Total Domestic[d] | Crude Oil | Natural Gas Plant Production | Crude Oil[e] | Petroleum Products | Petroleum Products Supplied | Crude Oil[e] and Petroleum Products |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **10,975** | **9,208** | **1,738** | **11** | **-146** | **17,308** | **1,008** |
| **1974 Average** | **10,498** | **8,774** | **1,688** | **-62** | **-117** | **16,653** | [i] **1,074** |
| **1975 Average** | **10,045** | **8,375** | **1,633** | [i] **-17** | [i] **-15** | **16,322** | **1,133** |
| **1976 Average** | **9,774** | **8,132** | [h] **1,604** | **-39** | **96** | **17,461** | **1,112** |
| **1977 Average** | **9,913** | **8,245** | **1,618** | **-170** | **-378** | **18,431** | **1,312** |
| **1978 Average** | **10,328** | **8,707** | **1,567** | **-78** | **172** | **18,847** | **1,278** |
| **1979 Average** | **10,179** | **8,552** | **1,584** | **-148** | **-25** | **18,513** | **1,341** |
| **1980 Average** | **10,214** | **8,597** | **1,573** | [R] **-97** | **-42** | **17,056** | [i] **1,392** |
| **1981 Average** | **10,230** | **8,572** | **1,609** | [i] **-290** | [i] **130** | **16,058** | **1,484** |
| **1982 Average** | **10,252** | **8,649** | **1,550** | **-136** | **283** | **15,296** | [i] **1,430** |
| **1983 Average** | **10,299** | **8,688** | **1,559** | [i] **-214** | [i] **234** | **15,231** | **1,454** |
| **1984 Average** | **10,554** | **8,879** | **1,630** | **-199** | **-81** | **15,726** | **1,556** |
| **1985** January | 10,412 | 8,740 | 1,628 | 76 | 1,351 | 16,109 | 1,512 |
| February | 10,692 | 9,025 | 1,623 | 425 | 1,347 | 16,121 | 1,462 |
| March | 10,748 | 9,095 | 1,600 | -309 | 403 | 15,373 | 1,460 |
| April | 10,673 | 9,043 | 1,582 | -520 | 56 | 15,472 | 1,473 |
| May | 10,770 | 9,132 | 1,594 | -700 | -399 | 15,504 | 1,508 |
| June | 10,664 | 9,022 | 1,597 | 264 | -382 | 15,483 | 1,511 |
| July | 10,550 | 8,949 | 1,568 | 326 | -496 | 15,434 | 1,516 |
| August | 10,485 | 8,803 | 1,594 | 159 | 568 | 16,060 | 1,494 |
| September | 10,584 | 8,954 | 1,575 | -34 | -255 | 15,099 | 1,502 |
| October | 10,637 | 8,970 | 1,610 | 98 | 124 | 15,944 | 1,496 |
| November | 10,640 | 8,902 | 1,660 | -295 | -634 | 15,503 | 1,523 |
| December | 10,777 | 9,030 | 1,680 | -58 | 207 | 16,611 | 1,519 |
| **Average** | **10,636** | **8,971** | **1,609** | **-50** | **153** | **15,726** | |
| **1986** January | 10,911 | 9,137 | 1,711 | -383 | -151 | 16,088 | 1,535 |
| February | 10,916 | 9,173 | 1,696 | -37 | 804 | 16,186 | 1,514 |
| March | 10,664 | 9,013 | 1,604 | -345 | 1,160 | 16,276 | 1,489 |
| April | 10,435 | 8,864 | 1,523 | 41 | 262 | 15,945 | 1,479 |
| May | 10,440 | 8,838 | 1,543 | 260 | -1,109 | 15,993 | 1,506 |
| June | 10,187 | 8,623 | 1,504 | 3 | -1,238 | 16,049 | 1,543 |
| July | 10,225 | 8,660 | 1,507 | -541 | -422 | 16,307 | 1,573 |
| August | 9,875 | 8,374 | 1,445 | 242 | -551 | 16,618 | 1,582 |
| September | 9,852 | 8,328 | 1,468 | -217 | -973 | 15,909 | 1,618 |
| October | 9,954 | 8,419 | 1,477 | -233 | 476 | 16,602 | 1,610 |
| November | 10,061 | 8,412 | 1,569 | 95 | -147 | 16,221 | 1,612 |
| December | 9,985 | 8,352 | 1,571 | 186 | 443 | 17,131 | 1,593 |
| **Average** | **10,289** | **8,680** | **1,551** | **-78** | **-124** | **16,281** | |
| **1987** January | [E] 10,145 | [E] 8,477 | 1,592 | -189 | 377 | 16,382 | 1,588 |
| February | [E] 10,010 | [E] 8,318 | 1,625 | (s) | 814 | 16,721 | 1,565 |
| March | [E] 10,025 | [E] 8,349 | 1,607 | -151 | 266 | 15,965 | 1,561 |
| April | [E] 10,077 | [E] 8,426 | 1,600 | 11 | 559 | 16,501 | 1,544 |
| May | [E] 9,953 | [E] 8,305 | 1,593 | 82 | -122 | 15,978 | 1,546 |
| June | [E] 9,902 | [E] 8,263 | 1,590 | -218 | 3 | 16,815 | 1,552 |
| July | [E] 9,892 | [E] 8,242 | 1,588 | 25 | -385 | 16,996 | 1,563 |
| August | [E] 9,829 | [E] 8,190 | 1,577 | -323 | -678 | 16,325 | 1,594 |
| September | [E] 9,845 | [E] 8,190 | 1,587 | -209 | -276 | 16,533 | 1,609 |
| October | [E] 9,972 | [E] 8,293 | 1,609 | -528 | 640 | 16,909 | 1,605 |
| November | [E] 10,046 | [E] 8,330 | 1,641 | -418 | -651 | 16,064 | 1,637 |
| December | [E] 10,034 | [E] 8,340 | 1,629 | 370 | 580 | 17,493 | 1,608 |
| **Average** | [E] **9,977** | [E] **8,311** | **1,603** | **-129** | **90** | **16,556** | |
| **1988** January | [E] 9,874 | [RE] 8,245 | 1,569 | [R] 56 | [R] 285 | [R] 17,224 | [R] 1,597 |
| February | [E] 10,061 | [PE] 8,353 | [E] 1,636 | -334 | 847 | 17,213 | 1,578 |
| **2-Month Average** | [E] **9,964** | [PE] **8,297** | **1,602** | **-132** | **557** | **17,219** | |
| **1987 2-Month Average** | [E] **10,081** | [E] **8,402** | **1,607** | **-100** | **585** | **16,543** | |
| **1986 2-Month Average** | **10,913** | **9,154** | **1,704** | **-219** | **302** | **16,135** | |

[a]Includes lease condensate.
[b]A negative number indicates an increase in stocks and a positive number indicates a decrease.
[c]Stocks are totals as of end of period.
[d]Includes crude oil, natural gas plant liquids, other hydrocarbons, and alcohol.
[e]Includes stocks located in the Strategic Petroleum Reserve.
[f]Includes crude oil for storage in the Strategic Petroleum Reserve.
[g]Net imports equals imports minus exports.
[h]Due to a rounding difference, this value is 1,603 in the *Petroleum Supply Annual* and *Petroleum Supply Monthly*.
[i]In January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stocks withdrawal calculations. See Note 4 at end of section.
Footnotes continued on following page.

# Table 3.1b Crude Oil[a] and Petroleum Products Overview (continued)

| | Imports | | | Exports | | | Net Imports[g] |
|---|---|---|---|---|---|---|---|
| | Total | Crude Oil[f] | Petroleum Products | Total | Crude Oil | Petroleum Products | |
| | Thousand Barrels per Day | | | | | | |
| **1973 Average** | **6,256** | **3,244** | **3,012** | **231** | **2** | **229** | **6,025** |
| **1974 Average** | **6,112** | **3,477** | **2,635** | **221** | **3** | **218** | **5,892** |
| **1975 Average** | **6,056** | **4,105** | **1,951** | **209** | **6** | **204** | **5,846** |
| **1976 Average** | **7,313** | **5,287** | **2,026** | **223** | **8** | **215** | **7,090** |
| **1977 Average** | **8,807** | **6,615** | **2,193** | **243** | **50** | **193** | **8,565** |
| **1978 Average** | **8,363** | **6,356** | **2,008** | **362** | **158** | **204** | **8,002** |
| **1979 Average** | **8,456** | **6,519** | **1,937** | **471** | **235** | **236** | **7,985** |
| **1980 Average** | **6,909** | **5,263** | **1,646** | **544** | **287** | **258** | **6,365** |
| **1981 Average** | **5,996** | **4,396** | **1,599** | **595** | **228** | **367** | **5,401** |
| **1982 Average** | **5,113** | **3,488** | **1,625** | **815** | **236** | **579** | **4,298** |
| **1983 Average** | **5,051** | **3,329** | **1,722** | **739** | **164** | **575** | **4,312** |
| **1984 Average** | **5,437** | **3,426** | **2,011** | **722** | **181** | **541** | **4,715** |
| **1985** January | 4,415 | 2,717 | 1,698 | 792 | 144 | 647 | 3,623 |
| February | 3,913 | 2,108 | 1,805 | 857 | 221 | 636 | 3,056 |
| March | 4,673 | 2,786 | 1,887 | 694 | 189 | 505 | 3,979 |
| April | 5,316 | 3,401 | 1,915 | 764 | 236 | 528 | 4,553 |
| May | 5,776 | 3,730 | 2,046 | 705 | 250 | 455 | 5,071 |
| June | 4,929 | 3,188 | 1,741 | 692 | 226 | 467 | 4,237 |
| July | 4,950 | 3,203 | 1,747 | 675 | 154 | 521 | 4,274 |
| August | 4,718 | 3,114 | 1,603 | 749 | 241 | 508 | 3,969 |
| September | 4,970 | 3,155 | 1,816 | 806 | 188 | 618 | 4,164 |
| October | 5,121 | 3,238 | 1,883 | 690 | 123 | 567 | 4,431 |
| November | 6,116 | 3,999 | 2,118 | 1,036 | 286 | 750 | 5,080 |
| December | 5,831 | 3,696 | 2,135 | 925 | 197 | 728 | 4,905 |
| **Average** | **5,067** | **3,201** | **1,866** | **781** | **204** | **577** | **4,286** |
| **1986** January | 5,573 | 3,472 | 2,101 | 859 | 159 | 700 | 4,714 |
| February | 4,676 | 2,968 | 1,709 | 876 | 162 | 715 | 3,800 |
| March | 4,712 | 2,988 | 1,724 | 732 | 212 | 520 | 3,980 |
| April | 5,439 | 3,684 | 1,755 | 850 | 94 | 756 | 4,589 |
| May | 6,400 | 4,250 | 2,150 | 724 | 98 | 625 | 5,676 |
| June | 6,848 | 4,635 | 2,213 | 642 | 240 | 401 | 6,206 |
| July | 6,942 | 4,726 | 2,216 | 685 | 65 | 620 | 6,256 |
| August | 7,168 | 4,859 | 2,309 | 868 | 233 | 635 | 6,300 |
| September | 7,090 | 5,031 | 2,059 | 714 | 161 | 553 | 6,375 |
| October | 6,427 | 4,419 | 2,008 | 831 | 151 | 680 | 5,597 |
| November | 6,592 | 4,615 | 1,977 | 821 | 115 | 706 | 5,771 |
| December | 6,700 | 4,412 | 2,288 | 820 | 159 | 661 | 5,881 |
| **Average** | **6,224** | **4,178** | **2,045** | **785** | **154** | **631** | **5,439** |
| **1987** January | 6,186 | 4,385 | 1,801 | 829 | 96 | 732 | 5,358 |
| February | 5,849 | 3,896 | 1,953 | 991 | 299 | 692 | 4,858 |
| March | 5,618 | 3,742 | 1,875 | 726 | 165 | 561 | 4,892 |
| April | 5,830 | 4,115 | 1,715 | 864 | 247 | 617 | 4,966 |
| May | 5,918 | 4,243 | 1,675 | 659 | 69 | 590 | 5,259 |
| June | 6,688 | 4,788 | 1,900 | 665 | 116 | 549 | 6,023 |
| July | 7,448 | 5,259 | 2,189 | 674 | 149 | 525 | 6,773 |
| August | 7,334 | 5,470 | 1,863 | 662 | 141 | 521 | 6,672 |
| September | 7,051 | 5,085 | 1,965 | 792 | 116 | 676 | 6,258 |
| October | 6,899 | 5,119 | 1,780 | 642 | 84 | 558 | 6,257 |
| November | 6,905 | 4,939 | 1,966 | 737 | 164 | 573 | 6,168 |
| December | 6,705 | 4,571 | 2,134 | 1,057 | 220 | 838 | 5,647 |
| **Average** | **6,541** | **4,639** | **1,901** | **773** | **154** | **619** | **5,767** |
| **1988** January | R 6,900 | R 4,619 | R 2,281 | 891 | 212 | 679 | 6,009 |
| February | 6,551 | 4,636 | 1,916 | E 859 | E 185 | E 674 | E 5,693 |
| **2-Month Average** | **6,731** | **4,627** | **2,104** | **875** | **199** | **676** | **5,856** |
| **1987 2-Month Average** | **6,026** | **4,153** | **1,873** | **905** | **192** | **713** | **5,121** |
| **1986 2-Month Average** | **5,147** | **3,233** | **1,915** | **867** | **160** | **707** | **4,280** |

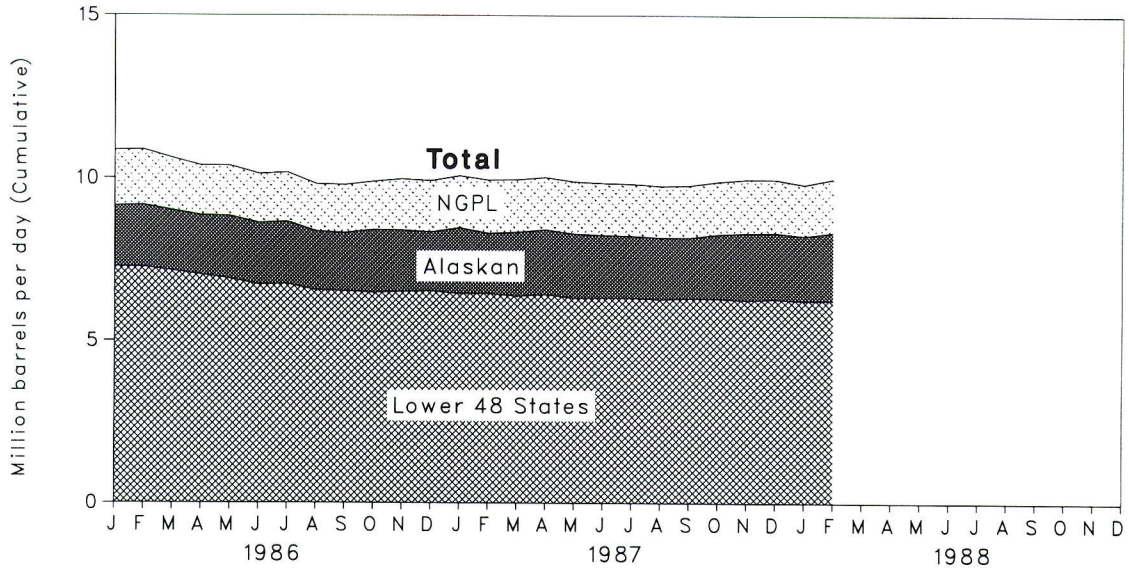
Footnotes continued.

PE=Preliminary estimate. R=Revised data. NA=Not available. E=Estimate. (s)=Less than 500 barrels per day.

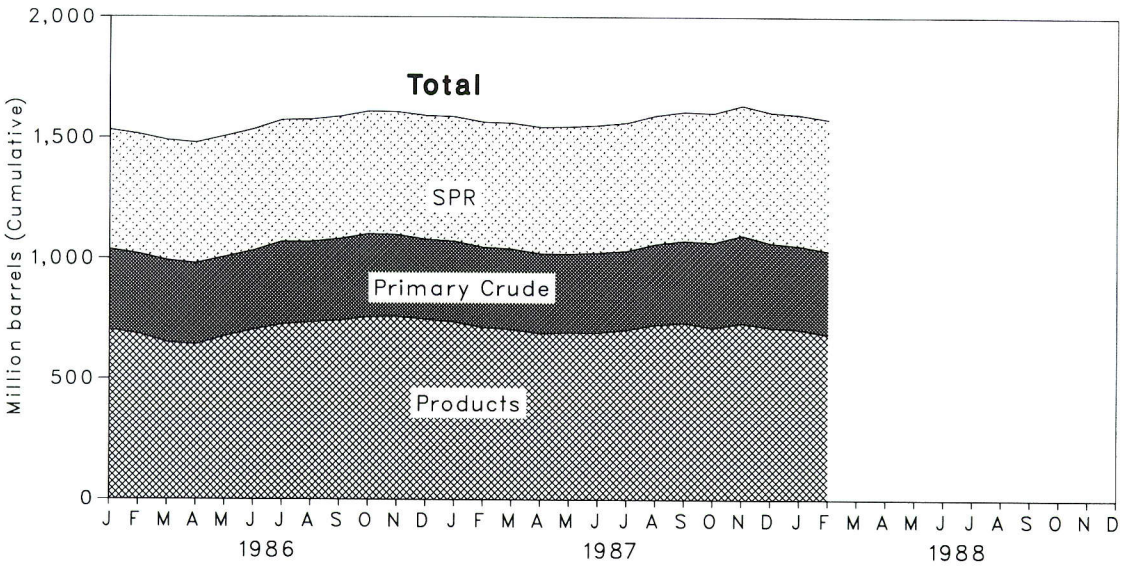
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: See end of section.

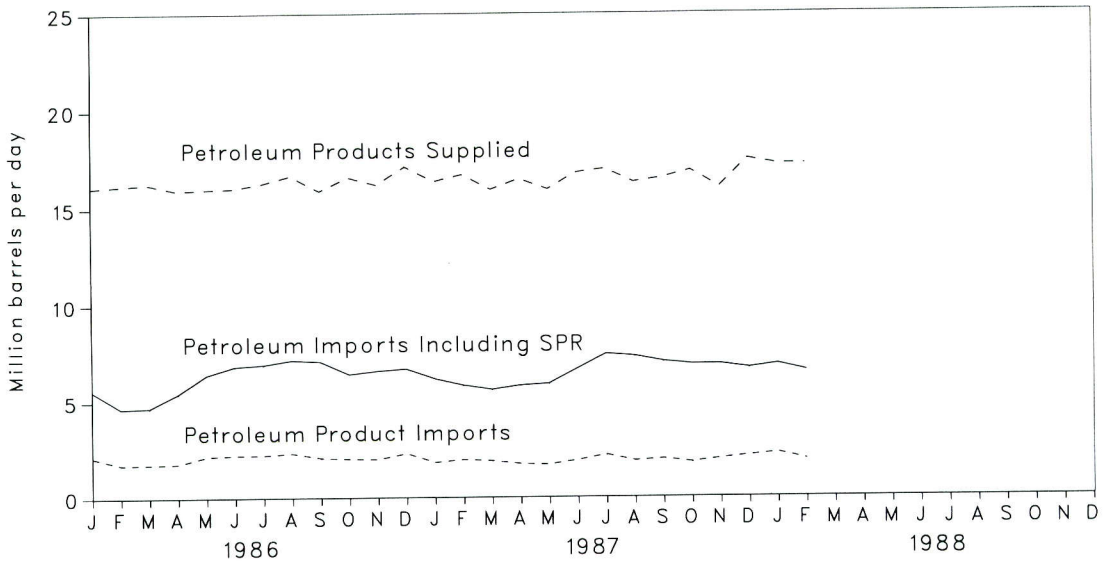
## Figure 3.1 Crude Oil and Natural Gas Liquids Production



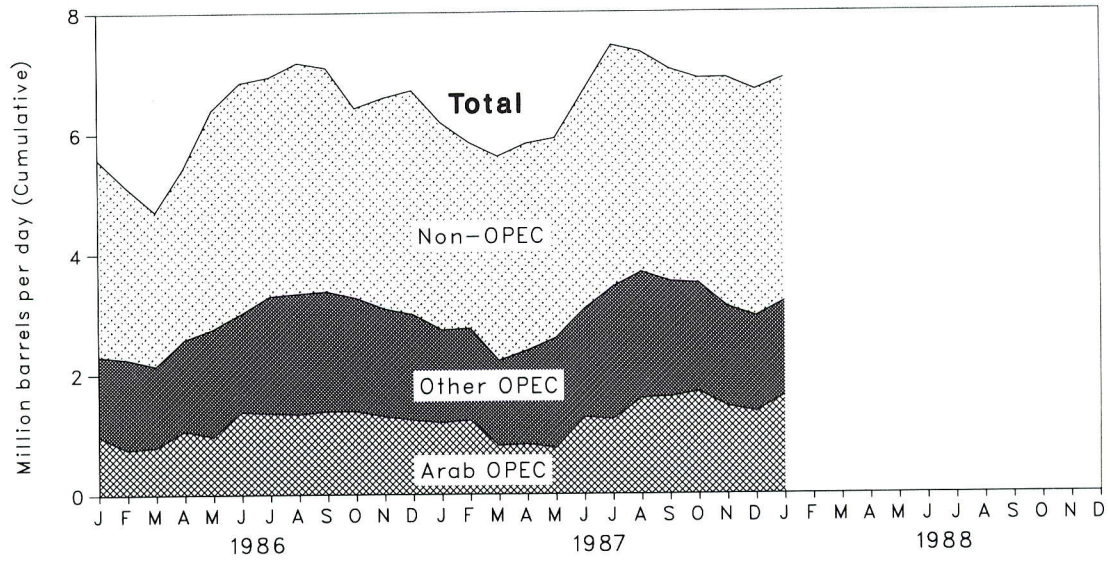

## Figure 3.2 Petroleum Stocks



## Figure 3.3 Petroleum Products Supplied and Imports




## Figure 3.4 Petroleum Imports by Source



# Table 3.2a Crude Oil[a] Supply and Disposition
(Thousand Barrels per Day)

| | Supply | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Field Production | | Imports | | | Stock Withdrawal[c] | | Unaccounted for Crude Oil[e] |
| | Total Domestic | Alaskan | Total | SPR[d] | Other | SPR[d] | Other | |
| **1973 Average** | **9,208** | **198** | **3,244** | | **3,244** | | **11** | **3** |
| **1974 Average** | **8,774** | **193** | **3,477** | | **3,477** | | **-62** | **-25** |
| **1975 Average** | **8,375** | **191** | **4,105** | | **4,105** | | **-17** | **17** |
| **1976 Average** | **8,132** | **173** | **5,287** | | **5,287** | | **-39** | **77** |
| **1977 Average** | **8,245** | **464** | **6,615** | **21** | **6,594** | **-20** | **-150** | **-6** |
| **1978 Average** | **8,707** | **1,229** | **6,356** | **162** | **6,195** | **-163** | **84** | **-57** |
| **1979 Average** | **8,552** | **1,401** | **6,519** | **67** | **6,452** | **-67** | **-81** | **-11** |
| **1980 Average** | **8,597** | **1,617** | **5,263** | **44** | **5,219** | **-45** | **-52** | **34** |
| **1981 Average** | **8,572** | **1,609** | **4,396** | **256** | **4,141** | **-336** | [g] **46** | **83** |
| **1982 Average** | **8,649** | **1,696** | **3,488** | **165** | **3,323** | **-174** | **38** | **71** |
| **1983 Average** | **8,688** | **1,714** | **3,329** | **234** | **3,096** | **-234** | [g] **20** | **114** |
| **1984 Average** | **8,879** | **1,722** | **3,426** | **197** | **3,229** | **-195** | **-4** | **185** |
| **1985** January | 8,740 | 1,647 | 2,717 | 223 | 2,494 | -223 | 298 | 122 |
| February | 9,025 | 1,877 | 2,108 | 98 | 2,010 | -97 | 522 | 94 |
| March | 9,095 | 1,866 | 2,786 | 48 | 2,738 | -48 | -262 | 59 |
| April | 9,043 | 1,784 | 3,401 | 108 | 3,293 | -111 | -409 | 183 |
| May | 9,132 | 1,888 | 3,730 | 222 | 3,508 | -225 | -475 | 247 |
| June | 9,022 | 1,871 | 3,188 | 155 | 3,034 | -155 | 419 | 100 |
| July | 8,949 | 1,809 | 3,203 | 226 | 2,977 | -225 | 551 | 177 |
| August | 8,803 | 1,795 | 3,114 | 116 | 2,999 | -116 | 274 | 267 |
| September | 8,954 | 1,867 | 3,155 | 71 | 3,084 | -71 | 37 | 93 |
| October | 8,970 | 1,850 | 3,238 | 20 | 3,218 | -20 | 119 | 81 |
| November | 8,902 | 1,804 | 3,999 | 53 | 3,946 | -53 | -242 | 150 |
| December | 9,030 | 1,852 | 3,696 | 74 | 3,621 | -60 | 2 | 164 |
| **Average** | **8,971** | **1,825** | **3,201** | **118** | **3,083** | **-117** | **67** | **145** |
| **1986** January | 9,137 | 1,870 | 3,472 | 51 | 3,420 | -35 | -348 | 364 |
| February | 9,173 | 1,907 | 2,968 | 24 | 2,944 | -35 | -2 | 32 |
| March | 9,013 | 1,860 | 2,988 | 59 | 2,929 | -49 | -296 | 259 |
| April | 8,864 | 1,836 | 3,684 | 63 | 3,621 | -63 | 104 | 70 |
| May | 8,838 | 1,927 | 4,250 | 36 | 4,215 | -35 | 295 | 79 |
| June | 8,623 | 1,887 | 4,635 | 64 | 4,571 | -64 | 66 | 292 |
| July | 8,660 | 1,903 | 4,726 | 52 | 4,674 | -52 | -489 | 189 |
| August | 8,374 | 1,811 | 4,859 | 51 | 4,809 | -51 | 293 | 93 |
| September | 8,328 | 1,782 | 5,031 | 47 | 4,984 | -47 | -170 | 161 |
| October | 8,419 | 1,927 | 4,419 | 37 | 4,382 | -36 | -197 | 223 |
| November | 8,412 | 1,883 | 4,615 | 45 | 4,570 | -65 | 160 | -136 |
| December | 8,352 | 1,807 | 4,412 | 48 | 4,365 | -68 | 254 | 28 |
| **Average** | **8,680** | **1,867** | **4,178** | **48** | **4,130** | **-50** | **-28** | **139** |
| **1987** January | [E] 8,477 | [E] 2,017 | 4,385 | 92 | 4,293 | -108 | -81 | 34 |
| February | [E] 8,318 | [E] 1,853 | 3,896 | 44 | 3,851 | -64 | 64 | 422 |
| March | [E] 8,349 | [E] 1,968 | 3,742 | 95 | 3,647 | -106 | -45 | 349 |
| April | [E] 8,426 | [E] 1,990 | 4,115 | 57 | 4,058 | -67 | 78 | 249 |
| May | [E] 8,305 | [E] 1,979 | 4,243 | 92 | 4,151 | -101 | 183 | 143 |
| June | [E] 8,263 | [E] 1,930 | 4,788 | 64 | 4,724 | -69 | -149 | 518 |
| July | [E] 8,242 | [E] 1,910 | 5,259 | 76 | 5,183 | -91 | 116 | 87 |
| August | [E] 8,190 | [E] 1,908 | 5,470 | 63 | 5,407 | -63 | -259 | 215 |
| September | [E] 8,190 | [E] 1,874 | 5,085 | 64 | 5,021 | -64 | -145 | 251 |
| October | [E] 8,293 | [E] 1,986 | 5,119 | 57 | 5,062 | -57 | -471 | -50 |
| November | [E] 8,330 | [E] 2,068 | 4,939 | 97 | 4,842 | -97 | -321 | 320 |
| December | [E] 8,340 | [E] 2,043 | 4,571 | 68 | 4,503 | -68 | 438 | 180 |
| **Average** | [E] **8,311** | [E] **1,961** | **4,639** | **73** | **4,567** | **-80** | **-50** | **224** |
| **1988** January | [RE] 8,245 | [RE] 1,999 | [R] 4,619 | [R] 67 | [R] 4,552 | [R] -67 | [R] 123 | 303 |
| February | [PE] 8,353 | [PE] 2,097 | 4,636 | 48 | 4,588 | -48 | -286 | [E] 327 |
| **2-Month Average** | [PE] **8,297** | [PE] **2,046** | **4,627** | **58** | **4,570** | **-58** | **-75** | **315** |
| **1987 2-Month Average** | [E] **8,402** | [E] **1,939** | **4,153** | **70** | **4,083** | **-87** | **-12** | **218** |
| **1986 2-Month Average** | **9,154** | **1,888** | **3,233** | **38** | **3,194** | **-35** | **-184** | **206** |

[a]Includes lease condensate.
[b]Stocks are totals as of end of period.
[c]A negative number indicates an increase in stocks and a positive number indicates a decrease.
[d]Strategic Petroleum Reserve.
[e] A balancing item.
[f]Beginning in January 1983, crude oil used directly as fuel is shown as product supplied.
[g]Stocks of Alaskan crude oil in transit were included beginning in January 1981. Stock withdrawals are calculated using new basis stock levels. See Notes 4 and 5 at end of section.

Footnotes continued on following page.

# Table 3.2b Crude Oil[a] Supply and Disposition (continued)

| | Supply | Disposition | | | | Ending Stocks[b] | | |
|---|---|---|---|---|---|---|---|---|
| | Crude Used Directly[f] | Crude Losses | Refinery Inputs | Exports | Product Supplied[f] | Total | SPR[d] | Other Primary |
| | Thousand Barrels per Day | | | | | Million Barrels | | |
| **1973 Average** | **-19** | **13** | **12,431** | **2** | | **242** | | **242** |
| **1974 Average** | **-15** | **13** | **12,133** | **3** | | **265** | | **265** |
| **1975 Average** | **-17** | **13** | **12,442** | **6** | | **271** | | **271** |
| **1976 Average** | **-18** | **15** | **13,416** | **8** | | **285** | | **285** |
| **1977 Average** | **-14** | **16** | **14,602** | **50** | | **348** | **7** | **340** |
| **1978 Average** | **-14** | **16** | **14,739** | **158** | | **376** | **67** | **309** |
| **1979 Average** | **-13** | **16** | **14,648** | **235** | | **430** | **91** | **339** |
| **1980 Average** | **-13** | **15** | **13,481** | **287** | | [g] **466** | **108** | [g] **358** |
| **1981 Average** | **-58** | **5** | **12,470** | **228** | | **594** | **230** | **363** |
| **1982 Average** | **-59** | **3** | **11,774** | **236** | | [g] **644** | **294** | **350** |
| **1983 Average** | **NA** | **2** | **11,685** | **164** | **66** | **723** | **379** | **344** |
| **1984 Average** | **NA** | **2** | **12,044** | **181** | **64** | **796** | **451** | **345** |
| **1985** January | NA | 1 | 11,445 | 144 | 63 | 794 | 457 | 336 |
| February | NA | 1 | 11,367 | 221 | 63 | 782 | 460 | 322 |
| March | NA | 1 | 11,372 | 189 | 69 | 791 | 462 | 330 |
| April | NA | 1 | 11,805 | 236 | 67 | 807 | 465 | 342 |
| May | NA | 1 | 12,094 | 250 | 65 | 829 | 472 | 357 |
| June | NA | 1 | 12,292 | 226 | 56 | 821 | 477 | 344 |
| July | NA | 1 | 12,445 | 154 | 55 | 811 | 484 | 327 |
| August | NA | (s) | 12,045 | 241 | 55 | 806 | 487 | 318 |
| September | NA | (s) | 11,925 | 188 | 55 | 807 | 489 | 317 |
| October | NA | (s) | 12,209 | 123 | 55 | 804 | 490 | 314 |
| November | NA | (s) | 12,410 | 286 | 59 | 812 | 491 | 321 |
| December | NA | 1 | 12,570 | 197 | 63 | 814 | 493 | 321 |
| **Average** | **NA** | **1** | **12,002** | **204** | **60** | | | |
| **1986** January | NA | 1 | 12,374 | 159 | 57 | 826 | 494 | 332 |
| February | NA | (s) | 11,918 | 162 | 56 | 827 | 495 | 332 |
| March | NA | (s) | 11,652 | 212 | 52 | 838 | 497 | 341 |
| April | NA | (s) | 12,512 | 94 | 51 | 837 | 499 | 338 |
| May | NA | (s) | 13,279 | 98 | 49 | 829 | 500 | 329 |
| June | NA | (s) | 13,261 | 240 | 52 | 828 | 502 | 327 |
| July | NA | (s) | 12,917 | 65 | 51 | 845 | 503 | 342 |
| August | NA | (s) | 13,287 | 233 | 48 | 838 | 505 | 333 |
| September | NA | (s) | 13,097 | 161 | 45 | 844 | 506 | 338 |
| October | NA | (s) | 12,636 | 151 | 41 | 851 | 508 | 344 |
| November | NA | (s) | 12,831 | 115 | 41 | 849 | 509 | 339 |
| December | NA | (s) | 12,777 | 159 | 42 | 843 | 512 | 331 |
| **Average** | **NA** | **(s)** | **12,716** | **154** | **49** | | | |
| **1987** January | NA | 1 | 12,570 | 96 | 41 | 849 | 515 | 334 |
| February | NA | (s) | 12,296 | 299 | 41 | 849 | 517 | 332 |
| March | NA | 1 | 12,085 | 165 | 39 | 853 | 520 | 333 |
| April | NA | (s) | 12,513 | 247 | 41 | 853 | 522 | 331 |
| May | NA | (s) | 12,662 | 69 | 42 | 850 | 525 | 325 |
| June | NA | (s) | 13,200 | 116 | 36 | 857 | 527 | 330 |
| July | NA | (s) | 13,432 | 149 | 32 | 856 | 530 | 326 |
| August | NA | (s) | 13,381 | 141 | 31 | 866 | 532 | 334 |
| September | NA | NA | 13,174 | 116 | 28 | 873 | 534 | 339 |
| October | NA | (s) | 12,725 | 84 | 25 | 889 | 536 | 353 |
| November | NA | (s) | 12,982 | 164 | 25 | 901 | 539 | 363 |
| December | NA | (s) | 13,210 | 220 | 31 | 890 | 541 | 349 |
| **Average** | **NA** | **(s)** | **12,856** | **154** | **34** | **890** | **541** | **349** |
| **1988** January | NA | (s) | [R] 12,975 | 212 | 36 | [R] 888 | 543 | [R] 345 |
| February | NA | (s) | 12,769 | [E] 185 | [E] 27 | 890 | 544 | 346 |
| **2-Month Average** | **NA** | **(s)** | **12,875** | **199** | **32** | | | |
| **1987 2-Month Average** | **NA** | **(s)** | **12,440** | **192** | **41** | | | |
| **1986 2-Month Average** | **NA** | **1** | **12,157** | **160** | **57** | | | |

Footnotes continued.

PE=Preliminary estimate. R=Revised data. NA=Not available. E=Estimate. (s)=Less than 500 barrels per day.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: See end of section.

# Table 3.3a Crude Oil and Petroleum Product Imports
(Thousand Barrels per Day)

| | Imports from OPEC Sources[a] | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Algeria | Libya | Saudi Arabia | United Arab Emirates | Indonesia | Iran | Nigeria | Venezuela | Other OPEC[b] | Total OPEC[c] | Total Arab OPEC[d] |
| **1973 Average** | **136** | **164** | **486** | **71** | **213** | **223** | **459** | **1,135** | **106** | **2,993** | **915** |
| **1974 Average** | **190** | **4** | **461** | **74** | **300** | **469** | **713** | **979** | **88** | **3,280** | **752** |
| **1975 Average** | **282** | **232** | **715** | **117** | **390** | **280** | **762** | **702** | **122** | **3,601** | **1,383** |
| **1976 Average** | **432** | **453** | **1,230** | **254** | **539** | **298** | **1,025** | **700** | **134** | **5,066** | **2,424** |
| **1977 Average** | **559** | **723** | **1,380** | **335** | **541** | **535** | **1,143** | **690** | **287** | **6,193** | **3,185** |
| **1978 Average** | **649** | **654** | **1,144** | **385** | **573** | **555** | **919** | **645** | **226** | **5,751** | **2,963** |
| **1979 Average** | **636** | **658** | **1,356** | **281** | **420** | **304** | **1,080** | **690** | **212** | **5,637** | **3,056** |
| **1980 Average** | **488** | **554** | **1,261** | **172** | **348** | **9** | **857** | **481** | **130** | **4,300** | **2,551** |
| **1981 Average** | **311** | **319** | **1,129** | **81** | **366** | **0** | **620** | **406** | **90** | **3,323** | **1,848** |
| **1982 Average** | **170** | **26** | **552** | **92** | **248** | **35** | **514** | **412** | **97** | **2,146** | **854** |
| **1983 Average** | **240** | **0** | **337** | **30** | **338** | **48** | **302** | **422** | **144** | **1,862** | **632** |
| **1984 Average** | **323** | **1** | **325** | **117** | **343** | **10** | **216** | **548** | **166** | **2,049** | **819** |
| **1985** January | 112 | 0 | 106 | 60 | 296 | 0 | 262 | 481 | 89 | 1,405 | 305 |
| February | 174 | 0 | 108 | 0 | 232 | 0 | 119 | 524 | 64 | 1,220 | 307 |
| March | 247 | 0 | 85 | 52 | 283 | 0 | 164 | 588 | 84 | 1,505 | 385 |
| April | 286 | 8 | 201 | 70 | 313 | 0 | 280 | 684 | 86 | 1,928 | 575 |
| May | 255 | 0 | 41 | 128 | 265 | 0 | 381 | 552 | 354 | 1,976 | 635 |
| June | 178 | 5 | 26 | 81 | 438 | 0 | 357 | 452 | 152 | 1,690 | 378 |
| July | 125 | 10 | 44 | 13 | 390 | 42 | 381 | 573 | 248 | 1,825 | 286 |
| August | 135 | 0 | 46 | 17 | 377 | 100 | 207 | 568 | 289 | 1,740 | 280 |
| September | 147 | 0 | 27 | 57 | 206 | 43 | 285 | 808 | 230 | 1,802 | 302 |
| October | 177 | 20 | 251 | 17 | 277 | 41 | 305 | 676 | 196 | 1,958 | 520 |
| November | 164 | 11 | 430 | 34 | 356 | 99 | 325 | 727 | 294 | 2,440 | 752 |
| December | 244 | 0 | 642 | 15 | 324 | 0 | 432 | 625 | 149 | 2,430 | 925 |
| **Average** | **187** | **4** | **168** | **45** | **314** | **27** | **293** | **605** | **187** | **1,830** | **472** |
| **1986** January | 215 | 0 | 664 | 11 | 290 | 0 | 278 | 629 | 210 | 2,298 | 976 |
| February | 157 | 0 | 574 | 0 | 290 | (s) | 204 | 518 | 64 | 1,807 | 757 |
| March | 260 | 0 | 482 | 0 | 161 | 0 | 328 | 797 | 117 | 2,145 | 798 |
| April | 275 | 0 | 698 | 21 | 292 | 0 | 319 | 831 | 139 | 2,576 | 1,058 |
| May | 193 | 0 | 574 | 40 | 314 | 40 | 398 | 899 | 290 | 2,749 | 966 |
| June | 319 | 0 | 662 | 83 | 353 | 0 | 382 | 772 | 439 | 3,010 | 1,377 |
| July | 310 | 0 | 738 | 59 | 532 | 66 | 542 | 730 | 330 | 3,307 | 1,357 |
| August | 363 | 0 | 680 | 37 | 274 | 93 | 606 | 916 | 378 | 3,346 | 1,339 |
| September | 245 | 0 | 810 | 62 | 341 | 31 | 684 | 856 | 356 | 3,383 | 1,388 |
| October | 305 | 0 | 697 | 147 | 388 | 0 | 530 | 863 | 346 | 3,276 | 1,387 |
| November | 311 | 0 | 868 | 34 | 335 | 0 | 483 | 843 | 214 | 3,088 | 1,295 |
| December | 291 | 0 | 769 | 30 | 251 | 0 | 511 | 841 | 284 | 2,976 | 1,223 |
| **Average** | **271** | **0** | **685** | **44** | **318** | **19** | **440** | **793** | **265** | **2,837** | **1,162** |
| **1987** January | 158 | 0 | 873 | 15 | 285 | 0 | 313 | 866 | 215 | 2,726 | 1,187 |
| February | 315 | 0 | 772 | 54 | 420 | 30 | 240 | 764 | 155 | 2,749 | 1,226 |
| March | 301 | 0 | 427 | 0 | 308 | 73 | 312 | 658 | 135 | 2,215 | 807 |
| April | 302 | 0 | 452 | 62 | 236 | 47 | 529 | 679 | 77 | 2,384 | 834 |
| May | 196 | 0 | 519 | 26 | 289 | 75 | 530 | 854 | 95 | 2,584 | 771 |
| June | 247 | 0 | 780 | 45 | 261 | 155 | 546 | 766 | 268 | 3,067 | 1,272 |
| July | 326 | 0 | 753 | 42 | 273 | 237 | 787 | 861 | 157 | 3,437 | 1,240 |
| August | 235 | 0 | 958 | 103 | 312 | 208 | 732 | 780 | 351 | 3,679 | 1,593 |
| September | 351 | 0 | 902 | 146 | 236 | 193 | 615 | 798 | 287 | 3,528 | 1,614 |
| October | 267 | 0 | 1,042 | 111 | 297 | 86 | 518 | 775 | 401 | 3,497 | 1,696 |
| November | 378 | 0 | 633 | 97 | 205 | 41 | 607 | 739 | 402 | 3,101 | 1,455 |
| December | 339 | 0 | 853 | 7 | 216 | 23 | 613 | 672 | 220 | 2,941 | 1,367 |
| **Average** | **284** | **0** | **747** | **59** | **277** | **98** | **530** | **768** | **231** | **2,994** | **1,255** |
| **1988** January | 312 | 0 | 894 | 61 | 179 | [e] 1 | 406 | 752 | 592 | 3,197 | 1,632 |

[a]Excludes petroleum imported into the United States indirectly from members of the Organization of Petroleum Exporting Countries (OPEC), primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

[b]The other members of OPEC are Ecuador, Gabon, Iraq, Kuwait, and Qatar.

[c]"Total OPEC" consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members.

[d]The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

[e]A small amount of Iranian crude oil entered the United States (defined in this publication as the 50 States and the District of Columbia) in January 1988 from the Virgin Islands. The oil originated in Iran and was exported to the Virgin Islands prior to the signing of Executive Order 12613 on October 29, 1987.

Footnotes continued on following page.

# Table 3.3b Crude Oil and Petroleum Product Imports (continued)
(Thousand Barrels per Day)

| | Imports from Non-OPEC Sources[e] | | | | | | | | | | Total Imports |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bahamas | Canada | Mexico | Nether-lands Antilles | Trinidad and Tobago | United Kingdom | Puerto Rico | Virgin Islands | Other Non-OPEC | Total Non-OPEC | |
| **1973 Average** | **174** | **1,325** | **16** | **585** | **255** | **15** | **99** | **329** | **465** | **3,263** | **6,256** |
| **1974 Average** | **164** | **1,070** | **8** | **511** | **251** | **8** | **90** | **391** | **340** | **2,832** | **6,112** |
| **1975 Average** | **152** | **846** | **71** | **332** | **242** | **14** | **90** | **406** | **300** | **2,454** | **6,056** |
| **1976 Average** | **118** | **599** | **87** | **275** | **274** | **31** | **88** | **422** | **353** | **2,247** | **7,313** |
| **1977 Average** | **171** | **517** | **179** | **211** | **289** | **126** | **105** | **466** | **550** | **2,614** | **8,807** |
| **1978 Average** | **160** | **467** | **318** | **229** | **253** | **180** | **94** | **429** | **484** | **2,613** | **8,363** |
| **1979 Average** | **147** | **538** | **439** | **231** | **190** | **202** | **92** | **431** | **548** | **2,819** | **8,456** |
| **1980 Average** | **78** | **455** | **533** | **225** | **176** | **176** | **88** | **388** | **491** | **2,609** | **6,909** |
| **1981 Average** | **74** | **447** | **522** | **197** | **133** | **375** | **62** | **327** | **534** | **2,672** | **5,996** |
| **1982 Average** | **65** | **482** | **685** | **175** | **112** | **456** | **50** | **316** | **627** | **2,968** | **5,113** |
| **1983 Average** | **125** | **547** | **826** | **189** | **96** | **382** | **40** | **282** | **701** | **3,189** | **5,051** |
| **1984 Average** | **88** | **630** | **748** | **188** | **94** | **402** | **42** | **294** | **902** | **3,388** | **5,437** |
| **1985** January | 92 | 616 | 767 | 132 | 113 | 345 | 32 | 235 | 678 | 3,010 | 4,415 |
| February | 37 | 730 | 652 | 52 | 119 | 151 | 50 | 213 | 689 | 2,693 | 3,913 |
| March | 36 | 909 | 923 | 49 | 115 | 133 | 29 | 235 | 739 | 3,168 | 4,673 |
| April | 4 | 890 | 950 | 18 | 107 | 213 | 42 | 205 | 959 | 3,388 | 5,316 |
| May | 74 | 823 | 929 | 28 | 126 | 419 | 37 | 252 | 1,112 | 3,800 | 5,776 |
| June | 24 | 720 | 726 | 30 | 92 | 481 | 23 | 271 | 872 | 3,240 | 4,929 |
| July | 38 | 610 | 814 | 36 | 133 | 324 | 14 | 236 | 918 | 3,124 | 4,950 |
| August | 11 | 664 | 859 | 18 | 121 | 336 | 28 | 241 | 699 | 2,978 | 4,718 |
| September | 47 | 783 | 852 | 40 | 129 | 303 | 26 | 173 | 815 | 3,169 | 4,970 |
| October | 35 | 825 | 745 | 5 | 99 | 352 | 21 | 260 | 821 | 3,163 | 5,121 |
| November | 22 | 766 | 887 | 30 | 100 | 376 | 26 | 325 | 1,143 | 3,676 | 6,116 |
| December | 54 | 902 | 676 | 44 | 96 | 273 | 12 | 314 | 1,029 | 3,400 | 5,831 |
| **Average** | **40** | **770** | **816** | **40** | **113** | **310** | **28** | **247** | **873** | **3,237** | **5,067** |
| **1986** January | 62 | 823 | 681 | 58 | 108 | 333 | 21 | 326 | 862 | 3,275 | 5,573 |
| February | 33 | 690 | 557 | 11 | 85 | 218 | 18 | 309 | 949 | 2,870 | 4,676 |
| March | 18 | 750 | 616 | 27 | 79 | 178 | 25 | 186 | 688 | 2,567 | 4,712 |
| April | 34 | 798 | 694 | 13 | 111 | 188 | 23 | 209 | 793 | 2,863 | 5,439 |
| May | 32 | 881 | 743 | 37 | 130 | 365 | 27 | 237 | 1,199 | 3,651 | 6,400 |
| June | 29 | 753 | 884 | 17 | 167 | 569 | 30 | 233 | 1,157 | 3,838 | 6,848 |
| July | 44 | 763 | 850 | 25 | 131 | 353 | 29 | 237 | 1,202 | 3,634 | 6,942 |
| August | 39 | 801 | 738 | 12 | 133 | 584 | 7 | 214 | 1,294 | 3,822 | 7,168 |
| September | 15 | 801 | 615 | 17 | 162 | 437 | 23 | 291 | 1,345 | 3,706 | 7,090 |
| October | 38 | 842 | 680 | 26 | 112 | 173 | 21 | 215 | 1,043 | 3,151 | 6,427 |
| November | 39 | 960 | 565 | 53 | 129 | 448 | 21 | 179 | 1,111 | 3,504 | 6,592 |
| December | 57 | 809 | 746 | 7 | 148 | 351 | 12 | 291 | 1,304 | 3,724 | 6,700 |
| **Average** | **37** | **807** | **699** | **25** | **125** | **350** | **21** | **244** | **1,080** | **3,387** | **6,224** |
| **1987** January | 54 | 777 | 669 | 29 | 99 | 419 | 33 | 327 | 1,053 | 3,461 | 6,186 |
| February | 54 | 762 | 689 | 30 | 111 | 235 | 24 | 296 | 900 | 3,100 | 5,849 |
| March | 33 | 720 | 699 | 11 | 124 | 311 | 17 | 247 | 1,240 | 3,402 | 5,618 |
| April | 43 | 808 | 667 | 12 | 113 | 485 | 24 | 259 | 1,034 | 3,446 | 5,830 |
| May | 31 | 865 | 569 | 26 | 117 | 408 | 21 | 214 | 1,082 | 3,334 | 5,918 |
| June | 22 | 898 | 654 | 13 | 114 | 377 | 21 | 281 | 1,240 | 3,621 | 6,688 |
| July | 46 | 890 | 664 | 58 | 96 | 334 | 17 | 288 | 1,618 | 4,011 | 7,448 |
| August | 26 | 837 | 564 | 51 | 98 | 289 | 20 | 274 | 1,496 | 3,655 | 7,334 |
| September | 36 | 835 | 699 | 42 | 105 | 254 | 25 | 271 | 1,256 | 3,523 | 7,051 |
| October | 17 | 932 | 658 | 16 | 88 | 320 | 17 | 250 | 1,104 | 3,402 | 6,899 |
| November | 20 | 818 | 627 | 14 | 111 | 425 | 15 | 235 | 1,540 | 3,804 | 6,905 |
| December | 7 | 896 | 588 | 24 | 67 | 324 | 23 | 327 | 1,508 | 3,764 | 6,705 |
| **Average** | **32** | **837** | **645** | **27** | **103** | **349** | **21** | **272** | **1,259** | **3,547** | **6,541** |
| **1988** January | 49 | 953 | 767 | 40 | 104 | 215 | 29 | 341 | 1,205 | 3,703 | [R] 6,900 |

Footnotes continued.

[e]Includes petroleum imported into the United States indirectly from members of OPEC, primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

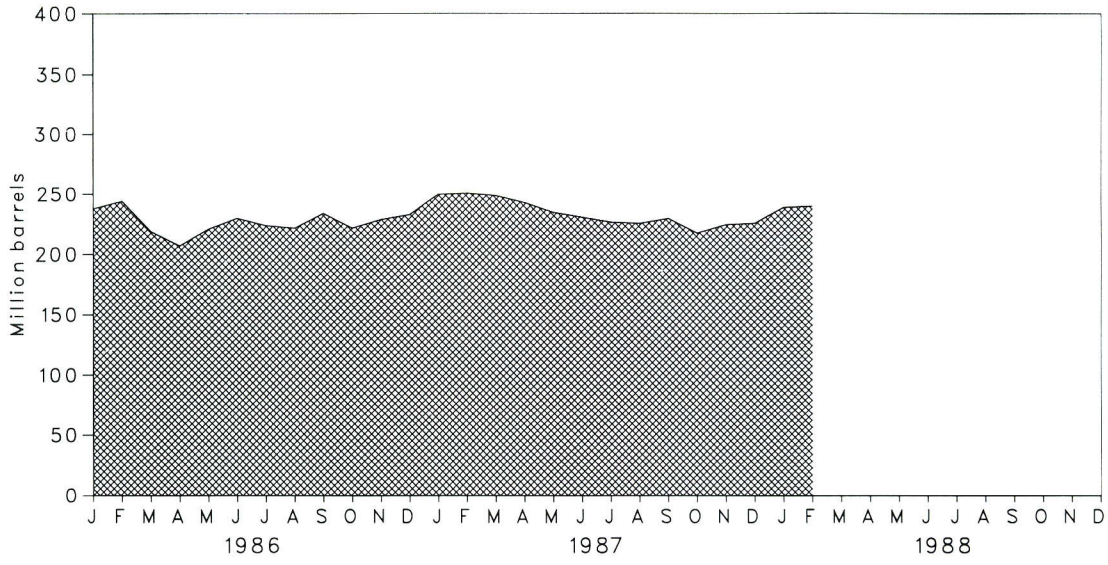
(s) = Less than 500 barrels per day.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Beginning in October 1977, Strategic Petroleum Reserve imports are included.

Sources: See end of section.

## Figure 3.5 Finished Motor Gasoline Products Supplied, Production, and Imports


## Figure 3.6 Motor Gasoline Ending Stocks

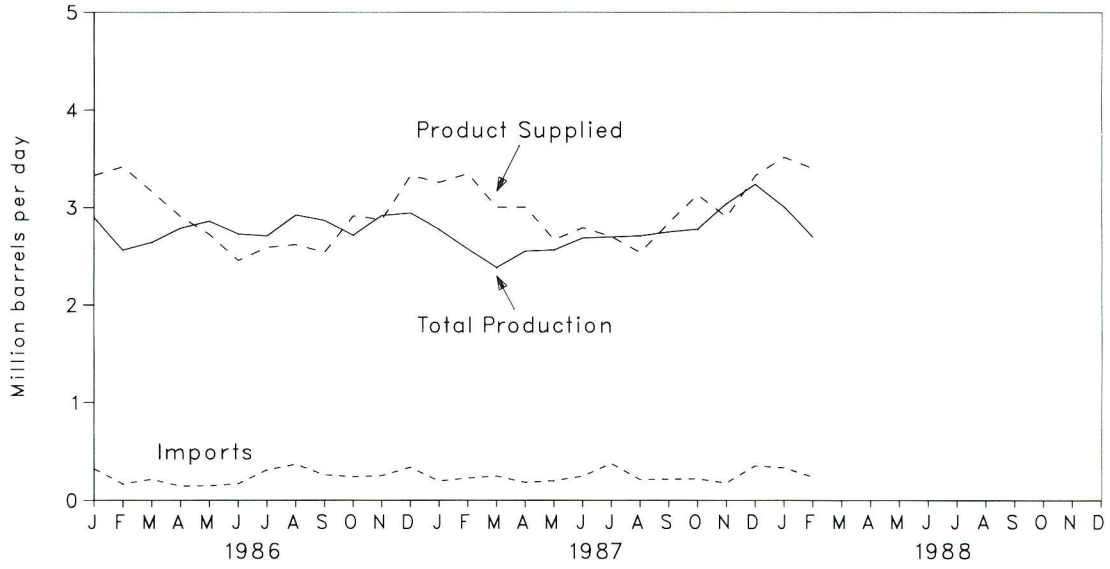


# Table 3.4 Finished Motor Gasoline Supply and Disposition

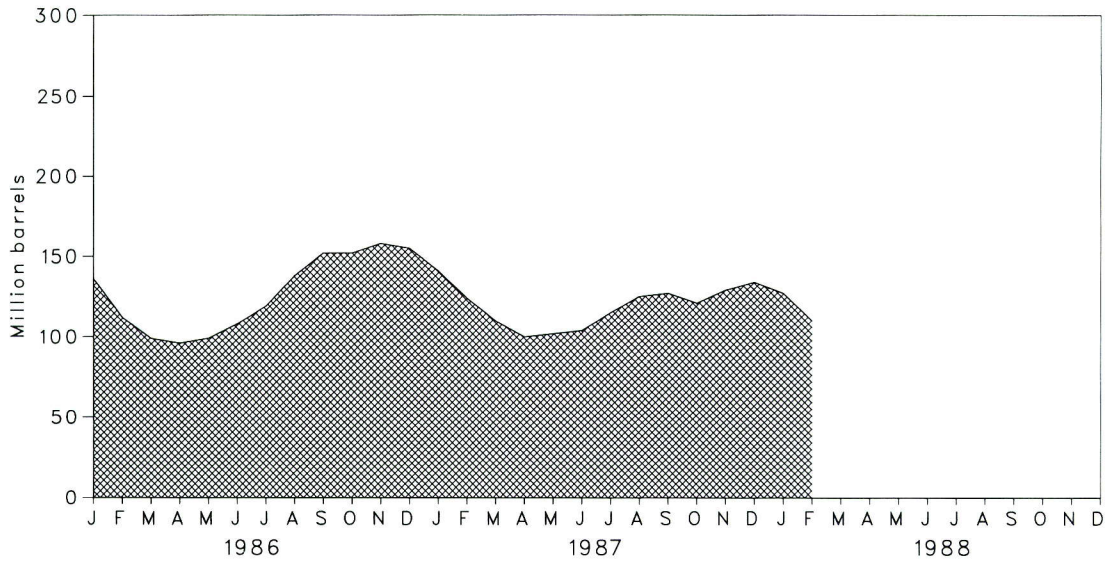
| | Supply | | | Disposition | | | | Ending Stocks[a] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Product Supplied | | | | |
| | Total Production | Imports[b] | Stock Withdrawal[b] [c] | Exports | Total | Unleaded[d] | Unleaded | Total Motor Gasoline[e] | Finished Motor Gasoline |
| | Thousand Barrels per Day | | | | | | Percent of Total | Million Barrels | |
| **1973 Average** | **6,535** | **134** | **9** | **4** | **6,674** | | | **209** | |
| **1974 Average** | **6,360** | **204** | **-24** | **2** | **6,537** | | | **[f] 218** | |
| **1975 Average** | **6,520** | **184** | **[f] -28** | **2** | **6,675** | | | **235** | |
| **1976 Average** | **6,841** | **131** | **10** | **3** | **6,978** | | | **231** | |
| **1977 Average** | **7,033** | **217** | **-72** | **2** | **7,177** | **1,976** | **27.5** | **258** | |
| **1978 Average** | **7,169** | **190** | **54** | **1** | **7,412** | **2,521** | **34.0** | **238** | |
| **1979 Average** | **6,852** | **181** | **2** | **(s)** | **7,034** | **2,798** | **39.8** | **237** | |
| **1980 Average** | **6,506** | **140** | **-66** | **1** | **6,579** | **3,067** | **46.6** | **[f] 261** | |
| **1981 Average[g]** | **6,405** | **157** | **[f] 28** | **2** | **6,588** | **3,264** | **49.5** | **253** | |
| **1982 Average** | **6,338** | **197** | **25** | **20** | **6,539** | **3,409** | **52.1** | **[f] 235** | |
| **1983 Average** | **6,340** | **247** | **[f] 45** | **10** | **6,622** | **3,647** | **55.1** | **222** | **186** |
| **1984 Average** | **6,453** | **299** | **-54** | **6** | **6,693** | **3,987** | **59.6** | **243** | **205** |
| **1985** January | 5,926 | 204 | 220 | 2 | 6,348 | 4,016 | 63.3 | 234 | 198 |
| February | 5,914 | 348 | 327 | 2 | 6,587 | 4,126 | 62.6 | 225 | 189 |
| March | 6,072 | 481 | 115 | 3 | 6,664 | 4,202 | 63.1 | 219 | 186 |
| April | 6,344 | 494 | 128 | 11 | 6,956 | 4,396 | 63.2 | 215 | 182 |
| May | 6,564 | 480 | 23 | 8 | 7,060 | 4,445 | 63.0 | 215 | 181 |
| June | 6,780 | 396 | -172 | 7 | 6,997 | 4,482 | 64.1 | 218 | 186 |
| July | 6,788 | 426 | -188 | 18 | 7,008 | 4,545 | 64.8 | 226 | 192 |
| August | 6,814 | 305 | 127 | 4 | 7,242 | 4,755 | 65.7 | 222 | 188 |
| September | 6,299 | 314 | 22 | 6 | 6,629 | 4,357 | 65.7 | 223 | 187 |
| October | 6,356 | 324 | 235 | 19 | 6,897 | 4,485 | 65.0 | 214 | 180 |
| November | 6,480 | 410 | -104 | 17 | 6,770 | 4,477 | 66.1 | 217 | 183 |
| December | 6,651 | 386 | -227 | 18 | 6,792 | 4,561 | 67.2 | 223 | 190 |
| **Average** | **6,419** | **381** | **41** | **10** | **6,831** | **4,406** | **64.5** | | |
| **1986** January | 6,522 | 332 | -347 | 6 | 6,502 | 4,404 | 67.7 | 238 | 201 |
| February | 6,302 | 334 | -156 | 11 | 6,469 | 4,365 | 67.5 | 244 | 205 |
| March | 6,061 | 224 | 691 | 21 | 6,955 | 4,678 | 67.3 | 219 | 184 |
| April | 6,498 | 291 | 338 | 23 | 7,105 | 4,783 | 67.3 | 207 | 174 |
| May | 7,095 | 471 | -450 | 9 | 7,106 | 4,729 | 66.5 | 221 | 188 |
| June | 7,101 | 392 | -265 | 18 | 7,209 | 4,914 | 68.2 | 230 | 196 |
| July | 6,956 | 337 | 189 | 47 | 7,436 | 5,182 | 69.7 | 224 | 190 |
| August | 7,092 | 303 | 83 | 43 | 7,435 | 5,138 | 69.1 | 222 | 187 |
| September | 6,891 | 303 | -289 | 40 | 6,864 | 4,813 | 70.1 | 234 | 196 |
| October | 6,616 | 322 | 372 | 61 | 7,250 | 5,086 | 70.1 | 222 | 184 |
| November | 6,895 | 280 | -200 | 96 | 6,879 | 4,918 | 71.5 | 229 | 190 |
| December | 6,970 | 320 | -122 | 24 | 7,143 | 5,193 | 72.7 | 233 | 194 |
| **Average** | **6,752** | **326** | **-11** | **33** | **7,034** | **4,854** | **69.0** | | |
| **1987** January | 6,688 | 320 | -484 | 55 | 6,469 | 4,775 | 73.8 | 250 | 209 |
| February | 6,367 | 303 | 78 | 22 | 6,726 | 4,991 | 74.2 | 251 | 207 |
| March | 6,555 | 342 | 43 | 20 | 6,921 | 5,150 | 74.4 | 249 | 206 |
| April | 6,851 | 362 | 145 | 42 | 7,317 | 5,401 | 73.8 | 243 | 201 |
| May | 6,991 | 348 | 181 | 48 | 7,472 | 5,577 | 74.6 | 235 | 196 |
| June | 7,089 | 385 | 103 | 46 | 7,531 | 5,657 | 75.1 | 231 | 193 |
| July | 7,041 | 448 | 119 | 33 | 7,575 | 5,734 | 75.7 | 227 | 189 |
| August | 6,933 | 361 | 38 | 19 | 7,313 | 5,628 | 77.0 | 226 | 188 |
| September | 6,925 | 383 | -109 | 30 | 7,170 | 5,500 | 76.7 | 230 | 191 |
| October | 6,662 | 348 | 300 | 21 | 7,289 | 5,616 | 77.1 | 218 | 182 |
| November | 6,914 | 474 | -205 | 32 | 7,151 | 5,587 | 78.1 | 225 | 188 |
| December | 7,017 | 318 | -29 | 59 | 7,247 | 5,711 | 78.8 | 226 | 189 |
| **Average** | **6,839** | **366** | **15** | **36** | **7,184** | **5,447** | **75.8** | | |
| **1988** January | [R] 6,723 | [R] 324 | [R] -361 | 8 | [R] 6,679 | 5,392 | 80.7 | [R] 239 | 200 |
| February | 6,628 | 215 | -26 | [E] 42 | [E] 6,775 | 5,400 | 79.7 | [E] 240 | [E] 201 |
| **2-Mo. Average** | **6,677** | **272** | **-199** | **25** | **6,725** | **5,396** | | | |
| **1987 2-Mo. Average** | **6,536** | **312** | **-217** | **39** | **6,591** | **4,877** | | | |
| **1986 2-Mo. Average** | **6,418** | **333** | **-256** | **8** | **6,486** | **4,385** | | | |

[a]Stocks are totals as of end of period.
[b]Beginning in 1981, excludes blending components.
[c]A negative number indicates an increase in stocks and a positive number indicates a decrease.
[d]Includes gasohol.
[e]Includes motor gasoline blending components.
[f]In January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock withdrawal calculations. See Note 4 at end of section.
[g]Beginning in January 1981, survey forms were modified. See Note 1 at end of section.
R=Revised data. NA=Not available. E=Estimate. (s)=Less than 500 barrels per day.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Sources: See end of section.

## Figure 3.7 Distillate Fuel Oil Product Supplied, Production, and Imports




## Figure 3.8 Distillate Fuel Oil Ending Stocks



# Table 3.5 Distillate Fuel Oil Supply and Disposition

| | Supply | | | | Disposition | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Withdrawal[a] | Crude Used Directly[b] | Exports | Product Supplied[b] | Ending Stocks[c] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **2,822** | **392** | **-115** | **2** | **9** | **3,092** | **196** |
| **1974 Average** | **2,669** | **289** | **-9** | **2** | **2** | **2,948** | **[d] 200** |
| **1975 Average** | **2,654** | **155** | **[d] 40** | **2** | **1** | **2,851** | **209** |
| **1976 Average** | **2,924** | **146** | **62** | **1** | **1** | **3,133** | **186** |
| **1977 Average** | **3,278** | **250** | **-176** | **1** | **1** | **3,352** | **250** |
| **1978 Average** | **3,167** | **173** | **93** | **1** | **3** | **3,432** | **216** |
| **1979 Average** | **3,153** | **193** | **-34** | **1** | **3** | **3,311** | **229** |
| **1980 Average** | **2,662** | **142** | **64** | **1** | **3** | **2,866** | **[d] 205** |
| **1981 Average[e]** | **2,613** | **173** | **[d] 38** | **10** | **5** | **2,829** | **192** |
| **1982 Average** | **2,606** | **93** | **35** | **10** | **74** | **2,671** | **[d] 179** |
| **1983 Average** | **2,456** | **174** | **[d] 124** | **NA** | **64** | **2,690** | **140** |
| **1984 Average** | **2,681** | **272** | **-57** | **NA** | **51** | **2,845** | **161** |
| **1985** January | 2,631 | 272 | 603 | NA | 41 | 3,465 | 142 |
| February | 2,504 | 143 | 748 | NA | 64 | 3,330 | 121 |
| March | 2,267 | 156 | 714 | NA | 44 | 3,093 | 99 |
| April | 2,490 | 253 | 82 | NA | 27 | 2,798 | 97 |
| May | 2,686 | 197 | -245 | NA | 31 | 2,607 | 104 |
| June | 2,647 | 152 | -175 | NA | 30 | 2,594 | 110 |
| July | 2,646 | 95 | -193 | NA | 112 | 2,436 | 116 |
| August | 2,592 | 81 | 62 | NA | 100 | 2,636 | 114 |
| September | 2,594 | 222 | -120 | NA | 121 | 2,575 | 117 |
| October | 2,902 | 262 | -195 | NA | 67 | 2,901 | 123 |
| November | 3,102 | 280 | -543 | NA | 92 | 2,747 | 140 |
| December | 3,176 | 287 | -128 | NA | 81 | 3,254 | 144 |
| **Average** | **2,687** | **200** | **48** | **NA** | **67** | **2,868** | |
| **1986** January | 2,899 | 325 | 232 | NA | 126 | 3,330 | 136 |
| February | 2,563 | 169 | 860 | NA | 176 | 3,416 | 112 |
| March | 2,643 | 217 | 438 | NA | 131 | 3,168 | 99 |
| April | 2,788 | 147 | 97 | NA | 128 | 2,904 | 96 |
| May | 2,858 | 149 | -95 | NA | 149 | 2,762 | 99 |
| June | 2,729 | 169 | -301 | NA | 53 | 2,544 | 108 |
| July | 2,710 | 313 | -355 | NA | 75 | 2,592 | 119 |
| August | 2,922 | 370 | -607 | NA | 64 | 2,621 | 138 |
| September | 2,865 | 262 | -489 | NA | 98 | 2,540 | 152 |
| October | 2,717 | 243 | 25 | NA | 74 | 2,912 | 152 |
| November | 2,917 | 254 | -222 | NA | 72 | 2,877 | 158 |
| December | 2,943 | 339 | 102 | NA | 55 | 3,329 | 155 |
| **Average** | **2,798** | **247** | **-31** | **NA** | **100** | **2,914** | |
| **1987** January | 2,774 | 197 | 440 | NA | 152 | 3,259 | 141 |
| February | 2,574 | 229 | 637 | NA | 93 | 3,347 | 124 |
| March | 2,384 | 251 | 437 | NA | 67 | 3,005 | 110 |
| April | 2,553 | 185 | 319 | NA | 53 | 3,004 | 100 |
| May | 2,565 | 201 | -45 | NA | 51 | 2,670 | 102 |
| June | 2,689 | 248 | -82 | NA | 61 | 2,793 | 104 |
| July | 2,700 | 378 | -336 | NA | 38 | 2,704 | 115 |
| August | 2,711 | 215 | -338 | NA | 47 | 2,540 | 125 |
| September | 2,750 | 217 | -59 | NA | 64 | 2,844 | 127 |
| October | 2,778 | 222 | 187 | NA | 53 | 3,134 | 121 |
| November | 3,043 | 180 | -263 | NA | 56 | 2,904 | 129 |
| December | 3,241 | 354 | -176 | NA | 92 | 3,327 | 134 |
| **Average** | **2,731** | **240** | **56** | **NA** | **69** | **2,959** | |
| **1988** January | [R] 3,008 | [R] 355 | [R] 236 | NA | 82 | [R] 3,517 | [R] 127 |
| February | 2,696 | 242 | 533 | NA | [E] 70 | 3,401 | 110 |
| **2-Mo. Average** | **2,857** | **300** | **380** | **NA** | **76** | **3,461** | |
| **1987 2-Mo. Average** | **2,679** | **212** | **533** | **NA** | **124** | **3,301** | |
| **1986 2-Mo. Average** | **2,739** | **251** | **530** | **NA** | **149** | **3,371** | |

[a]A negative number indicates an increase in stocks and a positive number indicates a decrease.

[b]Beginning in January 1983, product supplied for distillate fuel oil does not include crude oil used directly. See Note 3 at end of section.

[c]Stocks are totals as of end of period.

[d]In January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock withdrawal calculations. See Note 4 at end of section.

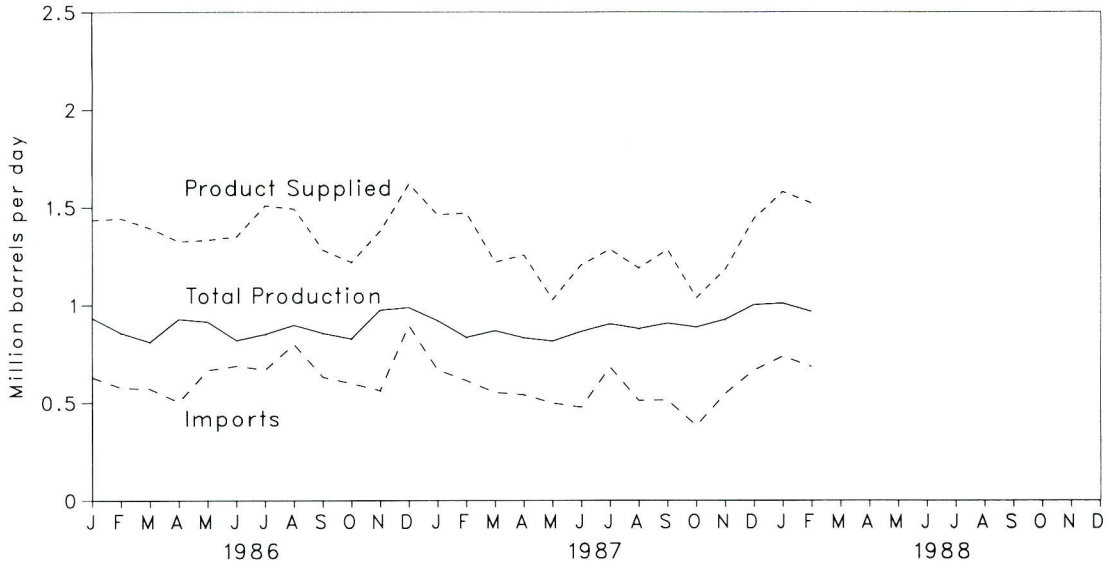
[e]Beginning in January 1981, survey forms were modified. See Note 1 at end of section.

R=Revised data. NA=Not available. E=Estimate.

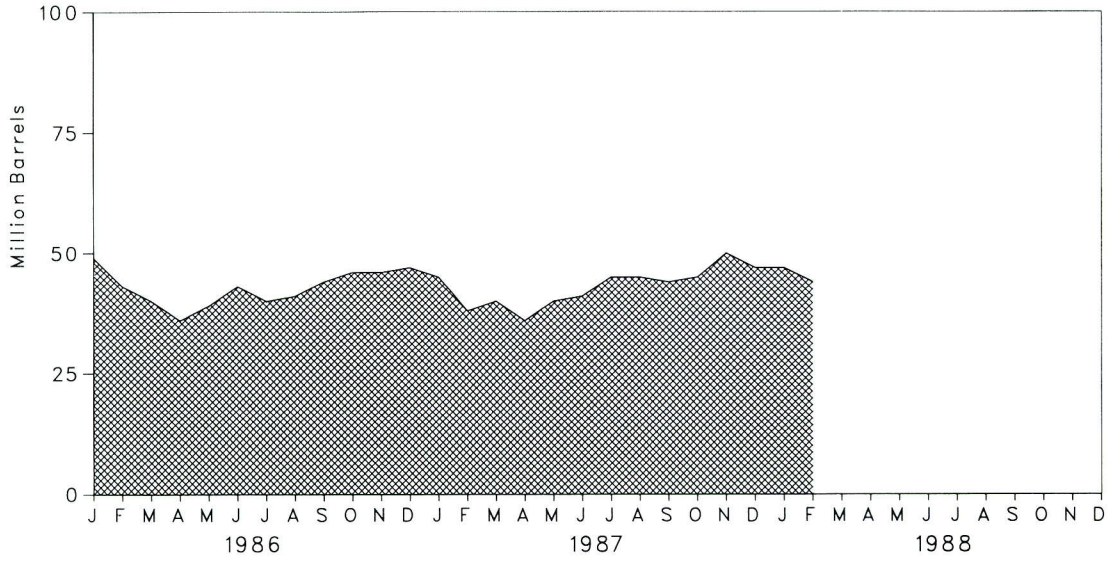
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: See end of section.

## Figure 3.9 Residual Fuel Oil Product Supplied, Production, and Imports




## Figure 3.10 Residual Fuel Oil Ending Stocks

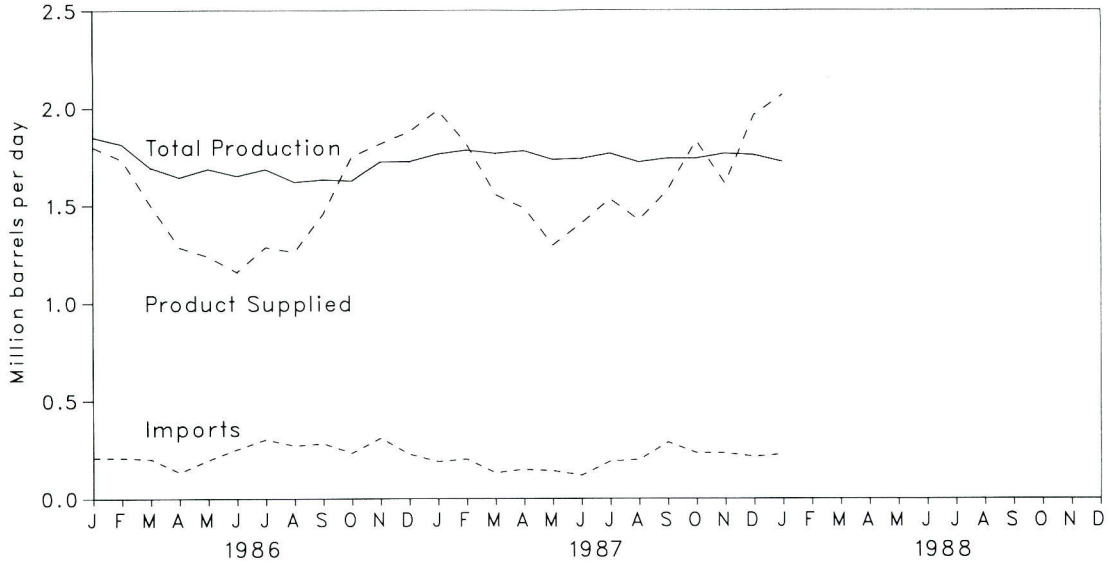


# Table 3.6 Residual Fuel Oil Supply and Disposition

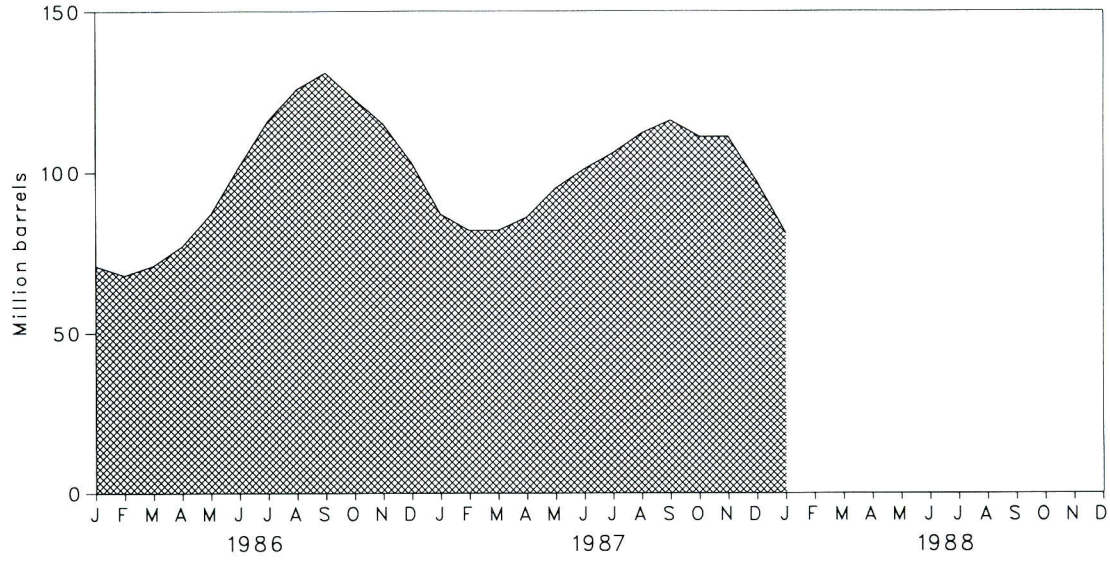
| | Supply | | | | Disposition | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Withdrawal[a] | Crude Used Directly[b] | Exports | Product Supplied[b] | Ending Stocks[c] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **971** | **1,853** | **5** | **17** | **23** | **2,822** | **53** |
| **1974 Average** | **1,070** | **1,587** | **-17** | **13** | **14** | **2,639** | [d] **60** |
| **1975 Average** | **1,235** | **1,223** | [d] **2** | **15** | **15** | **2,462** | **74** |
| **1976 Average** | **1,377** | **1,413** | **5** | **17** | **12** | **2,801** | **72** |
| **1977 Average** | **1,754** | **1,359** | **-48** | **13** | **6** | **3,071** | **90** |
| **1978 Average** | **1,667** | **1,355** | **-1** | **13** | **13** | **3,023** | **90** |
| **1979 Average** | **1,687** | **1,151** | **-15** | **12** | **9** | **2,826** | **96** |
| **1980 Average** | **1,580** | **939** | **10** | **12** | **33** | **2,508** | [d] **92** |
| **1981 Average**[e] | **1,321** | **800** | [d] **37** | **48** | **118** | **2,088** | **78** |
| **1982 Average** | **1,070** | **776** | **32** | **48** | **209** | **1,716** | [d] **66** |
| **1983 Average** | **852** | **699** | [d] **55** | **NA** | **185** | **1,421** | **49** |
| **1984 Average** | **891** | **681** | **-12** | **NA** | **190** | **1,369** | **53** |
| **1985** January | 1,004 | 568 | 219 | NA | 312 | 1,480 | 46 |
| February | 1,040 | 580 | 41 | NA | 295 | 1,366 | 45 |
| March | 963 | 477 | -35 | NA | 216 | 1,190 | 46 |
| April | 912 | 383 | -2 | NA | 167 | 1,126 | 46 |
| May | 793 | 394 | 155 | NA | 185 | 1,156 | 41 |
| June | 702 | 400 | 59 | NA | 118 | 1,043 | 40 |
| July | 732 | 437 | -29 | NA | 83 | 1,058 | 41 |
| August | 742 | 424 | 108 | NA | 106 | 1,168 | 37 |
| September | 808 | 617 | -207 | NA | 188 | 1,031 | 43 |
| October | 912 | 541 | -228 | NA | 184 | 1,042 | 50 |
| November | 932 | 627 | 5 | NA | 275 | 1,290 | 50 |
| December | 1,055 | 681 | -4 | NA | 250 | 1,483 | 50 |
| **Average** | **882** | **510** | **7** | **NA** | **197** | **1,202** | |
| **1986** January | 940 | 622 | 56 | NA | 211 | 1,407 | 49 |
| February | 856 | 604 | 200 | NA | 183 | 1,478 | 43 |
| March | 813 | 626 | 108 | NA | 113 | 1,435 | 40 |
| April | 933 | 545 | 127 | NA | 202 | 1,402 | 36 |
| May | 913 | 675 | -114 | NA | 129 | 1,345 | 39 |
| June | 818 | 712 | -111 | NA | 43 | 1,377 | 43 |
| July | 850 | 673 | 75 | NA | 90 | 1,508 | 40 |
| August | 896 | 793 | -29 | NA | 174 | 1,485 | 41 |
| September | 854 | 641 | -89 | NA | 110 | 1,296 | 44 |
| October | 827 | 635 | -59 | NA | 144 | 1,259 | 46 |
| November | 975 | 574 | -15 | NA | 143 | 1,391 | 46 |
| December | 987 | 913 | -37 | NA | 224 | 1,638 | 47 |
| **Average** | **889** | **669** | **8** | **NA** | **147** | **1,418** | |
| **1987** January | 919 | 667 | 80 | NA | 204 | 1,462 | 45 |
| February | 833 | 612 | 246 | NA | 221 | 1,470 | 38 |
| March | 867 | 552 | -48 | NA | 150 | 1,220 | 40 |
| April | 831 | 541 | 123 | NA | 239 | 1,257 | 36 |
| May | 814 | 498 | -142 | NA | 144 | 1,026 | 40 |
| June | 863 | 477 | -33 | NA | 101 | 1,206 | 41 |
| July | 902 | 680 | -122 | NA | 175 | 1,285 | 45 |
| August | 877 | 511 | -12 | NA | 185 | 1,190 | 45 |
| September | 905 | 513 | 42 | NA | 177 | 1,283 | 44 |
| October | 885 | 380 | -36 | NA | 194 | 1,035 | 45 |
| November | 925 | 546 | -145 | NA | 146 | 1,181 | 50 |
| December | 1,001 | 664 | 76 | NA | 300 | 1,441 | 47 |
| **Average** | **885** | **553** | **0** | **NA** | **186** | **1,253** | |
| **1988** January | [R] 1,009 | [R] 737 | [R] 23 | NA | 190 | [R] 1,578 | [R] 47 |
| February | 966 | 683 | 76 | NA | [E] 204 | [E] 1,520 | 44 |
| **2-Month Average** | **988** | **711** | **49** | **NA** | **197** | **1,550** | |
| **1987 2-Month Average** | **878** | **641** | **159** | **NA** | **212** | **1,466** | |
| **1986 2-Month Average** | **900** | **614** | **124** | **NA** | **198** | **1,441** | |

[a]A negative number indicates an increase in stocks and a positive number indicates a decrease.
[b]Beginning in January 1983, product supplied for residual fuel oil does not include crude oil used directly. See Note 3 at end of section.
[c]Stocks are totals as of end of period.
[d]In January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock withdrawal calculations. See Note 4 at end of section.
[e]Beginning in January 1981, survey forms were modified. See Note 1 at end of section.
R=Revised data. NA=Not available. E=Estimate.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Sources: See end of section.

## Figure 3.11 Liquefied Petroleum Gases Product Supplied, Production, and Imports




## Figure 3.12 Liquefied Petroleum Gases Ending Stocks



# Table 3.7 Liquefied Petroleum Gases[a] Supply and Disposition

| | Supply | | | Disposition | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Withdrawal[b] | Refinery Inputs | Exports | Product Supplied | Ending Stocks[c] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **1,600** | **132** | **-35** | **220** | **27** | **1,449** | **99** |
| **1974 Average** | **1,565** | **123** | **-38** | **220** | **25** | **1,406** | **[d] 113** |
| **1975 Average** | **1,527** | **112** | **[d] -35** | **246** | **26** | **1,333** | **125** |
| **1976 Average** | **1,535** | **130** | **24** | **260** | **25** | **1,404** | **116** |
| **1977 Average** | **1,566** | **161** | **-55** | **233** | **18** | **1,422** | **136** |
| **1978 Average** | **1,537** | **123** | **12** | **239** | **20** | **1,413** | **132** |
| **1979 Average** | **1,556** | **217** | **70** | **236** | **15** | **1,592** | **111** |
| **1980 Average** | **1,535** | **216** | **-27** | **233** | **21** | **1,469** | **[d] 120** |
| **1981 Average** | **1,571** | **244** | **[d] -18** | **289** | **42** | **1,466** | **135** |
| **1982 Average** | **[e] 1,527** | **226** | **111** | **300** | **65** | **1,499** | **[d] 94** |
| **1983 Average** | **1,642** | **190** | **4** | **253** | **73** | **1,509** | **[d] 101** |
| **1984 Average** | **1,697** | **195** | **19** | **291** | **48** | **1,572** | **101** |
| **1985** January | 1,676 | 255 | 399 | 322 | 70 | 1,937 | 88 |
| February | 1,689 | 237 | 330 | 320 | 72 | 1,865 | 79 |
| March | 1,684 | 223 | 29 | 297 | 52 | 1,588 | 78 |
| April | 1,696 | 156 | -143 | 262 | 78 | 1,368 | 83 |
| May | 1,713 | 138 | -219 | 239 | 40 | 1,353 | 89 |
| June | 1,728 | 181 | -175 | 250 | 51 | 1,432 | 95 |
| July | 1,713 | 131 | -107 | 249 | 68 | 1,420 | 98 |
| August | 1,710 | 153 | -98 | 277 | 80 | 1,409 | 101 |
| September | 1,667 | 132 | 61 | 321 | 29 | 1,510 | 99 |
| October | 1,669 | 209 | 304 | 340 | 47 | 1,794 | 90 |
| November | 1,716 | 188 | 192 | 387 | 88 | 1,620 | 84 |
| December | 1,786 | 239 | 337 | 386 | 75 | 1,901 | 74 |
| **Average** | **1,704** | **187** | **75** | **304** | **62** | **1,599** | |
| **1986** January | 1,850 | 280 | 80 | 364 | 47 | 1,800 | 71 |
| February | 1,815 | 208 | 108 | 325 | 74 | 1,733 | 68 |
| March | 1,693 | 202 | -98 | 250 | 47 | 1,500 | 71 |
| April | 1,642 | 134 | -200 | 256 | 33 | 1,286 | 77 |
| May | 1,685 | 196 | -336 | 267 | 40 | 1,238 | 87 |
| June | 1,649 | 253 | -490 | 228 | 25 | 1,158 | 102 |
| July | 1,684 | 303 | -450 | 199 | 50 | 1,287 | 116 |
| August | 1,619 | 271 | -332 | 243 | 53 | 1,262 | 126 |
| September | 1,631 | 282 | -142 | 288 | 27 | 1,456 | 131 |
| October | 1,625 | 234 | 249 | 332 | 26 | 1,750 | 123 |
| November | 1,724 | 310 | 254 | 417 | 53 | 1,817 | 115 |
| December | 1,725 | 227 | 411 | 456 | 33 | 1,875 | 103 |
| **Average** | **1,695** | **242** | **-80** | **302** | **42** | **1,512** | |
| **1987** January | 1,764 | 188 | 493 | 419 | 38 | 1,988 | 87 |
| February | 1,784 | 201 | 206 | 341 | 36 | 1,815 | 82 |
| March | 1,768 | 132 | -19 | 282 | 42 | 1,556 | 82 |
| April | 1,781 | 149 | -139 | 276 | 30 | 1,486 | 86 |
| May | 1,736 | 142 | -286 | 270 | 27 | 1,296 | 95 |
| June | 1,741 | 119 | -182 | 255 | 17 | 1,407 | 101 |
| July | 1,767 | 190 | -155 | 244 | 24 | 1,534 | 106 |
| August | 1,722 | 198 | -214 | 251 | 31 | 1,424 | 112 |
| September | 1,741 | 288 | -134 | 266 | 52 | 1,576 | 116 |
| October | 1,741 | 233 | 171 | 294 | 19 | 1,832 | 111 |
| November | 1,766 | 233 | 1 | 357 | 35 | 1,609 | 111 |
| December | 1,759 | 214 | 442 | 395 | 56 | 1,963 | 97 |
| **Average** | **1,756** | **190** | **15** | **304** | **34** | **1,623** | |
| **1988** January | 1,723 | 226 | 529 | 366 | 44 | 2,069 | 81 |

[a]Includes ethane, propane, normal butane, and isobutane.

[b]A negative number indicates an increase in stocks and a positive number indicates a decrease.

[c]Stocks are totals as of end of period.

[d]In January 1975, 1981, 1983, and 1984, a new stock basis was established affecting stocks reported and stock withdrawal calculations. See Note 4 at end of section.

[e]Due to a rounding difference, this value is 1,528 in the *Petroleum Supply Annual* and the *Petroleum Supply Monthly*.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: See end of section.

# Table 3.8 Other Petroleum Products[a] Supply and Disposition

| | Supply | | | Disposition | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Withdrawal[b] | Refinery Inputs | Exports | Product Supplied | Ending Stocks[c] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **3,693** | **502** | **-9** | **750** | **166** | **3,270** | **208** |
| **1974 Average** | **3,558** | **432** | **-28** | **665** | **174** | **3,123** | **[d] 218** |
| **1975 Average** | **3,418** | **277** | **[d] 4** | **537** | **160** | **3,002** | **219** |
| **1976 Average** | **3,643** | **206** | **-5** | **524** | **175** | **3,145** | **220** |
| **1977 Average** | **3,912** | **205** | **-27** | **514** | **165** | **3,410** | **230** |
| **1978 Average** | **4,046** | **166** | **14** | **492** | **167** | **3,568** | **225** |
| **1979 Average** | **4,153** | **195** | **-37** | **352** | **209** | **3,749** | **238** |
| **1980 Average** | **3,956** | **210** | **-23** | **311** | **198** | **3,634** | **[d] 247** |
| **1981 Average** | **3,739** | **226** | **[d] 46** | **723** | **199** | **3,088** | **282** |
| **1982 Average** | **3,453** | **334** | **80** | **787** | **211** | **[e] 2,870** | **[d] 253** |
| **1983 Average** | **3,460** | **411** | **[d] 6** | **712** | **242** | **2,923** | **[d] 256** |
| **1984 Average** | **3,632** | **565** | **23** | **791** | **245** | **3,183** | **240** |
| **1985** January | 3,285 | 400 | -88 | 556 | 223 | 2,815 | 243 |
| February | 3,422 | 498 | -101 | 707 | 204 | 2,910 | 245 |
| March | 3,464 | 550 | -421 | 633 | 190 | 2,769 | 259 |
| April | 3,618 | 628 | -7 | 836 | 245 | 3,158 | 259 |
| May | 3,721 | 837 | -113 | 991 | 191 | 3,263 | 262 |
| June | 3,924 | 612 | 80 | 995 | 261 | 3,360 | 260 |
| July | 3,994 | 658 | 19 | 975 | 241 | 3,455 | 259 |
| August | 4,087 | 640 | 372 | 1,328 | 218 | 3,549 | 248 |
| September | 3,878 | 529 | -10 | 823 | 274 | 3,299 | 248 |
| October | 3,810 | 548 | 9 | 861 | 250 | 3,255 | 248 |
| November | 3,772 | 612 | -183 | 906 | 277 | 3,016 | 253 |
| December | 3,658 | 542 | 226 | 1,006 | 305 | 3,118 | 246 |
| **Average** | **3,721** | **588** | **-17** | **886** | **240** | **3,166** | |
| **1986** January | 3,902 | 541 | -172 | 967 | 311 | 2,993 | 252 |
| February | 3,868 | 393 | -209 | 747 | 270 | 3,035 | 258 |
| March | 3,754 | 454 | 21 | 854 | 208 | 3,167 | 257 |
| April | 3,788 | 638 | -100 | 760 | 369 | 3,196 | 260 |
| May | 4,055 | 659 | -114 | 810 | 298 | 3,492 | 264 |
| June | 4,209 | 687 | -70 | 853 | 263 | 3,710 | 266 |
| July | 4,145 | 589 | 119 | 1,064 | 357 | 3,432 | 262 |
| August | 4,223 | 572 | 335 | 1,061 | 301 | 3,768 | 252 |
| September | 4,225 | 571 | 35 | 846 | 278 | 3,708 | 251 |
| October | 3,969 | 575 | -112 | 666 | 375 | 3,391 | 254 |
| November | 3,904 | 559 | 36 | 940 | 342 | 3,217 | 253 |
| December | 3,920 | 490 | 90 | 1,069 | 325 | 3,105 | 250 |
| **Average** | **3,997** | **561** | **-10** | **888** | **308** | **3,353** | |
| **1987** January | 3,835 | 428 | -152 | 665 | 283 | 3,164 | 256 |
| February | 3,773 | 608 | -354 | 385 | 320 | 3,322 | 266 |
| March | 3,772 | 599 | -146 | 717 | 281 | 3,225 | 270 |
| April | 3,948 | 478 | 110 | 885 | 254 | 3,397 | 267 |
| May | 4,054 | 486 | 171 | 918 | 320 | 3,473 | 262 |
| June | 4,195 | 671 | 197 | 898 | 323 | 3,842 | 256 |
| July | 4,354 | 493 | 110 | 835 | 256 | 3,866 | 253 |
| August | 4,336 | 580 | -152 | 697 | 238 | 3,828 | 257 |
| September | 4,346 | 565 | -16 | 909 | 353 | 3,632 | 258 |
| October | 4,219 | 597 | 19 | 969 | 272 | 3,594 | 257 |
| November | 3,999 | 533 | -40 | 993 | 305 | 3,195 | 258 |
| December | 4,053 | 584 | 266 | 1,090 | 330 | 3,484 | 250 |
| **Average** | **4,076** | **551** | **3** | **833** | **294** | **3,503** | |
| **1988** January | 3,988 | 639 | -143 | 785 | 354 | 3,345 | 254 |

[a]Includes pentanes plus, other hydrocarbons and alcohol, unfinished oil, gasoline blending components, and all finished petroleum products except finished motor gasoline, distillate fuel oil, residual fuel oil, and liquefied petroleum gases.

[b]A negative number indicates an increase in stocks and a positive number indicates a decrease.

[c]Stocks are totals as of end of period.

[d]In January 1975, 1981, 1983, and 1984, a new stock basis was established affecting stocks reported and stock withdrawal calculations. See Note 4 at end of this section.

[e]Due to a rounding difference, this value is 2,869 in the *Petroleum Supply Annual* and the *Petroleum Supply Monthly*.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: See end of section.

# Notes and Sources for the Petroleum Section

## *Notes*

**1.** The Energy Information Administration (EIA) uses a number of sources and methods to maintain the survey respondent lists. On a regular basis, survey managers review industry publications such as the *Oil and Gas Journal* and *Oil Daily* for information on facilities or companies starting up or closing down operations. Those sources are augmented by articles in newspapers, letters from respondents indicating changes in status, and information received from survey systems.

Every 3 years an extensive survey is conducted to update the frames completely. The updating involves consolidating information from every known source including State agencies, Federal agencies (e.g., Environmental Protection Agency, Corps of Engineers, Census Bureau, etc.), and private industry directories. The effort also includes the evaluation of the impact of potential frame changes on the historical time series of data published from these respondents. The results of this frame study are usually implemented in January to provide a full year under the same frame.

**2. Motor Gasoline:** Beginning in January 1981, the EIA expanded its universe to include non-refinery blenders; redefined motor gasoline into two categories (finished leaded and finished unleaded); and separated blending components from finished motor gasoline as a reporting category. Also, survey forms were modified to describe refinery operations more accurately. For further details, see the EIA, *Petroleum Supply Monthly.*

**3. Distillate and Residual Fuel Oils:** The requirement to report crude oil burned on leases and pipelines as either distillate or residual fuel oil has been eliminated. Prior to January 1981, the refinery input of unfinished oils number typically exceeded the number for available supply of unfinished oils. That discrepancy was assumed to be due to the redesignation of distillate and residual fuel oils received as such, but used as an unfinished oil input by the receiving refinery. The imbalance between supply and disposition of unfinished oils would then be subtracted from the production of distillate and residual fuel oils. Two-thirds of that difference was subtracted from distillate and one-third from residual. Beginning in January 1981, the EIA modified its survey forms to account for redesignated product and discontinued the above-mentioned adjustment. For further details, see the EIA, *Petroleum Supply Monthly.*

**4. New Stock Basis:** In January 1975, 1981, and 1983, numerous respondents were added to bulk terminal and pipeline surveys affecting subsequent stocks reported and stock withdrawal calculations. Using the expanded coverage (new basis), the end-of-year stocks, in million barrels, would have been:

- Crude Oil: 1982--645 (Total) and 351 (Other Primary).
- Crude Oil and Petroleum Products: 1974--1,121; 1980--1,425; and 1982--1,462.
- Motor Gasoline: 1974--225; 1980--263; 1982--244 (Total) and 203 (Finished).
- Distillate Fuel Oil: 1974--224; 1980--205; and 1982--186.
- Residual Fuel Oil: 1974--75; 1980--91; and 1982--68.
- Liquefied Petroleum Gases: 1974--113; 1980--128; and 1982--103.
- Other Petroleum Products: 1974--220; 1980--249; and 1982--259.
- Stock withdrawal calculations beginning in 1975, 1981, and 1983, were made using new basis stock levels.

In January 1984, changes were made in the reporting of natural gas liquids. As a result, unfractionated stream, which was formerly included in "Other Petroleum Products Supply and Disposition" table, is now reported on a component basis (ethane, propane, normal butane, isobutane, and pentanes plus). Most of these stocks will now appear in the "Liquefied Petroleum Gases Supply and Disposition" table. This change will affect stocks reported and stock withdrawals in each table. Under the new basis, end-of-year 1983 stocks, in million barrels would have been:

- Liquefied Petroleum Gases: 1983--108.
- Other Petroleum Products: 1983--248.

**5. Stocks of Alaskan Crude Oil:** Stocks of Alaskan Crude oil in transit were included for the first time in January 1981. The major impact of this change is on the reporting of stock withdrawal calculations. Using the expanded coverage (new basis), 1980 end-of-year stocks, in million barrels, would have been 488 (Total) and 380 (Other Primary).

## Sources

- 1973 through 1976: U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys,* "Petroleum Statement, Annual" and "PAD Districts Supply/Demand, Annual."
- 1977 through 1980: Energy Information Administration (EIA), *Energy Data Reports*, "Petroleum Statement, Annual" and "PAD Districts Supply/Demand, Annual" and unleaded gasoline data from *Monthly Petroleum Statistics Report.*
- 1981 through 1986: EIA, *Petroleum Supply Annual.*
- January 1987 through January 1988: Detailed Statistics in appropriate issues of the *Petroleum Supply Monthly.*
- February 1988: Estimates based on EIA weekly data (except domestic crude oil production).
- January 1987 through February 1988: Domestic crude oil production estimate based on historical statistics from State conservation agencies and the U.S. Geological Survey.

# Section 4. Natural Gas

Total dry natural gas production in the United States during January 1988 was an estimated 1.6 trillion cubic feet, 4 percent[16] more than in January 1987.

Consumption of natural and supplemental gas in January 1988 was an estimated 2 trillion cubic feet, 3 percent higher than in January 1987.

Deliveries to residential consumers in December 1987 (latest data available) were 599 billion cubic feet, the same as December 1986. Consumption by residential users during 1987 totaled 4.4 trillion cubic feet, 1 percent higher than in the previous year. Total deliveries to industrial consumers during December 1987 were an estimated 576 billion cubic feet, 14 percent higher than in December 1986. Estimated consumption by industrial users during 1987 totaled 5.7 trillion cubic feet, 3 percent above the 1986 level.

Imports of natural gas in January 1988 were an estimated 113 billion cubic feet, 12 percent higher than in the previous January.

Stocks of working gas[17] in underground natural gas storage reservoirs at the end of January 1988 totaled 2 trillion cubic feet, 3 percent below the level of stocks available 1 year earlier. Net withdrawals from storage during January 1988 were 521 billion cubic feet, 11 percent more than during the previous January.

[16]Percentage changes are calculated using unrounded data.
[17]Gas available for withdrawal.

# Table 4.1 Natural Gas Production
(Billion Cubic Feet)

| | Gross Wet Gas Withdrawals[a] | Used for Repressuring[b] | Nonhydrocarbon Gases Removed[c] | Vented and Flared | Marketed Production (Wet)[d] | Extraction Loss[c] | Total Dry Gas Production[e] |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **24,067** | **1,171** | **NA** | **248** | **[f] 22,648** | **917** | **[f] 21,731** |
| **1974 Total** | **22,850** | **1,080** | **NA** | **169** | **[f] 21,601** | **887** | **[f] 20,713** |
| **1975 Total** | **21,104** | **861** | **NA** | **134** | **[f] 20,109** | **872** | **[f] 19,236** |
| **1976 Total** | **20,944** | **859** | **NA** | **132** | **[f] 19,952** | **854** | **[f] 19,098** |
| **1977 Total** | **21,097** | **935** | **NA** | **137** | **[f] 20,025** | **863** | **[f] 19,163** |
| **1978 Total** | **21,309** | **1,181** | **NA** | **153** | **[f] 19,974** | **852** | **[f] 19,122** |
| **1979 Total** | **21,883** | **1,245** | **NA** | **167** | **[f] 20,471** | **808** | **[f] 19,663** |
| **1980 Total** | **21,870** | **1,365** | **199** | **125** | **20,180** | **777** | **19,403** |
| **1981 Total** | **21,587** | **1,312** | **222** | **98** | **19,956** | **775** | **19,181** |
| **1982 Total** | **20,210** | **1,388** | **208** | **93** | **18,520** | **762** | **17,758** |
| **1983 Total** | **18,597** | **1,458** | **222** | **95** | **16,822** | **790** | **16,033** |
| **1984 Total** | **20,192** | **1,630** | **224** | **108** | **18,230** | **838** | **17,392** |
| **1985** January | 1,826 | 154 | 29 | 8 | 1,636 | 77 | 1,559 |
| February | 1,667 | 148 | 26 | 7 | 1,486 | 70 | 1,416 |
| March | 1,684 | 165 | 28 | 7 | 1,484 | 71 | 1,413 |
| April | 1,595 | 163 | 27 | 8 | 1,397 | 66 | 1,331 |
| May | 1,579 | 161 | 27 | 8 | 1,383 | 66 | 1,317 |
| June | 1,521 | 154 | 23 | 8 | 1,336 | 63 | 1,273 |
| July | 1,565 | 161 | 27 | 8 | 1,368 | 65 | 1,303 |
| August | 1,554 | 153 | 27 | 8 | 1,365 | 65 | 1,300 |
| September | 1,530 | 159 | 25 | 8 | 1,338 | 64 | 1,274 |
| October | 1,589 | 160 | 27 | 8 | 1,394 | 66 | 1,328 |
| November | 1,599 | 164 | 29 | 8 | 1,398 | 66 | 1,332 |
| December | 1,825 | 173 | 32 | 8 | 1,613 | 76 | 1,537 |
| **Total** | **19,534** | **1,915** | **326** | **95** | **17,198** | **816** | **16,382** |
| **1986** January | 1,815 | 163 | 29 | 9 | 1,614 | 77 | 1,536 |
| February | 1,583 | 150 | 26 | 8 | 1,401 | 68 | 1,333 |
| March | 1,691 | 167 | 29 | 8 | 1,487 | 72 | 1,415 |
| April | 1,526 | 155 | 28 | 8 | 1,336 | 65 | 1,271 |
| May | 1,553 | 158 | 26 | 8 | 1,361 | 66 | 1,295 |
| June | 1,482 | 145 | 28 | 8 | 1,302 | 63 | 1,239 |
| July | 1,524 | 145 | 28 | 8 | 1,344 | 65 | 1,278 |
| August | 1,523 | 142 | 29 | 8 | 1,347 | 68 | 1,279 |
| September | 1,443 | 133 | 25 | 7 | 1,280 | 63 | 1,217 |
| October | 1,543 | 157 | 25 | 8 | 1,353 | 65 | 1,288 |
| November | 1,634 | 162 | 29 | 9 | 1,430 | 63 | 1,366 |
| December | 1,748 | 161 | 32 | 9 | 1,536 | 64 | 1,473 |
| **Total** | **19,063** | **1,838** | **337** | **98** | **16,791** | **800** | **15,991** |
| **1987** January | 1,788 | 167 | 35 | 12 | 1,575 | 75 | 1,500 |
| February | 1,608 | 154 | 32 | 8 | 1,414 | 67 | 1,347 |
| March | 1,708 | 167 | 35 | 9 | 1,497 | 71 | 1,426 |
| April | 1,619 | 175 | 31 | 9 | 1,403 | 67 | 1,336 |
| May | 1,611 | 185 | 31 | 9 | 1,386 | 66 | 1,320 |
| June | 1,554 | 181 | 30 | 8 | 1,334 | 63 | 1,271 |
| July | 1,581 | 178 | 31 | 8 | 1,365 | 65 | 1,300 |
| August | 1,599 | 173 | 32 | 9 | 1,385 | 66 | 1,319 |
| September | 1,539 | 175 | 31 | 9 | 1,324 | 63 | 1,261 |
| October | 1,646 | 195 | 36 | 11 | 1,404 | 67 | 1,337 |
| November | [R] 1,702 | [R] 197 | [R] 33 | 9 | [R] 1,464 | [R] 70 | [R] 1,394 |
| December | [E] 1,876 | [E] 214 | [E] 39 | [E] 11 | [E] 1,612 | [E] 77 | [E] 1,535 |
| **Total** | **[R] 19,831** | **[R] 2,161** | **[R] 396** | **112** | **[R] 17,163** | **[R] 817** | **[R] 16,346** |
| **1988** January | [E] 1,902 | [E] 221 | [E] 39 | [E] 11 | [E] 1,631 | [E] 78 | [E] 1,553 |

[a]Gas withdrawn from gas and oil wells.
[b]Gas returned to formations for repressuring, pressure maintenance, and cycling.
[c]For definitions and further explanations, see Notes at end of section.
[d]Equal to gross withdrawals minus volumes used for repressuring, volumes of nonhydrocarbon gases removed, and volumes vented and flared. See Note 2 at end of section.
[e]Equal to marketed production (wet) minus extraction loss.
[f]May include unknown quantities of nonhydrocarbon gases.
R=Revised data. NA=Not available. E=Estimate.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Data through 1986 are final. Subsequent data are preliminary.
Sources: See end of section.

# Table 4.2 Natural Gas Supply and Disposition
(Billion Cubic Feet)

| | Supply | | | | | Disposition | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total Dry Gas Production | Withdrawals from Storage[a] | Supplemental Gaseous Fuels[b] | Imports[b] | Total Supply/ Disposition[c] | Additions to Storage[a] | Exports[b] | Consumption[b] | Unaccounted for[e] |
| **1973 Total** | [d] **21,731** | **1,533** | **NA** | **1,033** | **24,297** | **1,974** | **77** | **22,049** | **196** |
| **1974 Total** | [d] **20,713** | **1,701** | **NA** | **959** | **23,373** | **1,784** | **77** | **21,223** | **289** |
| **1975 Total** | [d] **19,236** | **1,760** | **NA** | **953** | **21,949** | **2,104** | **73** | **19,538** | **235** |
| **1976 Total** | [d] **19,098** | **1,921** | **NA** | **964** | **21,983** | **1,756** | **65** | **19,946** | **216** |
| **1977 Total** | [d] **19,163** | **1,750** | **NA** | **1,011** | **21,924** | **2,307** | **56** | **19,521** | **41** |
| **1978 Total** | [d] **19,122** | **2,158** | **NA** | **966** | **22,245** | **2,278** | **53** | **19,627** | **287** |
| **1979 Total** | [d] **19,663** | **2,047** | **NA** | **1,253** | **22,964** | **2,295** | **56** | **20,241** | **372** |
| **1980 Total** | **19,403** | **1,972** | **155** | **985** | **22,515** | **1,949** | **49** | **19,877** | **640** |
| **1981 Total** | **19,181** | **1,930** | **176** | **904** | **22,191** | **2,228** | **59** | **19,404** | **501** |
| **1982 Total** | **17,758** | **2,164** | **145** | **933** | **21,000** | **2,472** | **52** | **18,001** | **475** |
| **1983 Total** | **16,033** | **2,270** | **132** | **920** | **19,354** | **1,822** | **55** | **16,835** | [e] **642** |
| **1984 Total** | **17,392** | **2,098** | **110** | **843** | **20,443** | **2,295** | **55** | **17,951** | [e] **143** |
| **1985** January | 1,559 | 652 | 13 | 104 | 2,328 | 32 | 5 | 2,079 | 212 |
| February | 1,416 | 447 | 9 | 99 | 1,971 | 47 | 5 | 2,135 | -216 |
| March | 1,413 | 225 | 8 | 90 | 1,736 | 98 | 6 | 1,711 | -79 |
| April | 1,331 | 91 | 11 | 76 | 1,509 | 208 | 5 | 1,438 | -142 |
| May | 1,317 | 23 | 11 | 73 | 1,424 | 300 | 2 | 1,139 | -17 |
| June | 1,273 | 31 | 10 | 65 | 1,379 | 257 | 5 | 1,070 | 47 |
| July | 1,303 | 45 | 12 | 59 | 1,419 | 315 | 6 | 1,112 | -14 |
| August | 1,300 | 50 | 12 | 61 | 1,423 | 283 | 5 | 1,117 | 18 |
| September | 1,274 | 20 | 9 | 63 | 1,366 | 277 | 5 | 1,050 | 34 |
| October | 1,328 | 71 | 12 | 76 | 1,487 | 203 | 5 | 1,159 | 120 |
| November | 1,332 | 207 | 9 | 77 | 1,625 | 99 | 5 | 1,336 | 185 |
| December | 1,537 | 538 | 11 | 106 | 2,192 | 44 | 5 | 1,935 | 208 |
| **Total** | **16,382** | **2,397** | **126** | **949** | **19,855** | **2,163** | **57** | **17,281** | **354** |
| **1986** January | 1,536 | 421 | 12 | 99 | 2,068 | 48 | 5 | 2,106 | -91 |
| February | 1,333 | 375 | 11 | 74 | 1,793 | 54 | 3 | 1,849 | -113 |
| March | 1,415 | 215 | 11 | 55 | 1,696 | 109 | 5 | 1,703 | -121 |
| April | 1,271 | 73 | 8 | 43 | 1,395 | 142 | 6 | 1,333 | -86 |
| May | 1,295 | 42 | 8 | 52 | 1,397 | 260 | 3 | 1,161 | -27 |
| June | 1,239 | 24 | 8 | 44 | 1,315 | 260 | 6 | 1,039 | 10 |
| July | 1,278 | 29 | 8 | 48 | 1,363 | 281 | 6 | 1,039 | 37 |
| August | 1,279 | 26 | 8 | 51 | 1,364 | 285 | 6 | 1,007 | 66 |
| September | 1,217 | 25 | 8 | 54 | 1,304 | 244 | 5 | 958 | 97 |
| October | 1,288 | 48 | 9 | 69 | 1,414 | 192 | 5 | 1,041 | 176 |
| November | 1,366 | 200 | 10 | 70 | 1,646 | 74 | 6 | 1,276 | 290 |
| December | 1,473 | 358 | 12 | 90 | 1,933 | 36 | 6 | 1,710 | 181 |
| **Total** | **15,991** | **1,837** | **113** | **750** | **18,692** | **1,984** | **61** | **16,221** | **427** |
| **1987** January | 1,500 | 512 | 18 | 101 | 2,131 | 42 | 5 | 1,998 | 86 |
| February | 1,347 | 332 | 15 | 81 | 1,775 | 37 | 5 | 1,818 | -85 |
| March | 1,426 | 220 | 14 | 87 | 1,747 | 109 | 5 | 1,674 | -41 |
| April | 1,336 | 109 | 12 | 68 | 1,525 | 166 | 4 | 1,386 | -31 |
| May | 1,320 | 26 | 11 | 60 | 1,417 | 289 | 5 | 1,152 | -29 |
| June | 1,271 | 24 | 11 | 57 | 1,363 | 260 | 5 | 1,070 | 28 |
| July | 1,300 | 32 | 12 | 66 | 1,410 | 226 | 6 | 1,070 | 108 |
| August | 1,319 | 49 | 12 | [R] 75 | [R] 1,455 | 252 | 5 | 1,104 | [R] 94 |
| September | 1,261 | 18 | 11 | [R] 73 | [R] 1,363 | 231 | 5 | 1,025 | [R] 102 |
| October | 1,337 | 100 | 12 | [R] 93 | [R] 1,542 | 155 | 4 | 1,199 | [R] 184 |
| November | [R] 1,394 | 203 | [R] 14 | [R] 107 | [R] 1,718 | 148 | 5 | [R] 1,393 | [R] 172 |
| December | [E] 1,535 | 356 | 16 | [R] 120 | [R] 2,027 | 47 | 6 | [R] 1,792 | [R] 182 |
| **Total** | [R] **16,346** | **1,981** | [R] **158** | [R] **988** | [R] **19,473** | **1,962** | **60** | [R] **16,680** | [R] **771** |
| **1988** January | [E] 1,553 | 546 | 19 | 113 | 2,231 | 25 | 5 | 2,065 | 136 |

[a]Data for 1980 through 1985 include underground storage and liquefied natural gas storage. All other data include underground storage only. Computation procedures are discussed in Note 8 at end of section.
[b]For definitions and further explanations, see Notes at end of section.
[c]Data for 1978 forward do not include in-transit receipts and deliveries.
[d]May include unknown quantities of nonhydrocarbon gases.
[e]See Note 7 at end of section.
R=Revised data. NA=Not available. E=Estimate.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Data through 1986 are final. Subsequent data are preliminary.
Sources: See end of section.

# Table 4.3 Natural Gas[a] Consumption by End-Use Sector
(Billion Cubic Feet)

| | Lease and Plant Fuel | Pipeline Fuel | Delivered to Consumers | | | | | Total Consumption |
|---|---|---|---|---|---|---|---|---|
| | | | Residential | Commercial[b] | Industrial | Electric Utilities | Total | |
| **1973 Total** | **1,496** | **728** | **4,879** | **2,597** | **8,689** | **3,660** | **19,825** | **22,049** |
| **1974 Total** | **1,477** | **669** | **4,786** | **2,556** | **8,292** | **3,443** | **19,077** | **21,223** |
| **1975 Total** | **1,396** | **583** | **4,924** | **2,508** | **6,968** | **3,158** | **17,558** | **19,538** |
| **1976 Total** | **1,634** | **548** | **5,051** | **2,668** | **6,964** | **3,081** | **17,764** | **19,946** |
| **1977 Total** | **1,659** | **533** | **4,821** | **2,501** | **6,815** | **3,191** | **17,329** | **19,521** |
| **1978 Total** | **1,648** | **530** | **4,903** | **2,601** | **6,757** | **3,188** | **17,449** | **19,627** |
| **1979 Total** | **1,499** | **601** | **4,965** | **2,786** | **6,899** | **3,491** | **18,141** | **20,241** |
| **1980 Total** | **1,026** | **635** | **4,752** | **2,611** | **7,172** | **3,682** | **18,216** | **19,877** |
| **1981 Total** | **928** | **642** | **4,546** | **2,520** | **7,128** | **3,640** | **17,834** | **19,404** |
| **1982 Total** | **1,109** | **596** | **4,633** | **2,606** | **5,831** | **3,226** | **16,295** | **18,001** |
| **1983 Total** | **978** | **490** | **4,381** | **2,433** | **5,643** | **2,911** | **15,367** | **16,835** |
| **1984 Total** | **1,077** | **529** | **4,555** | **2,524** | **6,154** | **3,111** | **16,345** | **17,951** |
| **1985** January | 91 | 54 | 743 | 372 | 591 | 226 | 1,933 | 2,079 |
| February | 84 | 46 | 837 | 412 | 554 | 203 | 2,005 | 2,135 |
| March | 83 | 42 | 566 | 290 | 522 | 207 | 1,586 | 1,711 |
| April | 79 | 39 | 397 | 206 | 484 | 234 | 1,320 | 1,438 |
| May | 78 | 40 | 212 | 128 | 447 | 236 | 1,022 | 1,139 |
| June | 75 | 38 | 157 | 100 | 420 | 282 | 958 | 1,070 |
| July | 77 | 40 | 130 | 96 | 433 | 337 | 995 | 1,112 |
| August | 77 | 39 | 119 | 93 | 434 | 355 | 1,001 | 1,117 |
| September | 75 | 37 | 129 | 98 | 435 | 275 | 937 | 1,050 |
| October | 78 | 39 | 190 | 125 | 478 | 250 | 1,042 | 1,159 |
| November | 79 | 39 | 306 | 180 | 502 | 230 | 1,218 | 1,336 |
| December | 91 | 51 | 647 | 333 | 602 | 210 | 1,793 | 1,935 |
| **Total** | **966** | **504** | **4,433** | **2,432** | **5,901** | **3,044** | **15,811** | **17,281** |
| **1986** January | 89 | 50 | 791 | 392 | 600 | 184 | 1,967 | 2,106 |
| February | 77 | 43 | 685 | 345 | 542 | 157 | 1,729 | 1,849 |
| March | 82 | 42 | 580 | 291 | 538 | 170 | 1,579 | 1,703 |
| April | 73 | 36 | 363 | 189 | 474 | 198 | 1,224 | 1,333 |
| May | 75 | 38 | 236 | 131 | 449 | 231 | 1,047 | 1,161 |
| June | 71 | 37 | 155 | 99 | 416 | 260 | 930 | 1,039 |
| July | 74 | 38 | 126 | 89 | 410 | 301 | 926 | 1,039 |
| August | 74 | 38 | 117 | 89 | 412 | 276 | 894 | 1,007 |
| September | 70 | 36 | 131 | 91 | 384 | 247 | 852 | 958 |
| October | 74 | 38 | 185 | 116 | 411 | 217 | 929 | 1,041 |
| November | 79 | 38 | 346 | 189 | 436 | 187 | 1,157 | 1,276 |
| December | 85 | 47 | 599 | 299 | 507 | 175 | 1,580 | 1,710 |
| **Total** | **923** | **485** | **4,314** | **2,318** | **5,579** | **2,602** | **14,814** | **16,221** |
| **1987** January | 87 | 51 | 749 | 359 | 568 | 185 | 1,860 | 1,998 |
| February | 78 | 43 | 697 | 344 | 497 | 158 | 1,697 | 1,818 |
| March | 82 | 43 | 582 | 288 | 488 | 190 | 1,548 | 1,674 |
| April | 77 | 40 | 407 | 203 | 452 | 206 | 1,269 | 1,386 |
| May | 76 | 40 | 226 | 129 | 439 | 243 | 1,036 | 1,152 |
| June | 73 | 38 | 149 | 96 | 430 | 284 | 959 | 1,070 |
| July | 75 | 39 | 127 | 91 | 420 | 319 | 957 | 1,070 |
| August | 76 | 39 | 119 | 88 | 443 | 339 | 988 | 1,104 |
| September | 73 | 37 | 128 | 93 | 426 | 268 | 915 | 1,025 |
| October | 77 | 39 | 226 | 131 | 488 | 238 | 1,083 | 1,199 |
| November | R 81 | 41 | 359 | 187 | 508 | 217 | 1,271 | R 1,393 |
| December | 89 | 49 | 599 | 283 | 576 | 197 | 1,654 | R 1,792 |
| **Total** | **944** | **499** | **4,368** | **2,292** | **5,734** | **2,843** | **15,236** | **R 16,680** |

[a]Includes supplemental gaseous fuels.
[b]Includes deliveries to local, State, and Federal agencies engaged in nonmanufacturing activities.
R=Revised data.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Data through 1986 are final. Subsequent data are preliminary.
Sources: See end of section.

# Table 4.4 Underground Storage of Natural Gas
(Volumes in Billion Cubic Feet)

| | Natural Gas in Underground Storage, End of Period | | | Change in Working Gas from Same Period Previous Year | | Storage Activity | | |
|---|---|---|---|---|---|---|---|---|
| | Base Gas | Working Gas | Total[a] | Volume | Percent | Injections | Withdrawals | Net[b] |
| **1973 Total** | **2,864** | **2,034** | **4,898** | **305** | **17.6** | **1,974** | **1,533** | **441** |
| **1974 Total** | **2,912** | **2,050** | **4,962** | **16** | **.8** | **1,784** | **1,701** | **83** |
| **1975 Total** | **3,162** | **2,212** | **5,374** | **162** | **7.9** | **2,104** | **1,760** | **344** |
| **1976 Total** | **3,323** | **1,926** | **5,250** | **-286** | **-12.9** | **1,756** | **1,921** | **-165** |
| **1977 Total** | **3,391** | **2,475** | **5,866** | **549** | **28.5** | **2,307** | **1,750** | **557** |
| **1978 Total** | **3,473** | **2,547** | **6,020** | **72** | **2.9** | **2,278** | **2,158** | **120** |
| **1979 Total** | **3,553** | **2,753** | **6,306** | **207** | **8.1** | **2,295** | **2,047** | **248** |
| **1980 Total** | **3,642** | **2,655** | **6,297** | **-99** | **-3.6** | **1,896** | **1,910** | **-14** |
| **1981 Total** | **3,752** | **2,817** | **6,569** | **162** | **6.1** | **2,180** | **1,887** | **293** |
| **1982 Total** | **3,808** | **3,071** | **6,879** | **255** | **9.0** | **2,399** | **2,094** | **306** |
| **1983 Total** | **3,847** | **2,595** | **6,442** | **-476** | **-15.5** | **1,700** | **2,142** | **-442** |
| **1984 Total** | **3,830** | **2,876** | **6,706** | **281** | **10.8** | **2,252** | **2,064** | **188** |
| **1985** January | 3,841 | 2,242 | 6,083 | 151 | 7.2 | 32 | 642 | -610 |
| February | 3,841 | 1,853 | 5,694 | -23 | -1.2 | 47 | 438 | -391 |
| March | 3,835 | 1,743 | 5,578 | 171 | 10.8 | 98 | 217 | -119 |
| April | 3,831 | 1,859 | 5,691 | 239 | 14.8 | 204 | 91 | 113 |
| May | 3,837 | 2,129 | 5,965 | 286 | 15.5 | 294 | 23 | 272 |
| June | 3,839 | 2,351 | 6,191 | 211 | 9.8 | 252 | 31 | 221 |
| July | 3,849 | 2,605 | 6,454 | 149 | 6.1 | 309 | 45 | 263 |
| August | 3,849 | 2,832 | 6,681 | 92 | 3.4 | 278 | 50 | 228 |
| September | 3,849 | 3,081 | 6,930 | 85 | 2.8 | 272 | 20 | 253 |
| October | 3,851 | 3,204 | 7,055 | 29 | .9 | 199 | 71 | 128 |
| November | 3,847 | 3,086 | 6,933 | 71 | 2.4 | 99 | 202 | -103 |
| December | 3,842 | 2,607 | 6,448 | -270 | -9.4 | 44 | 529 | -485 |
| **Total** | | | | | | **2,128** | **2,359** | **-231** |
| **1986** January | 3,842 | 2,213 | 6,056 | -29 | -1.3 | 48 | 414 | -366 |
| February | 3,842 | 1,872 | 5,714 | 19 | 1.0 | 54 | 369 | -315 |
| March | 3,838 | 1,764 | 5,602 | 21 | 1.2 | 109 | 213 | -104 |
| April | 3,834 | 1,841 | 5,675 | -18 | -1.0 | 140 | 73 | 67 |
| May | 3,830 | 2,076 | 5,906 | -53 | -2.5 | 255 | 42 | 213 |
| June | 3,829 | 2,323 | 6,153 | -28 | -1.2 | 255 | 24 | 231 |
| July | 3,841 | 2,570 | 6,412 | -35 | -1.3 | 274 | 29 | 245 |
| August | 3,840 | 2,842 | 6,683 | 10 | .4 | 279 | 26 | 253 |
| September | 3,840 | 3,066 | 6,906 | -16 | -.5 | 239 | 25 | 215 |
| October | 3,840 | 3,208 | 7,048 | 4 | .1 | 189 | 48 | 141 |
| November | 3,820 | 3,077 | 6,897 | -9 | -.3 | 74 | 197 | -123 |
| December | 3,819 | 2,749 | 6,567 | 142 | 5.5 | 36 | 352 | -316 |
| **Total** | | | | | | **1,952** | **1,812** | **140** |
| **1987** January | 3,821 | 2,280 | 6,101 | 67 | 3.0 | 42 | 512 | -470 |
| February | 3,818 | 1,988 | 5,806 | 116 | 6.2 | 37 | 332 | -295 |
| March | 3,816 | 1,878 | 5,694 | 114 | 6.5 | 109 | 220 | -112 |
| April | 3,814 | 1,937 | 5,751 | 96 | 5.2 | 166 | 109 | 57 |
| May | 3,813 | 2,201 | 6,014 | 125 | 6.0 | 289 | 26 | 264 |
| June | 3,817 | 2,433 | 6,250 | 110 | 4.7 | 260 | 24 | 235 |
| July | 3,812 | 2,628 | 6,440 | 58 | 2.2 | 226 | 32 | 194 |
| August | 3,811 | 2,832 | 6,643 | -11 | -.4 | 252 | 49 | 203 |
| September | 3,813 | 3,043 | 6,856 | -23 | -.7 | 231 | 18 | 213 |
| October | 3,813 | 3,097 | 6,910 | -110 | -3.4 | 155 | 100 | 54 |
| November | 3,771 | 3,055 | 6,826 | -22 | -.7 | 148 | 203 | -55 |
| December | 3,792 | 2,755 | 6,547 | 6 | .2 | 47 | 356 | -309 |
| **Total** | | | | | | **1,962** | **1,981** | **-21** |
| **1988** January | 3,792 | 2,223 | 6,015 | -57 | -2.5 | 25 | 546 | -521 |

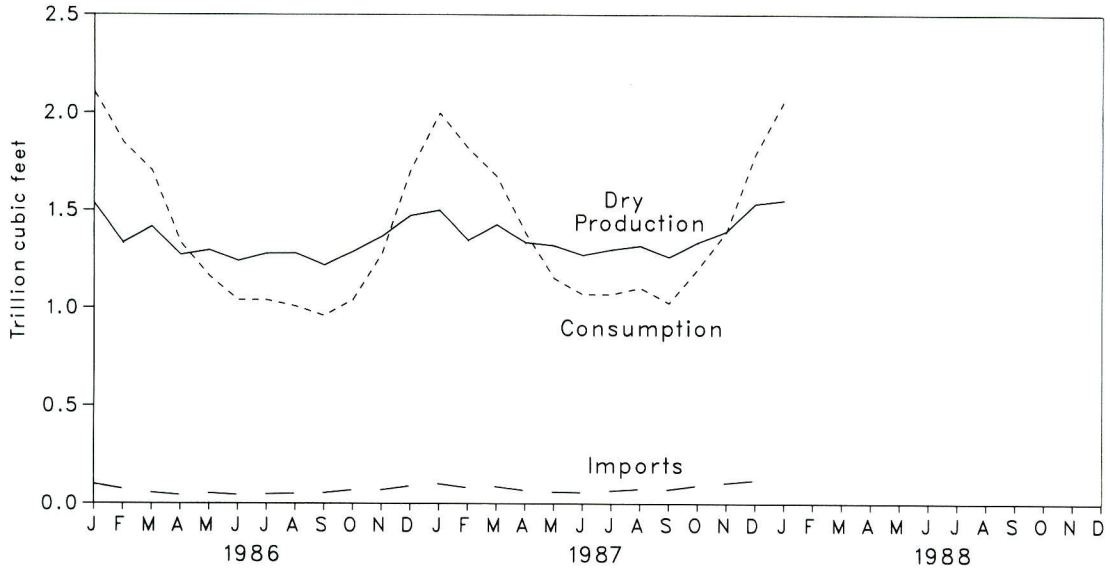
[a]Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1978--6,890; 1979--6,929; 1980--7,434; 1981--7,805; 1982--7,915; 1983--7,985; 1984--8,043; 1985--8,087; and 1986--8,145. Current capacity is 8,145.

[b]Positive numbers indicate injections are greater than withdrawals. Negative numbers indicate withdrawals are greated than injections. Net injections or withdrawals may not equal the difference between applicable ending stocks. See Note 8 at end of section.

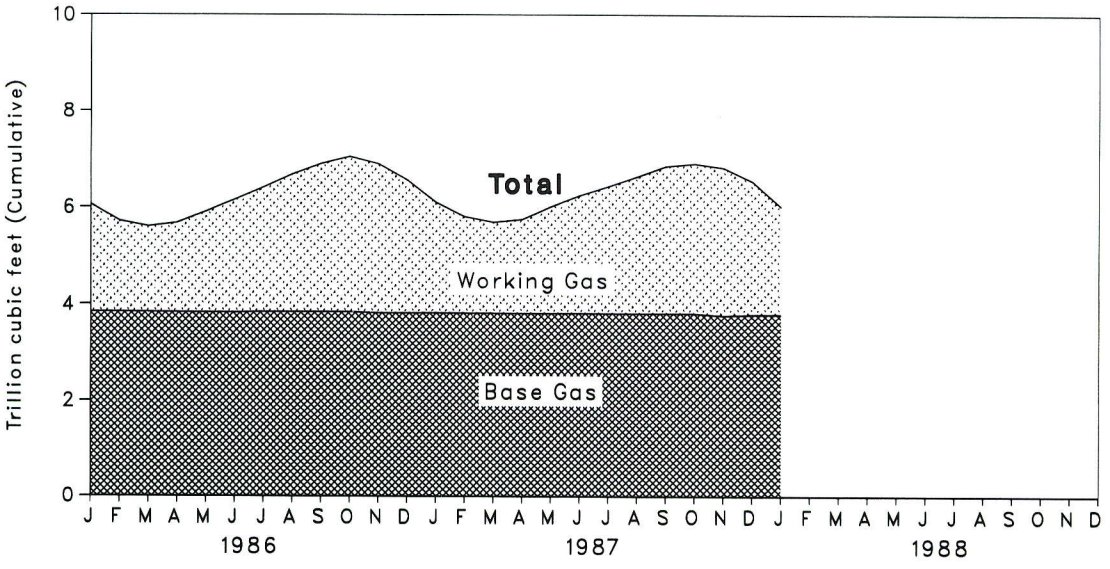
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Data through 1986 are final. Subsequent data are preliminary.

Sources: See end of section.

## Figure 4.1 Natural Gas Consumption, Production, and Imports




## Figure 4.2 Natural Gas in Storage, End of Period



# Notes and Sources for the Natural Gas Section

## *Notes*

**1. Nonhydrocarbon Gases Removed:** Annual data on nonhydrocarbon gases removed from marketed production--carbon dioxide, helium, hydrogen sulfide, and nitrogen--are from the Energy Information Administration (EIA) *Natural Gas Annual (NGA) 1986.* These data are not available for periods prior to 1980. For 1986, of the 32 producing States, 24 reported data on nonhydrocarbon gases removed. These 24 States accounted for 59 percent of total 1986 gross withdrawals. In addition, gross withdrawals data from two States, which together accounted for 36 percent of the 1986 total production, did not include all or most of the nonhydrocarbon gases removed on leases. No estimates are made for the two States not reporting nonhydrocarbon gases removed. For further information, see the EIA *Natural Gas Monthly (NGM).*

Monthly data are reported by three States and computed for six States. All monthly data are considered preliminary until after publication of the EIA *NGA* for that year. For further information on methods of estimating preliminary monthly data, see the EIA *NGM.*

Monthly data are revised and considered final after publication of the EIA *NGA* by proportionally allocating the differences between annual data published in the EIA *NGA* and the sum of the preliminary monthly data (January-December).

**2. Production:** Annual data. Final annual data are from the EIA *NGA 1986.*

Estimated Monthly Data. All data for the two most recent months presented are estimated. Some of the data for earlier months are also estimated or computed. For a discussion of computation and estimation procedures, see the EIA *NGM.*

Preliminary monthly data. All monthly data are considered preliminary until after publication of the EIA *NGA* for that year. Preliminary monthly data are gathered from reports from the Interstate Oil Compact Commission and the U.S. Minerals Management Service. Volumetric data are converted, as necessary to a standard 14.73 psia pressure base. Unless there are major changes, data are not revised until after publication of the EIA *NGA.*

Final monthly data. The difference between annual production data published in the EIA *NGA 1986* and the sum of preliminary monthly data (January-December) is allocated proportionally to the preliminary monthly data.

**3. Extraction Loss:** Extraction loss is the reduction in volume of natural gas resulting from the removal of natural gas liquid constituents at natural gas processing plants.

Annual data for extraction loss are from the EIA *NGA* for which they have been estimated based on the type and quantity of liquid products extracted from the gas stream and the calculated volume of such products at standard conditions. For a detailed explanation of the calculations used to derive estimated extraction losses, see the EIA *NGA.*

Preliminary monthly data are estimated based on extraction loss as an annual percentage of marketed production. This percentage is applied to each month's marketed production to estimate monthly extraction loss.

Monthly data are revised and considered final after the publication of the EIA *NGA.* Final monthly data are estimated by allocating annual extraction loss data to each month based on its total natural gas disposition.

**4. Supplemental Gaseous Fuels:** Supplemental gaseous fuels are mainly synthetic natural gas, propane-air, and refinery gas. Other gases may also be included such as, coke oven gas, biomass gas, manufactured gas, and air injected for Btu stabilization.

Annual data beginning with 1980 are from the EIA *NGA 1986.* Unknown quantities of supplemental gaseous fuels are included in consumption data for 1979 and earlier years.

All monthly data are considered preliminary until after the publication of the EIA *NGA* for that year. Monthly estimates are based on the annual ratio of supplemental gaseous fuels to the sum of dry gas production, net imports, and net withdrawals from storage. This ratio is applied to the monthly sum of these three elements to compute a monthy supplemental gaseous fuels figure.

**5. Imports and Exports:** The United States imports natural gas via pipeline from Mexico and Canada, and liquefied natural gas (LNG) (until September 1985) via tanker from Algeria. One shipment of LNG was received in December 1986 from Indonesia. The United States exports natural gas via pipeline to Mexico and Canada and liquefied natural gas via tanker to Japan.

Annual and final monthly data are published from the annual Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas," which requires data to be reported by month for the calendar year.

Preliminary monthly data are EIA estimates. For a discussion of estimation procedures, see the EIA *NGM.* Preliminary data are revised after the publication of the EIA *U.S. Imports and Exports of Natural Gas* for that year.

**6. Consumption:** Consumption includes pipeline fuel use, lease and plant fuel use, and deliveries to consuming sectors.

All final data are from the EIA, *NGA.* All monthly data are considered preliminary until after publication of the EIA *NGA.* For more detailed information on the methods of estimating preliminary and final monthly data, see the EIA *NGM.*

**7. Unaccounted for:** The "Unaccounted for" category represents the following: (1) quantities lost; (2) the net result of flow data metered at varying temperature and pressure conditions and converted to a standard temperature and pressure base; (3) metering inaccuracies; (4) differences between billing cycle and calendar period time frames; (5) the effect of variations in company accounting and billing practices; and (6) imbalances from EIA's merger of data reporting systems which vary in scope, format, definitions, and type of respondents. The increase of 0.2 trillion cubic feet (Tcf) in the "Unaccounted for" category in 1983 followed by a decline of 0.5 trillion cubic feet in 1984 reflected unusually large differences resulting from the use of the annual billing cycle (essentially December 15, through the following December 14) consumption data in conjunction with calendar year supply data. Record cold temperatures during the last half of December 1983 resulted in a reported 0.3 Tcf increase in net withdrawals from underground storage for peak shaving as compared with the same period in 1982, but the effect of this cold weather was reflected primarily in 1984 consumption data. For underground storage data, see Table F2 in the May 1985 *NGM,* which was published in July 1985.

**8. Natural Gas Storage:** Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals from the quantity in storage at the end of the previous period. This difference is due to changes in the quantity of native gas included in the base gas and/or losses in base gas due to migration from storage reservoirs.

All monthly data concerning underground storage are collected from the essentially identical Forms FPC-8 and EIA-191. Monthly data are revised after publication of the EIA *Underground Natural Gas Storage in the United States* for that heating year (April through March). In addition, injection and withdrawal data from the FPC-8/EIA-191 survey are adjusted to correspond to data from Form EIA-176 following publication of the EIA *Natural Gas Annual.*

The final monthly and annual storage and withdrawal data for 1980 through 1986 include both underground and liquefied natural gas (LNG) storage. Underground storage data are taken from the FPC-8/EIA-191 surveys in the manner described earlier. Annual data on LNG additions and withdrawals are taken from Form EIA-176. Monthly data are estimated by computing the ratio of each month's underground storage additions and withdrawals to annual underground storage additions and withdrawals and applying it to annual LNG data.

## Sources

**Production:** 1973 through 1986: Energy Information Administration (EIA), *Natural Gas Annual 1986;* January 1987 forward: State reports to the Interstate Oil Compact Commission, data from the U.S. Minerals Management Service, and EIA estimates for States that do not report monthly data on a regular or timely basis.

**Extraction Loss, Consumption, and Unaccounted For:** 1973 through 1986: EIA, *Natural Gas Annual 1986;* January 1987 forward: EIA computations.

**Withdrawals from and Additions to Storage:** 1973 through 1986: EIA, *Natural Gas Annual 1986;* January 1987 forward: Form FPC-8 and Form EIA-191, "Underground Gas Storage Report."

**Supplemental Gaseous Fuels:** 1980 through 1986: EIA, *Natural Gas Annual 1986;* January 1987 forward: EIA computations.

**Imports and Exports:** 1973 through 1986: Form FPC-14, "Imports and Exports of Natural Gas"; January 1987 forward: EIA computations.

**End-Use Consumption:** All data except electric utility--1973 through 1986: EIA, *Natural Gas Annual, 1986;* January 1987 forward: Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," and EIA computations. Electric utility data--EIA, Form 759, "Monthly Power Plant Report" (formerly Form FPC-4).

**Underground Storage:** 1973 and 1974: American Gas Association, *Gas Facts;* 1975 through 1979: EIA, Form FPC-8 and Form EIA-191, and the *Natural Gas Annual;* 1980 forward: EIA, Form FPC-8, Form EIA-191, and Form 176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

# Section 5. Oil and Gas Resource Development

In February 1988, the number of crews engaged in seismic exploration increased slightly over the previous month. The February 1988 total of 198 was 47 higher than in February 1987. Of the total, 168 were land crews and 30 were marine vessels. The number of land crews was up by 36 from February 1987 and the number of marine vessels was up by 11.

The rotary rig count decreased for the second time since April 1987, for a total of 976 in February 1988. That total was 9 percent lower than in the previous month, but 19 percent higher than in February 1987. Of the total number of rigs in operation, 853 were onshore and 123 were offshore. The number of onshore rigs was up 15 percent from the number in February 1987, and the number of offshore rigs was up 64 percent.

Exploratory and development well completions during January 1988 totaled an estimated 3,230, up 14 percent from both the previous month and the January 1987 total. Oil well completions were 1,520, up 18 percent from the level in January 1987, and gas well completions totaled 670, the same as the January 1987 total. Total footage drilled in January 1988 was 14.6 million feet, up 13 percent[18] from the total in December 1987, and up 11 percent from the total in January 1987.

**Figure 5.1 Seismic Crews, Rotary Rigs, and Footage Drilled**

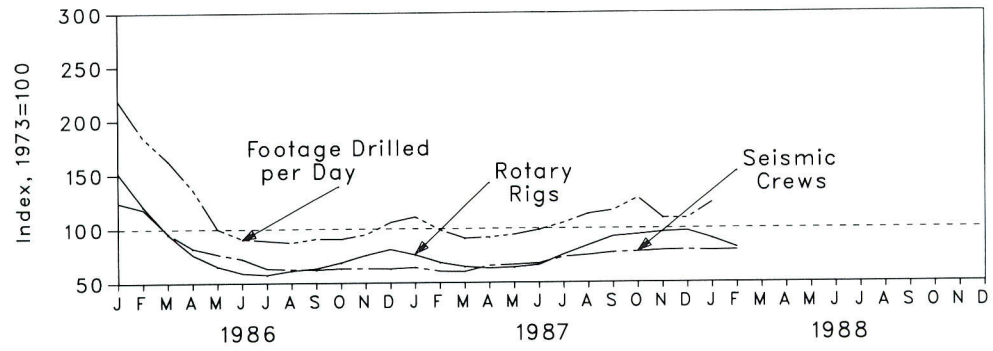
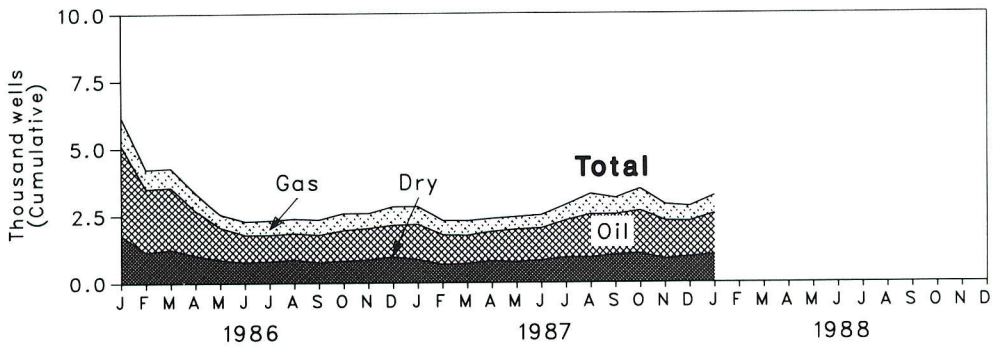



**Figure 5.2 Exploratory and Development Wells Completed**




[18]Percentage changes are calculated using unrounded data.

# Table 5.1 Seismic Crews and Rotary Rigs

| | Crews Engaged in Seismic Exploration | | | Rotary Rigs in Operation[a] | | |
|---|---|---|---|---|---|---|
| | Offshore | Onshore | Total | Offshore | Onshore | Total |
| | Monthly Average | | | Weekly Average | | |
| **1973 Average** | **23** | **227** | **250** | **84** | **1,110** | **1,194** |
| **1974 Average** | **31** | **274** | **305** | **94** | **1,378** | **1,472** |
| **1975 Average** | **30** | **254** | **284** | **106** | **1,554** | **1,660** |
| **1976 Average** | **25** | **237** | **262** | **129** | **1,529** | **1,658** |
| **1977 Average** | **27** | **281** | **308** | **167** | **1,834** | **2,001** |
| **1978 Average** | **25** | **327** | **352** | **185** | **2,074** | **2,259** |
| **1979 Average** | **30** | **370** | **400** | **207** | **1,970** | **2,177** |
| **1980 Average** | **37** | **493** | **530** | **231** | **2,678** | **2,909** |
| **1981 Average** | **44** | **637** | **681** | **256** | **3,714** | **3,970** |
| **1982 Average** | **57** | **531** | **588** | **243** | **2,862** | **3,105** |
| **1983 Average** | **47** | **426** | **473** | **199** | **2,033** | **2,232** |
| **1984 Average** | **49** | **445** | **494** | **213** | **2,215** | **2,428** |
| **1985** January | 46 | 393 | 439 | 242 | 2,210 | 2,452 |
| February | 46 | 360 | 406 | 233 | 1,955 | 2,188 |
| March | 48 | 340 | 388 | 223 | 1,732 | 1,955 |
| April | 47 | 336 | 383 | 210 | 1,667 | 1,877 |
| May | 41 | 323 | 364 | 200 | 1,665 | 1,865 |
| June | 47 | 324 | 371 | 203 | 1,653 | 1,858 |
| July | 47 | 350 | 397 | 194 | 1,715 | 1,909 |
| August | 49 | 341 | 390 | 197 | 1,734 | 1,931 |
| September | 49 | 323 | 372 | 197 | 1,733 | 1,930 |
| October | 45 | 312 | 357 | 195 | 1,684 | 1,879 |
| November | 41 | 305 | 346 | 187 | 1,725 | 1,912 |
| December | 39 | 287 | 326 | 190 | 1,760 | 1,950 |
| **Average** | **45** | **333** | **378** | **206** | **1,774** | **1,980** |
| **1986** January | 39 | 271 | 310 | 175 | 1,635 | 1,810 |
| February | 39 | 256 | 295 | 164 | 1,280 | 1,444 |
| March | 28 | 212 | 240 | 132 | 1,007 | 1,139 |
| April | 20 | 185 | 205 | 112 | 794 | 906 |
| May | 19 | 172 | 191 | 94 | 687 | 781 |
| June | 18 | 162 | 180 | 73 | 632 | 705 |
| July | 20 | 138 | 158 | 65 | 621 | 686 |
| August | 19 | 137 | 156 | 65 | 665 | 730 |
| September | 24 | 131 | 155 | 74 | 681 | 755 |
| October | 22 | 136 | 158 | 80 | 739 | 819 |
| November | 19 | 139 | 158 | 79 | 820 | 899 |
| December | 18 | 139 | 157 | 89 | 874 | 963 |
| **Average** | **24** | **176** | **201** | **99** | **865** | **964** |
| **1987** January | 18 | 142 | 160 | 88 | 812 | 900 |
| February | 19 | 132 | 151 | 75 | 743 | 818 |
| March | 18 | 132 | 150 | 76 | 696 | 772 |
| April | 19 | 145 | 164 | 73 | 681 | 754 |
| May | 20 | 146 | 166 | 76 | 687 | 763 |
| June | 22 | 147 | 169 | 85 | 703 | 788 |
| July | 24 | 159 | 183 | 97 | 804 | 901 |
| August | 28 | 159 | 187 | 109 | 894 | 1,003 |
| September | 29 | 164 | 193 | 114 | 987 | 1,101 |
| October | 32 | 163 | 195 | 116 | 1,008 | 1,124 |
| November | 28 | 170 | 198 | 118 | 1,034 | 1,152 |
| December | 27 | 172 | 199 | 128 | 1,034 | 1,162 |
| **Average** | **24** | **153** | **176** | **95** | **841** | **936** |
| **1988** January | 30 | 167 | 197 | 127 | 949 | 1,076 |
| February | 30 | 168 | 198 | 123 | 853 | 976 |
| **2-Month Average** | **30** | **168** | **198** | **125** | **895** | **1,020** |
| **1987 2-Month Average** | **18** | **137** | **156** | **81** | **778** | **859** |
| **1986 2-Month Average** | **39** | **264** | **303** | **168** | **1,459** | **1,627** |

[a]Monthly data are averages of 4- or 5-week reporting periods, not calendar months.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

# Table 5.2 Exploratory and Development Wells Completed and Footage Drilled

| | Exploratory and Development Wells Completed | | | | Footage Drilled |
|---|---|---|---|---|---|
| | Oil | Gas | Dry | Total | |
| | Thousand Wells | | | | Million Feet |
| **1973 Total** | **10.25** | **6.97** | **10.47** | **27.69** | **139.42** |
| **1974 Total** | **13.66** | **7.17** | **12.20** | **33.04** | **153.79** |
| **1975 Total** | **16.98** | **8.17** | **13.74** | **38.88** | **181.05** |
| **1976 Total** | **17.70** | **9.44** | **13.80** | **40.94** | **187.29** |
| **1977 Total** | **18.70** | **12.12** | **15.04** | **45.85** | **215.70** |
| **1978 Total** | **19.06** | **14.40** | **16.59** | **50.06** | **238.39** |
| **1979 Total** | **20.70** | **15.17** | **16.04** | **51.91** | **243.69** |
| **1980 Total** | **32.28** | **17.22** | **20.34** | **69.84** | **312.30** |
| **1981 Total** | **42.84** | **19.91** | **27.28** | **90.03** | **408.84** |
| **1982 Total** | **38.74** | **18.72** | **25.96** | **83.43** | **374.85** |
| **1983 Total** | **36.77** | **14.28** | **23.85** | **74.90** | **314.73** |
| **1984 Total** | **42.20** | **16.78** | **25.36** | **84.35** | **367.33** |
| **1985** January | 3.17 | 1.40 | 1.98 | 6.55 | 30.41 |
| February | 2.69 | 1.28 | 1.53 | 5.50 | 25.77 |
| March | 3.11 | 1.27 | 1.83 | 6.21 | 28.30 |
| April | 2.89 | 1.09 | 1.74 | 5.72 | 26.19 |
| May | 2.78 | 1.01 | 1.65 | 5.45 | 24.77 |
| June | 2.84 | R 1.15 | 1.65 | 5.65 | 24.08 |
| July | 2.97 | 1.22 | 1.82 | 6.01 | 25.35 |
| August | 3.20 | 1.25 | 1.89 | R 6.35 | R 27.03 |
| September | 2.76 | 1.19 | 1.65 | 5.60 | 23.89 |
| October | 2.92 | 1.28 | 1.68 | 5.88 | 25.24 |
| November | 2.49 | R .95 | 1.38 | 4.83 | 21.30 |
| December | 2.74 | .99 | 1.71 | 5.44 | 24.65 |
| **Total** | **34.57** | **14.10** | **20.51** | **69.17** | **306.98** |
| **1986** January | 3.34 | 1.04 | 1.78 | 6.16 | 25.94 |
| February | 2.36 | .72 | 1.15 | 4.23 | 19.74 |
| March | 2.31 | .71 | 1.25 | 4.28 | 19.32 |
| April | 1.67 | .65 | 1.03 | 3.35 | 15.81 |
| May | 1.18 | .49 | .88 | 2.55 | 12.15 |
| June | R .99 | R .51 | R .79 | R 2.30 | R 10.39 |
| July | .96 | .54 | .82 | 2.33 | 10.54 |
| August | .95 | .55 | .88 | 2.38 | 10.32 |
| September | 1.00 | R .57 | .77 | R 2.34 | R 10.39 |
| October | 1.11 | .64 | .83 | 2.57 | 11.13 |
| November | 1.15 | .56 | .87 | 2.57 | 11.21 |
| December | 1.17 | .70 | .97 | 2.84 | 13.05 |
| **Total** | **R 18.19** | **R 7.69** | **R 12.01** | **R 37.89** | **R 170.09** |
| **1987** January | R 1.29 | R .67 | R .88 | R 2.84 | R 13.10 |
| February | 1.08 | .54 | .69 | 2.30 | 10.57 |
| March | 1.02 | .55 | .73 | 2.30 | 10.76 |
| April | 1.07 | .49 | .82 | 2.38 | 10.88 |
| May | 1.19 | .47 | .78 | 2.44 | 11.16 |
| June | 1.18 | .49 | .84 | 2.51 | 11.30 |
| July | R 1.37 | R .59 | R .94 | R 2.90 | R 12.43 |
| August | 1.59 | .76 | .94 | 3.29 | 13.49 |
| September | 1.50 | R .61 | 1.03 | R 3.14 | R 13.30 |
| October | 1.60 | .81 | 1.07 | 3.48 | 15.09 |
| November | 1.41 | .62 | .88 | 2.91 | 12.52 |
| December | 1.31 | .57 | .96 | 2.83 | 12.87 |
| **Total** | **R 15.61** | **R 7.16** | **R 10.55** | **R 33.32** | **R 147.47** |
| **1988** January | 1.52 | .67 | 1.03 | 3.23 | 14.58 |

R=Revised data.

Notes: • Data exclude service wells and stratigraphic and core tests. • Geographic coverage is the 50 States and the District of Columbia. • Totals and averages may not equal sum of components due to subsequent revisions and independent rounding. • Due to the method of estimation, data shown on this page are frequently revised. See end of section.

Source: See end of section.

# Notes and Sources for the Oil and Gas Resource Development Section

## Notes

Beginning in the March 1985 *Monthly Energy Review (MER)*, the Energy Information Administration (EIA) revised the exploratory and development wells drilled data series. In order to present a consistent series, historical as well as current statistics were adjusted.

In previous issues, the *MER* published statistics based on data on well completions reported to the American Petroleum Institute during a given month, as opposed to data on wells actually completed during the month. Because of the time lag from date of well completion to date of reporting, data on well completions reported are not as accurate an indicator of drilling activity as are data on well completions. For example, during 1982 well completions reported continued to rise even though the number of wells actually completed fell. Starting in the March 1985 issue of the *MER*, published figures have been EIA estimates of the number of wells actually completed in a given month and are shown in thousands, rounded to two decimal places. The associated footage drilled is shown in millions, also rounded to two decimal places.

The EIA estimates are calculated using an adjustment process that imputes total well counts and footage by type and class based on partial counts of well completions available from the reported data. That is, based on statistical analysis of the incomplete reported data, the process imputes the missing portions to determine values for total well completions and footage. Estimates for a given month are first published in the *MER* for that month, that is estimates for June 1984 are first published in the June 1984 *MER*. Revisions to the estimates are scheduled for the 6th, 12th, and 24th months following initial publication, as newly reported data refine the accuracy of the estimate. Unscheduled revisions to the published data will also be made when the latest estimate differs by more than 10 percent during the first 5 months, more than 10 percent during the next 6 months, more than 5 percent thereafter through 5 years. After 5 years, the actual reported data will be published.

The three well types considered are oil, gas, and dry. By convention, wells with both oil and gas zones are categorized as oil. Well classes are either development or exploratory; wells in any other class have been deleted. Exploratory well categories considered are new field wildcat, new pool wildcat, deeper pool test, or extension (American Association of Petroleum Geologists well classification codes 1 through 5).

Additional information may be obtained from "Estimating Well Completions," the feature article published in the March 1985 *MER*.

## Sources

- Crews Engaged: Society of Exploration Geophysicists, "Monthly Seismic Crew Count" and annual reports published in their bulletins, *Geophysics* and *Leading Edge*.
- Rotary Rigs: Hughes Tool Company, "Rotary Rigs Running--by State."
- Wells and Footage Drilled: EIA computations based on well reports submitted to the American Petroleum Institute by Petroleum Information Corporation.

# Section 6. Coal

U.S. coal production in January 1988 totaled 75 million short tons, 1 percent[19] higher than the level of production in January 1987.

Electric utility coal consumption in December 1987 totaled 63 million short tons, 6 percent above the 59 million short tons consumed in December 1986. Based on preliminary data, total coal consumption at power plants was a record high 718 million short tons in 1987, 5 percent above the 685 million short tons consumed in 1986.

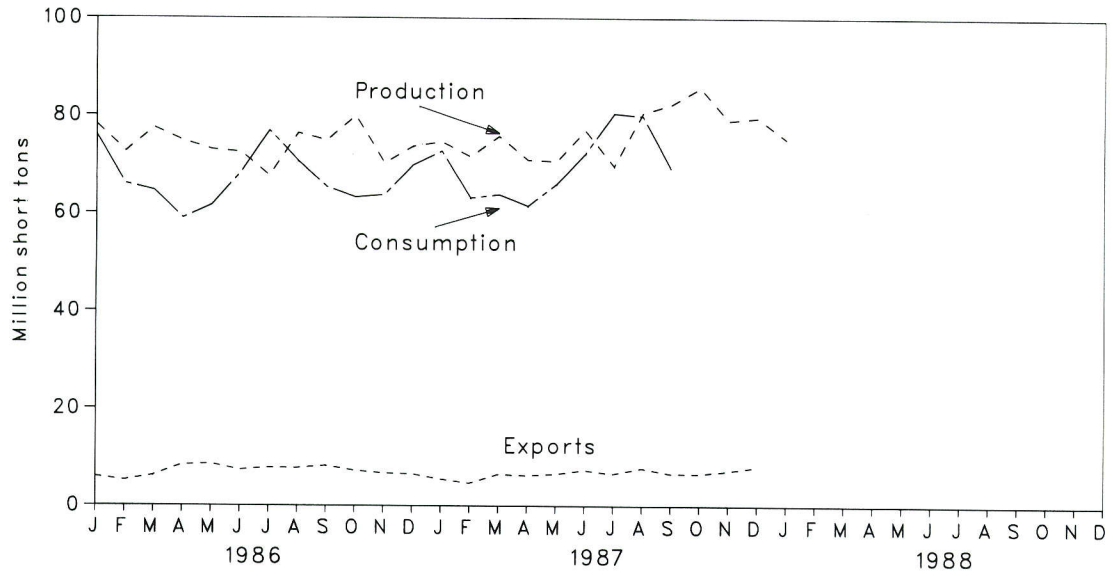
Electric utility coal stocks were 171 million short tons at the end of December 1987, 6 percent more than the 162 million short tons of stocks at the end of December 1986.

Exports of coal in December 1987 were 8 million short tons, 23 percent more than exports in December 1986. Coal exports in 1987 totaled 80 million short tons, 7 percent less than exports in 1986. Of the 54 countries that received coal in 1987, most exports were to Canada (16 million short tons), Japan (11 million short tons), and Italy (10 million short tons). Based on an average value of $42.77 per short ton, U.S. coal exports in 1987 were valued at approximately $3 billion.

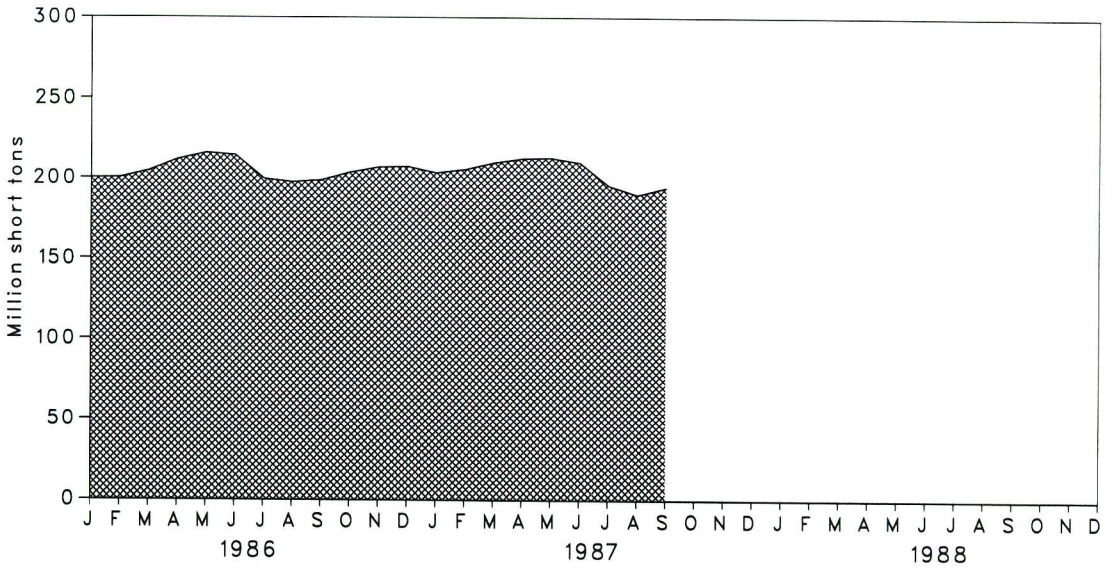
Coal imports in December 1987 totaled 109 thousand short tons, 41 percent less than imports in December 1986. Total 1987 coal imports were 1.7 million short tons, 21 percent lower than the 2.2 million short tons imported in 1986. Coal imports were primarily from Colombia (1 million short tons) and Canada (0.4 million short tons). Based on an average value of $32.04 per short ton, total coal imports in 1987 were valued at approximately $54 million.

[19]Percentage changes are calculated using unrounded data.

## Figure 6.1 Coal Production, Consumption, Imports, and Exports




## Figure 6.2 Coal Stocks, End of Period



# Table 6.1 Coal Overview
(Thousand Short Tons)

| | Production | Consumption | Imports[a] | Exports[b] | Stocks[c] |
|---|---|---|---|---|---|
| **1973 Total** | **598,568** | **562,584** | **127** | **53,587** | **NA** |
| **1974 Total** | **610,023** | **558,402** | **2,080** | **60,661** | **NA** |
| **1975 Total** | **654,641** | **562,640** | **940** | **66,309** | **NA** |
| **1976 Total** | **684,913** | **603,790** | **1,203** | **60,021** | **NA** |
| **1977 Total** | **697,205** | **625,291** | **1,647** | **54,312** | **NA** |
| **1978 Total** | **670,164** | **625,225** | **2,953** | **40,714** | **NA** |
| **1979 Total** | **781,134** | **680,524** | **2,059** | **66,042** | **202,472** |
| **1980 Total** | **829,700** | **702,729** | **1,194** | **91,742** | **228,407** |
| **1981 Total** | **823,775** | **732,628** | **1,043** | **112,541** | **209,423** |
| **1982 Total** | **838,111** | **706,910** | **742** | **106,277** | **232,037** |
| **1983 Total** | **782,091** | **736,671** | **1,271** | **77,772** | **202,585** |
| **1984 Total** | **895,921** | **791,291** | **1,286** | **81,483** | **231,300** |
| **1985** January | 68,261 | 74,849 | 126 | 5,817 | 218,131 |
| February | 67,233 | 65,777 | 101 | 6,030 | 212,035 |
| March | 77,744 | 64,857 | 103 | 6,696 | 214,825 |
| April | 76,541 | 61,753 | 203 | 7,065 | 220,230 |
| May | 78,382 | 64,797 | 159 | 9,231 | 222,798 |
| June | 73,237 | 66,978 | 138 | 7,913 | 223,210 |
| July | 69,228 | 74,162 | 177 | 7,314 | 213,601 |
| August | 79,622 | 73,102 | 264 | 10,422 | 209,555 |
| September | 73,977 | 66,673 | 182 | 8,095 | 208,827 |
| October | 80,158 | 65,033 | 128 | 8,744 | 212,920 |
| November | 69,268 | 64,866 | 111 | 8,134 | 210,656 |
| December | 69,989 | 75,201 | 260 | 7,220 | 203,367 |
| **Total** | **883,638** | **818,049** | **1,952** | **92,680** | |
| **1986** January | 78,106 | 75,877 | 154 | 5,935 | 200,074 |
| February | 72,489 | 65,917 | 209 | 5,158 | 200,159 |
| March | 77,379 | 64,521 | 122 | 6,152 | 204,422 |
| April | 74,680 | 58,921 | 214 | 8,302 | 211,500 |
| May | 72,907 | 61,559 | 172 | 8,545 | 215,508 |
| June | 72,413 | 68,193 | 190 | 7,323 | 214,166 |
| July | 67,597 | 76,787 | 178 | 7,780 | 199,556 |
| August | 76,293 | 70,590 | 171 | 7,718 | 197,412 |
| September | 74,791 | 65,293 | 188 | 8,189 | 198,689 |
| October | 79,891 | 63,179 | 110 | 7,205 | 203,538 |
| November | 70,189 | 63,682 | 319 | 6,676 | 206,834 |
| December | 73,580 | 69,792 | 185 | 6,536 | 207,319 |
| **Total** | **890,315** | **804,312** | **2,212** | **85,518** | |
| **1987** January | 74,512 | 72,635 | 134 | 5,471 | 203,425 |
| February | 71,517 | 63,076 | 85 | 4,643 | 205,537 |
| March | 75,701 | 63,770 | 111 | 6,462 | 209,713 |
| April | 70,863 | 61,472 | 229 | 6,229 | 212,317 |
| May | 70,589 | 65,945 | 135 | 6,557 | 212,763 |
| June | 76,914 | 72,193 | 118 | 7,328 | 209,863 |
| July | 69,634 | 80,454 | 120 | 6,611 | 195,664 |
| August | 80,528 | 79,909 | 191 | 7,758 | 190,001 |
| September | 82,295 | 68,959 | 164 | 6,665 | 194,504 |
| October | 85,705 | NA | 86 | 6,633 | NA |
| November | 79,008 | NA | 263 | 7,210 | NA |
| December | 79,585 | NA | 109 | 8,042 | NA |
| **Total** | **916,851** | **NA** | **1,747** | **79,607** | |
| **1988** January | 75,148 | NA | NA | NA | NA |

[a]Includes Puerto Rico.

[b]Excludes shipments of anthracite to U.S. Armed Forces overseas (218 thousand short tons in 1982, 341 thousand short tons in 1983, 298 thousand short tons in 1984, 240 thousand short tons in 1985, and 209 thousand short tons in 1986.)

[c]Stocks held by electric utilities, coke plants, general industry, and coal producers and distributors at end of period. Excludes stocks held at retail dealers for consumption by the residential and commercial sector.

NA = Not available.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1986 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding. • See Note at end of section for methodology used to calculate production, consumption, and stocks.

Sources: See end of section.

# Table 6.2 Coal Consumption by End-Use Sector[a]
(Thousand Short Tons)

| | Electric Utilities | Industrial | | Residential and Commercial | Total |
|---|---|---|---|---|---|
| | | Coke Plants | Other Industrial Including Transportation | | |
| **1973 Total** | **389,212** | **94,101** | **68,154** | **11,117** | **562,584** |
| **1974 Total** | **391,811** | **90,191** | **64,983** | **11,417** | **558,402** |
| **1975 Total** | **405,962** | **83,598** | **63,670** | **9,410** | **562,640** |
| **1976 Total** | **448,371** | **84,704** | **61,799** | **8,916** | **603,790** |
| **1977 Total** | **477,126** | **77,739** | **61,472** | **8,954** | **625,291** |
| **1978 Total** | **481,235** | **71,394** | **63,085** | **9,511** | **625,225** |
| **1979 Total** | **527,051** | **77,368** | **67,717** | **8,388** | **680,524** |
| **1980 Total** | **569,274** | **66,657** | **60,347** | **6,452** | **702,729** |
| **1981 Total** | **596,797** | **61,015** | **67,395** | **7,422** | **732,628** |
| **1982 Total** | **593,666** | **40,908** | **64,096** | **8,240** | **706,910** |
| **1983 Total** | **625,211** | **37,033** | **65,979** | **8,448** | **736,671** |
| **1984 Total** | **664,399** | **44,022** | **73,744** | **9,128** | **791,291** |
| **1985** January | 63,645 | 3,463 | 6,911 | 830 | 74,849 |
| February | 55,491 | 3,282 | 6,278 | 726 | 65,777 |
| March | 54,784 | 3,511 | 6,046 | 518 | 64,857 |
| April | 50,903 | 3,851 | 6,236 | 764 | 61,753 |
| May | 54,595 | 3,778 | 5,962 | 461 | 64,797 |
| June | 57,634 | 3,284 | 5,696 | 365 | 66,978 |
| July | 64,252 | 3,437 | 5,950 | 523 | 74,162 |
| August | 63,076 | 3,420 | 6,112 | 494 | 73,102 |
| September | 56,780 | 3,361 | 5,877 | 656 | 66,673 |
| October | 54,969 | 3,165 | 6,183 | 716 | 65,033 |
| November | 54,311 | 3,192 | 6,605 | 758 | 64,866 |
| December | 63,402 | 3,313 | 7,517 | 969 | 75,201 |
| **Total** | **693,841** | **41,056** | **75,372** | **7,779** | **818,049** |
| **1986** January | 64,034 | 3,508 | 7,443 | 893 | 75,877 |
| February | 55,050 | 3,324 | 6,761 | 781 | 65,917 |
| March | 53,898 | 3,555 | 6,511 | 557 | 64,521 |
| April | 48,114 | 3,602 | 6,401 | 805 | 58,921 |
| May | 51,420 | 3,533 | 6,120 | 486 | 61,559 |
| June | 58,892 | 3,071 | 5,846 | 384 | 68,193 |
| July | 68,021 | 2,591 | 5,705 | 470 | 76,787 |
| August | 61,709 | 2,578 | 5,860 | 444 | 70,590 |
| September | 56,536 | 2,534 | 5,634 | 589 | 65,293 |
| October | 54,116 | 2,523 | 5,878 | 662 | 63,179 |
| November | 54,158 | 2,545 | 6,279 | 701 | 63,682 |
| December | 59,108 | 2,641 | 7,146 | 896 | 69,792 |
| **Total** | **685,056** | **36,006** | **75,583** | **7,667** | **804,312** |
| **1987** January | 62,418 | 2,645 | 6,849 | 724 | 72,635 |
| February | 53,715 | 2,506 | 6,222 | 634 | 63,076 |
| March | 54,647 | 2,681 | 5,991 | 452 | 63,770 |
| April | 51,463 | 3,298 | 6,109 | 603 | 61,472 |
| May | 56,505 | 3,235 | 5,841 | 364 | 65,945 |
| June | 63,514 | 2,812 | 5,580 | 288 | 72,193 |
| July | 70,736 | 3,257 | 5,959 | 502 | 80,454 |
| August | 70,075 | 3,240 | 6,120 | 474 | 79,909 |
| September | 59,259 | 3,184 | 5,885 | 630 | 68,959 |
| October | 57,134 | NA | NA | NA | NA |
| November | 55,961 | NA | NA | NA | NA |
| December | 62,551 | NA | NA | NA | NA |
| **Total** | **717,978** | **NA** | **NA** | **NA** | **NA** |

[a]See Note 2 at end of section.

NA = Not available .

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1986 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding.

Sources: See end of section.

# Table 6.3 Coal Stocks, End of Period
(Thousand Short Tons)

| | Consumer | | | | Producers and Distributors | Total[a] |
|---|---|---|---|---|---|---|
| | Electric Utilities | Coke Plants | Other Industrial | Total[a] | | |
| **1973 Year** | **86,967** | **6,998** | **10,370** | **104,335** | **NA** | **NA** |
| **1974 Year** | **83,509** | **6,209** | **6,605** | **96,323** | **NA** | **NA** |
| **1975 Year** | **110,724** | **8,797** | **8,529** | **128,050** | **NA** | **NA** |
| **1976 Year** | **117,436** | **9,902** | **7,100** | **134,438** | **NA** | **NA** |
| **1977 Year** | **133,219** | **12,816** | **11,063** | **157,098** | **NA** | **NA** |
| **1978 Year** | **128,225** | **8,278** | **9,048** | **145,551** | **NA** | **NA** |
| **1979 Year** | **159,714** | **10,155** | **11,777** | **181,646** | **20,826** | **202,472** |
| **1980 Year** | **183,010** | **9,067** | **11,951** | **204,028** | **24,379** | **228,407** |
| **1981 Year** | **168,893** | **6,475** | **9,906** | **185,274** | **24,149** | **209,423** |
| **1982 Year** | **181,132** | **4,642** | **9,479** | **195,253** | **36,784** | **232,037** |
| **1983 Year** | **155,598** | **4,346** | **8,710** | **168,654** | **33,931** | **202,585** |
| **1984 Year** | **179,727** | **6,166** | **11,317** | **197,210** | **34,090** | **231,300** |
| **1985** January | 167,592 | 5,583 | 10,439 | 183,614 | 34,517 | 218,131 |
| February | 162,531 | 4,999 | 9,561 | 177,091 | 34,944 | 212,035 |
| March | 166,355 | 4,415 | 8,684 | 179,454 | 35,371 | 214,825 |
| April | 171,695 | 4,472 | 8,749 | 184,917 | 35,313 | 220,230 |
| May | 174,198 | 4,529 | 8,815 | 187,542 | 35,255 | 222,798 |
| June | 174,545 | 4,587 | 8,881 | 188,013 | 35,197 | 223,210 |
| July | 165,903 | 4,171 | 9,184 | 179,258 | 34,342 | 213,601 |
| August | 162,825 | 3,754 | 9,488 | 176,068 | 33,487 | 209,555 |
| September | 163,065 | 3,338 | 9,791 | 176,195 | 32,632 | 208,827 |
| October | 166,749 | 3,365 | 10,007 | 180,121 | 32,799 | 212,920 |
| November | 164,075 | 3,393 | 10,222 | 177,690 | 32,966 | 210,656 |
| December | 156,376 | 3,420 | 10,438 | 170,234 | 33,133 | 203,367 |
| **1986** January | 152,078 | 3,302 | 9,930 | 165,311 | 34,763 | 200,074 |
| February | 151,157 | 3,185 | 9,423 | 163,765 | 36,394 | 200,159 |
| March | 154,415 | 3,067 | 8,916 | 166,398 | 38,024 | 204,422 |
| April | 161,076 | 3,224 | 9,135 | 173,434 | 38,065 | 211,500 |
| May | 164,667 | 3,380 | 9,353 | 177,401 | 38,107 | 215,508 |
| June | 162,909 | 3,537 | 9,572 | 176,018 | 38,148 | 214,166 |
| July | 149,803 | 3,313 | 9,740 | 162,856 | 36,700 | 199,556 |
| August | 149,163 | 3,090 | 9,908 | 162,161 | 35,252 | 197,412 |
| September | 151,945 | 2,866 | 10,074 | 164,885 | 33,804 | 198,689 |
| October | 157,202 | 2,908 | 10,195 | 170,305 | 33,233 | 203,538 |
| November | 160,908 | 2,950 | 10,314 | 174,171 | 32,663 | 206,834 |
| December | 161,806 | 2,992 | 10,429 | 175,226 | 32,093 | 207,319 |
| **1987** January | 157,061 | 2,886 | 9,896 | 169,843 | 33,582 | 203,425 |
| February | 158,322 | 2,780 | 9,363 | 170,466 | 35,071 | 205,537 |
| March | 161,648 | 2,675 | 8,830 | 173,153 | 36,560 | 209,713 |
| April | 164,745 | 3,028 | 8,855 | 176,628 | 35,689 | 212,317 |
| May | 165,683 | 3,381 | 8,881 | 177,946 | 34,818 | 212,763 |
| June | 163,275 | 3,735 | 8,907 | 175,917 | 33,946 | 209,863 |
| July | 150,418 | 3,675 | 9,362 | 163,454 | 32,210 | 195,664 |
| August | 146,096 | 3,615 | 9,816 | 159,527 | 30,474 | 190,001 |
| September | 151,940 | 3,554 | 10,271 | 165,766 | 28,738 | 194,504 |
| October | 160,989 | NA | NA | NA | NA | NA |
| November | 168,312 | NA | NA | NA | NA | NA |
| December | 170,842 | NA | NA | NA | NA | NA |

[a]Total excludes stocks held at retail dealers for consumption by the residential and commercial sector.
NA = Not available.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1986 are final. Subsequent data are preliminary.
• Totals may not equal sum of components due to independent rounding.
Sources: See end of section.

# Notes and Sources for the Coal Section

## *Notes*

**1. Production:** Preliminary monthly estimates of national coal production are the sum of weekly estimates developed by the Energy Information Administration (EIA) and published in the *Weekly Coal Production* report. When a week extends into a new month, production is allocated on a daily basis and added to the appropriate month. Weekly estimates are based on Association of American Railroads (AAR) data showing the number of railcars loaded with coal during the week by Class I and certain other railroads. This number is converted into tons of coal by EIA using the average number of tons of coal per railcar loaded reported in the most recent Quarterly Freight Commodity Statistics from the Interstate Commerce Commission (ICC). If an average coal tonnage per railcar loaded is not available for a specific railroad, the national average is used. To derive the estimate of total weekly production, the total rail tonnage for the week is divided by the ratio of quarterly production shipped by rail and total quarterly production. Data for the corresponding quarter of previous years are used to derive this ratio. This method insures that the seasonal variations are preserved in the production estimates.

When preliminary quarterly data become available, the monthly and weekly estimates are adjusted to conform to the quarterly figure. The adjustment procedure uses State-level production data and is explained in the *Quarterly Coal Report.* Initial estimates of annual production published in January of the following year are based on preliminary production data covering the first 9 months (three quarters) and weekly/monthly estimates for the fourth quarter. The fourth quarter estimates may or may not be revised when preliminary data become available in March of the following year, depending on the magnitude of the difference between the estimates and the preliminary data. In any event, all quarterly, monthly, and weekly production figures are adjusted to conform to the final annual production data published in the *Monthly Energy Review* in the fall of the following year.

**2. Consumption:** Both monthly and quarterly consumption for electric utility plants are taken directly from reported data. Prior to 1980, monthly consumption at coke plants was also taken directly from reported data. Since that time, it has been estimated by proportioning reported quarterly data using the ratios of monthly to quarterly consumption in 1979, the last year in which monthly data were reported. Quarterly consumption is taken directly from reported data.

Prior to 1978, monthly consumption for the other industrial sector (i.e., all industrial users minus coke plants) was derived by using reported data to modify baseline consumption figures from the most recent Bureau of the Census Annual Survey of Manufactures or Census of Manufactures. For 1978 and subsequent years, monthly figures were derived from data reported on Forms EIA-3 and EIA-6. Beginning in 1980, monthly figures have been estimated by proportioning derived quarterly data using the ratios of monthly to quarterly consumption in 1979, the last year in which monthly data were reported on Form EIA-3. Quarterly consumption for the other industrial sector is derived from reported data by adding beginning stocks at manufacturing plants to current receipts and subtracting ending stocks at manufacturing plants. In this calculation, current receipts are taken as the greater of either reported receipts from manufacturing plants (Form EIA-3) or reported shipments to the other industrial sector (Form EIA-6), thereby ensuring that agriculture, forestry, fishing, mining, and construction consumption are included where appropriate.

Prior to 1980, monthly consumption for the residential and commercial sector was derived by using reported data to modify baseline figures developed by the Bureau of Mines. Since that time, it has been estimated by proportioning reported quarterly data using the ratios of monthly to quarterly consumption in 1979, the last year in which monthly data were reported on Form EIA-2. During 1981 and 1982, the estimates were also modified to reflect air temperature degree-days. Quarterly consumption is taken directly from reported data and is defined as distribution to the residential and commercial sector as reported by coal producers and distributors on Form EIA-6.

**3. Stocks:** Both monthly and quarterly stocks at electric utility plants are taken directly from reported data. Prior to 1980, monthly stocks at coke plants were also taken directly from reported data. Since that time, they have been estimated by using one-third of the current quarterly change to indicate the monthly change in stocks. Quarterly stocks are taken directly from data reported on Form EIA-5.

Prior to 1978, stocks for the other industrial sector were derived by using reported data to modify baseline figures from a one-time Bureau of Mines survey of consumers. During the period 1978 through 1982, they were derived by judgmentally proportioning reported quarterly data based on representative seasonal patterns of supply and demand. Since that time, they have been estimated as indicated above for coke plants. Quarterly stocks are taken directly from data reported on Form EIA-3 and therefore include only manufacturing industries: data for agriculture, forestry, fishing, mining, and construction stocks are not available.

Prior to 1980, monthly and quarterly stock data for the residential and commercial sector were taken directly from reported data. Monthly and quarterly stock data are not available for the residential and commercial sector after December 1979.

Quarterly stocks at producers and distributors are taken directly from reported data. Monthly data are estimated by using one-third of the current quarterly change to indicate the monthly change in stocks.

**4. Imports and Exports:** All coal import and export figures are taken directly from data reported monthly by the Bureau of the Census.

Additional information concerning coal production, consumption, and stock data and estimation procedures may be obtained in EIA's *Quarterly Coal Report,* DOE/EIA-0121.

## Sources

**Production:** 1973 through September 1977: Bureau of Mines, *Minerals Yearbook* and *Mineral Industry Surveys;* October 1977 forward: Energy Information Administration (EIA), *Weekly Coal Production.*

**Consumption and Stocks:** 1973 through September 1977: Bureau of Mines, *Minerals Yearbook* and *Mineral Industry Surveys* (except Residential and Commercial Consumption and Stocks and Producers and Distributors Stocks);

- Electric Utilities--October 1977 forward: EIA, Form EIA-759 (formerly FPC Form 4), "Monthly Power Plant Report."
- Coke Plants--October 1977 through December 1980: EIA, Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual"; January 1981 forward: EIA, Form EIA-5/5A, "Coke Plant Report-Quarterly/Annual Supplement."
- Other Industrial--October 1977 through December 1979: EIA, Form EIA-3, "Monthly Fuel Consumption Report-Manufacturing Plants"; January 1980 forward: EIA, Form EIA-3, "Quarterly Fuel Consumption Report-Manufacturing Plants" and Form EIA-6, "Coal Distribution Report."
- Residential and Commercial Consumption and Stocks-1973 through 1976: Bureau of Mines, *Minerals Yearbook;* January 1977 through September 1977: Bureau of Mines, Form 6-1400-M, "Monthly Coal Report, Retail Dealers-Upper Lake Docks"; October 1977 through December 1979: EIA, Form EIA-2, "Monthly Coal Report, Retail Dealers-Upper Lake Docks" January 1980 forward: EIA, Form EIA-6, "Coal Distribution Report," (stock data are not collected).
- Producers and Distributors Stocks--January 1980 forward: EIA, Form EIA-6, "Coal Distribution Report."

**Imports and Exports:** Bureau of the Census, U.S. Department of Commerce, Monthly Reports IM-145 (Imports) and EM-522 (Exports).

# Section 7. Electric Utilities

During December 1987, electric utilities generated 220 billion kilowatthours of electricity, 3 percent[20] above the December 1986 generation level. Coal-fired generation totaled 126 billion kilowatthours, 7 percent above the December 1986 level. Nuclear generation totaled 42 billion kilowatthours, 6 percent above the December 1986 level. Natural gas-fired generation was 19 billion kilowatthours in December 1987, 13 percent above the December 1986 level. Hydroelectric generation was 21 billion kilowatthours in December 1987, 19 percent below the level 1 year earlier. Petroleum-fired generation totaled 11 billion kilowatthours, 6 percent below the December 1986 level.

During 1987, electric utilities generated 2,571 billion kilowatthours of electricity, 3 percent above the 1986 generation level. Coal-fired generation totaled 1,464 billion kilowatthours, 6 percent above the level 1 year earlier. Nuclear generation totaled 455 kilowatthours, 10 percent above the 1986 level. Hydroelectric generation was 250 billion kilowatthours in 1987, 14 percent below the 1986 level. Natural gas-fired generation was 273 billion kilowatthours, 10 percent above the level 1 year earlier. Petroleum-fired generation totaled 118 billion kilowatthours, 13 percent below the 1986 level.

Sales of electricity to all ultimate consumers in the United States in December 1987 were 205 billion kilowatthours, 3 percent above the December 1986 sales. Sales to residential consumers during December 1987 were 73 billion kilowatthours, slightly above the level of sales during the previous year. Commercial sales were 54 billion kilowatthours, 2 percent above the amount sold to commercial consumers 1 year earlier. Sales to industrial consumers totaled 70 billion kilowatthours in December 1987, 6 percent more than the previous year's figure. In December 1987, other sales totaled 7 billion kilowatthours, 1 percent below the December 1986 level.

During 1987, sales of electricity to all ultimate consumers in the United States were 2,455 billion kilowatthours, 4 percent above sales during 1986. Sales to residential consumers during 1987 were 850 billion kilowatthours, 4 percent above the level of sales during the previous year. Commercial sales were 672 billion kilowatthours during 1987, 5 percent more than the amount sold to commercial consumers in 1987. Sales to industrial consumers totaled 847 billion kilowatthours during 1987, 5 percent more than the 1986 figure. During 1987, other sales totaled 87 billion kilowatthours, 4 percent above the level of sales during 1986.

Electric utility petroleum consumption (excluding petroleum coke) during December 1987 was 19 million barrels, 7 percent below the December 1986 level. Coal consumption during December 1987 was 63 million short tons, 6 percent above the December 1986 rate. During December 1987, electric utilities consumed 197 billion cubic feet of natural gas, 12 percent above the December 1986 consumption level.

On December 31, 1987, utility stocks of all types of coal totaled 171 million short tons. Those stockpiles were 6 percent above the level of December 31, 1986. Petroleum stocks (excluding petroleum coke) on December 31, 1987, totaled 71 million barrels, 3 percent below the level on the same date in 1986.

[20]Percentage changes are calculated using unrounded data.

# Table 7.1 Net Generation of Electricity by Electric Utilities
(Million Kilowatthours)

| | Coal | Petroleum[a] | Natural Gas[b] | Nuclear Electric Power | Hydro-electric Power | Other[c] | Total |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **847,651** | **314,343** | **340,858** | **83,479** | **272,083** | **2,294** | **1,860,710** |
| **1974 Total** | **828,433** | **300,931** | **320,065** | **113,976** | **301,032** | **2,703** | **1,867,140** |
| **1975 Total** | **852,786** | **289,095** | **299,778** | **172,505** | **300,047** | **3,437** | **1,917,649** |
| **1976 Total** | **944,391** | **319,988** | **294,624** | **191,104** | **283,707** | **3,883** | **2,037,696** |
| **1977 Total** | **985,219** | **358,179** | **305,505** | **250,883** | **220,475** | **4,063** | **2,124,323** |
| **1978 Total** | **975,742** | **365,060** | **305,391** | **276,403** | **280,419** | **3,315** | **2,206,331** |
| **1979 Total** | **1,075,037** | **303,525** | **329,485** | **255,155** | **279,783** | **4,387** | **2,247,372** |
| **1980 Total** | **1,161,562** | **245,994** | **346,240** | **251,116** | **276,021** | **5,506** | **2,286,439** |
| **1981 Total** | **1,203,203** | **206,421** | **345,777** | **272,674** | **260,684** | **6,054** | **2,294,812** |
| **1982 Total** | **1,192,004** | **146,797** | **305,260** | **282,773** | **309,213** | **5,164** | **2,241,211** |
| **1983 Total** | **1,259,424** | **144,499** | **274,098** | **293,677** | **332,130** | **6,456** | **2,310,285** |
| **1984 Total** | **1,341,681** | **119,808** | **297,394** | **327,634** | **321,150** | **8,638** | **2,416,304** |
| **1985** January | 129,092 | 12,077 | 22,051 | 36,186 | 27,543 | 906 | 227,856 |
| February | 112,037 | 9,270 | 19,417 | 30,812 | 25,902 | 803 | 198,242 |
| March | 111,391 | 7,120 | 19,848 | 31,041 | 24,640 | 930 | 194,970 |
| April | 104,790 | 6,017 | 22,425 | 26,458 | 24,403 | 783 | 184,877 |
| May | 111,515 | 6,859 | 22,481 | 28,697 | 26,421 | 816 | 196,790 |
| June | 115,583 | 7,576 | 26,740 | 30,837 | 23,839 | 788 | 205,363 |
| July | 128,880 | 8,289 | 32,191 | 35,184 | 21,293 | 885 | 226,722 |
| August | 126,550 | 9,858 | 33,915 | 34,812 | 19,981 | 934 | 226,050 |
| September | 114,630 | 7,435 | 26,273 | 34,508 | 18,767 | 887 | 202,499 |
| October | 111,053 | 7,514 | 24,120 | 31,205 | 20,048 | 849 | 194,789 |
| November | 108,815 | 7,008 | 22,453 | 30,166 | 22,954 | 1,031 | 192,427 |
| December | 127,792 | 11,177 | 20,031 | 33,782 | 25,359 | 1,113 | 219,255 |
| **Total** | **1,402,128** | **100,202** | **291,946** | **383,691** | **281,149** | **10,724** | **2,469,841** |
| **1986** January | 130,190 | 11,088 | 17,472 | 36,219 | 21,377 | 1,123 | 217,470 |
| February | 110,982 | 9,529 | 14,925 | 32,721 | 23,222 | 956 | 192,336 |
| March | 110,390 | 10,073 | 16,149 | 30,773 | 28,465 | 984 | 196,834 |
| April | 98,995 | 9,227 | 18,961 | 30,477 | 27,523 | 891 | 186,074 |
| May | 104,900 | 10,435 | 21,947 | 31,924 | 27,205 | 903 | 197,315 |
| June | 120,154 | 11,563 | 24,767 | 31,334 | 26,223 | 973 | 215,015 |
| July | 136,654 | 16,296 | 28,712 | 35,894 | 24,072 | 1,045 | 242,672 |
| August | 123,618 | 15,466 | 26,352 | 37,483 | 21,189 | 1,058 | 225,166 |
| September | 113,957 | 10,677 | 23,457 | 36,593 | 21,114 | 895 | 206,692 |
| October | 108,584 | 9,873 | 20,876 | 36,214 | 21,335 | 872 | 197,754 |
| November | 109,045 | 10,464 | 18,044 | 34,944 | 23,153 | 781 | 196,432 |
| December | 118,362 | 11,894 | 16,845 | 39,463 | 25,965 | 1,022 | 213,551 |
| **Total** | **1,385,831** | **136,585** | **248,508** | **414,038** | **290,844** | **11,503** | **2,487,310** |
| **1987** January | 126,624 | 11,924 | 17,788 | 39,975 | 25,409 | 1,017 | 222,736 |
| February | 109,641 | 10,504 | 15,120 | 36,598 | 21,216 | 940 | 194,019 |
| March | 111,920 | 10,007 | 18,349 | 37,290 | 23,236 | 1,034 | 201,837 |
| April | 105,494 | 7,898 | 19,595 | 33,518 | 22,029 | 965 | 189,499 |
| May | 115,039 | 8,146 | 23,248 | 34,320 | 24,221 | 1,012 | 205,986 |
| June | 129,299 | 10,655 | 27,090 | 36,560 | 20,808 | 1,071 | 225,483 |
| July | 143,503 | 12,547 | 30,512 | 39,603 | 20,193 | 1,103 | 247,461 |
| August | 143,190 | 11,288 | 32,260 | 41,352 | 18,446 | 1,101 | 247,638 |
| September | 120,777 | 7,696 | 25,678 | 39,666 | 18,164 | 1,011 | 212,992 |
| October | 117,743 | 6,821 | 22,984 | 36,492 | 17,952 | 1,015 | 203,007 |
| November | 114,172 | 9,805 | 21,003 | 37,438 | 16,857 | 983 | 200,257 |
| December | 126,199 | 11,189 | 18,992 | 42,006 | 21,087 | 1,013 | 220,486 |
| **Total** | **1,463,601** | **118,480** | **272,618** | **454,818** | **249,618** | **12,267** | **2,571,401** |

[a]Includes fuel oil Nos. 2, 4, 5, and 6, crude oil, kerosene, and petroleum coke.
[b]Includes supplemental gaseous fuels.
[c]Other is electricity produced from geothermal, wood, waste, wind, photovoltaic, and solar thermal energy sources connected to electric utility distribution systems.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • 1973 through September 1977: Federal Power Commission, Form 4, "Monthly Power Plant Report"; • October 1977 through 1981: Federal Energy Regulatory Commission, FPC Form 4, "Monthly Power Plant Report"; • 1982 forward: Energy Information Administration, Form EIA-759, "Monthly Power Plant Report."

# Table 7.2 Electricity Sales[a] by End-Use Sector
(Million Kilowatthours)

| | Residential | | Commercial | | Industrial | | Other[b] | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Old | New | Old | New | Old | New | Old | New | Old | New |
| **1973 Total** | **579,231** | | **388,266** | | **686,085** | | **59,326** | | **1,712,909** | |
| **1974 Total** | **578,184** | | **384,826** | | **684,875** | | **58,039** | | **1,705,924** | |
| **1975 Total** | **588,140** | | **403,049** | | **687,680** | | **68,222** | | **1,747,091** | |
| **1976 Total** | **606,452** | | **425,094** | | **754,069** | | **69,631** | | **1,855,246** | |
| **1977 Total** | **645,239** | | **446,514** | | **786,037** | | **70,571** | | **1,948,361** | |
| **1978 Total** | **674,466** | | **461,163** | | **809,078** | | **73,215** | | **2,017,922** | |
| **1979 Total** | **682,819** | | **473,307** | | **841,903** | | **73,070** | | **2,071,099** | |
| **1980 Total** | **717,495** | | **488,155** | | **815,067** | | **73,732** | | **2,094,449** | |
| **1981 Total** | **722,265** | | **514,338** | | **825,743** | | **84,756** | | **2,147,103** | |
| **1982 Total** | **729,520** | | **526,397** | | **744,949** | | **85,575** | | **2,086,441** | |
| **1983 Total** | **750,948** | | **543,788** | | **775,999** | | **80,219** | | **2,150,955** | |
| **1984 Total** | **777,654** | **780,092** | **578,281** | **577,275** | **840,588** | **838,718** | **81,849** | **88,887** | **2,278,372** | **2,284,972** |
| **1985** January | 77,242 | 77,520 | 49,634 | 49,284 | 67,219 | 68,090 | 7,270 | 7,860 | 201,364 | 202,755 |
| February | 78,011 | 78,292 | 49,406 | 49,058 | 66,582 | 67,445 | 7,046 | 7,618 | 201,045 | 202,413 |
| March | 63,981 | 64,211 | 46,629 | 46,301 | 67,437 | 68,310 | 6,875 | 7,434 | 184,922 | 186,257 |
| April | 56,025 | 56,227 | 45,826 | 45,503 | 68,445 | 69,332 | 7,049 | 7,622 | 177,345 | 178,684 |
| May | 52,842 | 53,032 | 47,711 | 47,375 | 70,140 | 71,049 | 6,903 | 7,464 | 177,596 | 178,921 |
| June | 60,652 | 60,871 | 51,521 | 51,158 | 70,091 | 70,999 | 6,848 | 7,404 | 189,112 | 190,432 |
| July | 70,966 | 71,222 | 56,128 | 55,733 | 69,760 | 70,663 | 7,135 | 7,714 | 203,989 | 205,333 |
| August | 73,693 | 73,959 | 57,041 | 56,640 | 71,402 | 72,328 | 7,277 | 7,868 | 209,414 | 210,795 |
| September | 71,064 | 71,320 | 55,960 | 55,566 | 70,744 | 71,660 | 7,263 | 7,853 | 205,030 | 206,399 |
| October | 57,515 | 57,723 | 49,978 | 49,626 | 69,158 | 70,054 | 6,903 | 7,464 | 183,554 | 184,866 |
| November | 56,794 | 56,999 | 47,843 | 47,506 | 67,164 | 68,034 | 7,264 | 7,854 | 179,065 | 180,393 |
| December | 72,192 | 72,452 | 51,289 | 50,928 | 66,383 | 67,243 | 7,243 | 7,831 | 197,107 | 198,454 |
| **Total** | **790,977** | **793,828** | **608,968** | **604,679** | **824,523** | **835,207** | **85,075** | **91,988** | **2,309,543** | **2,325,702** |
| **1986** January[c] | | 82,755 | | 53,377 | | 65,400 | | 7,246 | | 208,779 |
| February | | 70,949 | | 50,481 | | 65,373 | | 6,863 | | 193,665 |
| March | | 65,318 | | 48,256 | | 67,018 | | 6,837 | | 187,430 |
| April | | 56,647 | | 47,243 | | 66,783 | | 6,275 | | 176,949 |
| May | | 54,266 | | 48,867 | | 68,076 | | 6,804 | | 178,012 |
| June | | 63,986 | | 57,121 | | 67,973 | | 6,872 | | 195,953 |
| July | | 80,365 | | 61,100 | | 68,814 | | 7,533 | | 217,812 |
| August | | 80,425 | | 60,528 | | 68,737 | | 7,254 | | 216,943 |
| September | | 68,543 | | 57,711 | | 69,396 | | 7,156 | | 202,807 |
| October | | 62,875 | | 53,256 | | 69,487 | | 7,025 | | 192,642 |
| November | | 58,589 | | 50,278 | | 65,239 | | 6,255 | | 180,362 |
| December | | 72,945 | | 53,250 | | 65,995 | | 7,290 | | 199,480 |
| **Total** | | **817,663** | | **641,469** | | **808,292** | | **83,409** | | **2,350,835** |
| **1987** January | | 82,175 | | 54,359 | | 65,742 | | 7,431 | | 209,708 |
| February | | 73,486 | | 52,090 | | 65,430 | | 7,162 | | 198,168 |
| March | | 67,404 | | 51,123 | | 68,009 | | 7,021 | | 193,557 |
| April | | 60,014 | | 49,554 | | 68,128 | | 6,855 | | 184,551 |
| May | | 58,498 | | 53,287 | | 70,105 | | 7,050 | | 188,940 |
| June | | 68,842 | | 59,068 | | 72,568 | | 7,308 | | 207,786 |
| July | | 83,630 | | 64,215 | | 73,715 | | 7,599 | | 229,159 |
| August | | 88,180 | | 64,937 | | 74,751 | | 7,690 | | 235,558 |
| September | | 73,494 | | 61,139 | | 74,525 | | 7,274 | | 216,431 |
| October | | 60,885 | | 55,767 | | 72,924 | | 7,053 | | 196,630 |
| November | | 59,980 | | 51,940 | | 71,015 | | 7,105 | | 190,040 |
| December | | 73,125 | | 54,310 | | 70,282 | | 7,249 | | 204,966 |
| **Total** | | **849,714** | | **671,789** | | **847,193** | | **86,798** | | **2,455,494** |

[a]Electricity sales to all ultimate consumers.

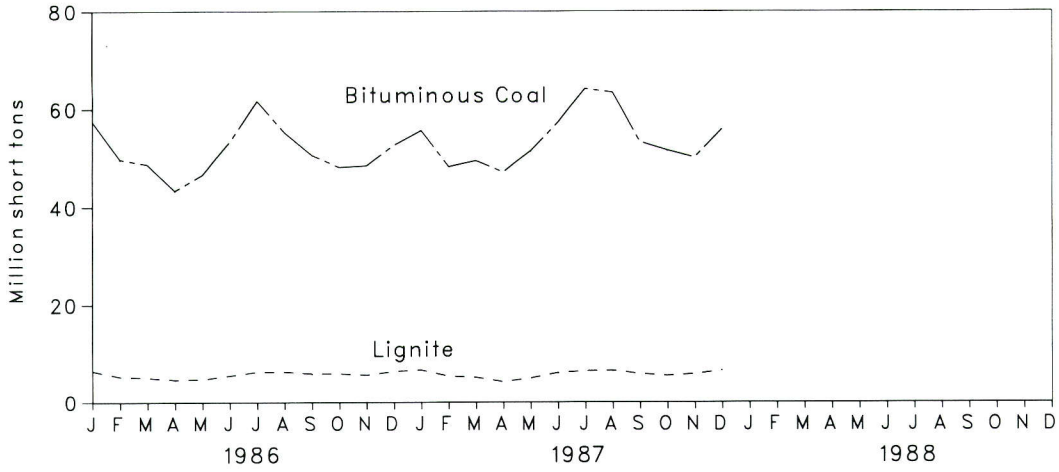
[b]Includes sales of electricity to Government, railways, street lighting authorities, and sales not included elsewhere.

[c]Beginning in January 1986, monthly Form EIA-826 electricity sales estimates, which are preliminary Form EIA-861 values, are based on a new sample and new expansion factors from data reported on Form EIA-861.

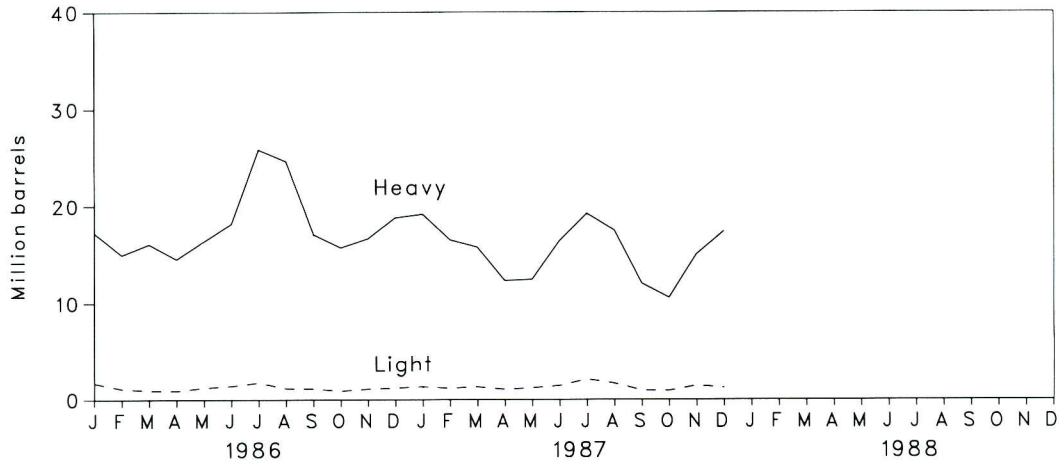
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: **Old Series:** • 1973 through February 1980: Federal Power Commission, FPC Form 5, "Monthly Statement of Electric Operating Revenue and Income"; • March 1980 through 1982: Federal Energy Regulatory Commission, FERC Form 5, "Electric Utility Company Monthly Statement"; • 1983 through 1985, Energy Information Administration, Form EIA-826, "Electric Utility Company Monthly Statement." **New Series:** • 1984 and 1985 annual data: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report." • 1985 monthly data: Energy Information Administration, Form EIA-861 annual data ratioed to months based on Energy Information Administration, Form EIA-826 monthly data. • 1986 monthly and annual data: Energy Information Administration, Form EIA-826, "Electric Utility Company Monthly Statement." • 1987 monthly data: Energy Information Administration, Form-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions."

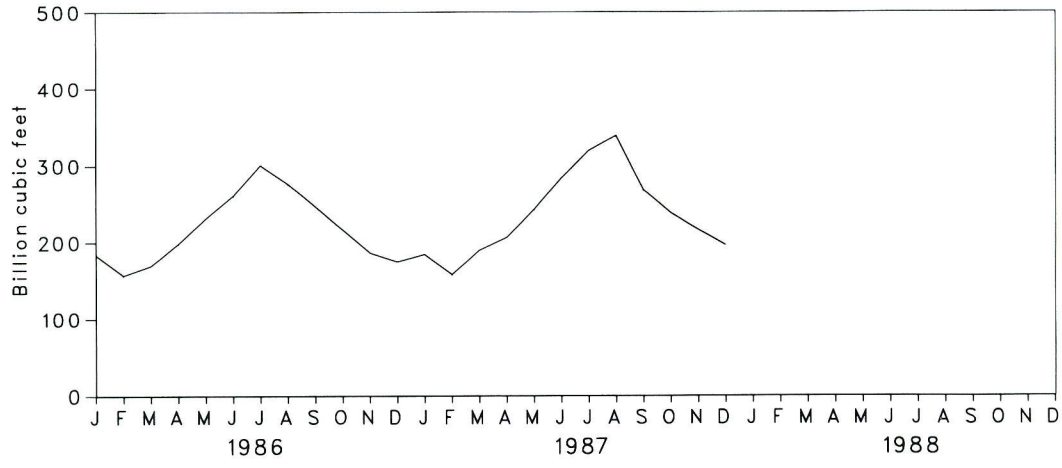
## Figure 7.1 Coal Consumed to Produce Electricity




## Figure 7.2 Petroleum Consumed to Produce Electricity




## Figure 7.3 Natural Gas Consumed to Produce Electricity



# Table 7.3 Fossil Fuels Consumed by Electric Utilities To Generate Electricity

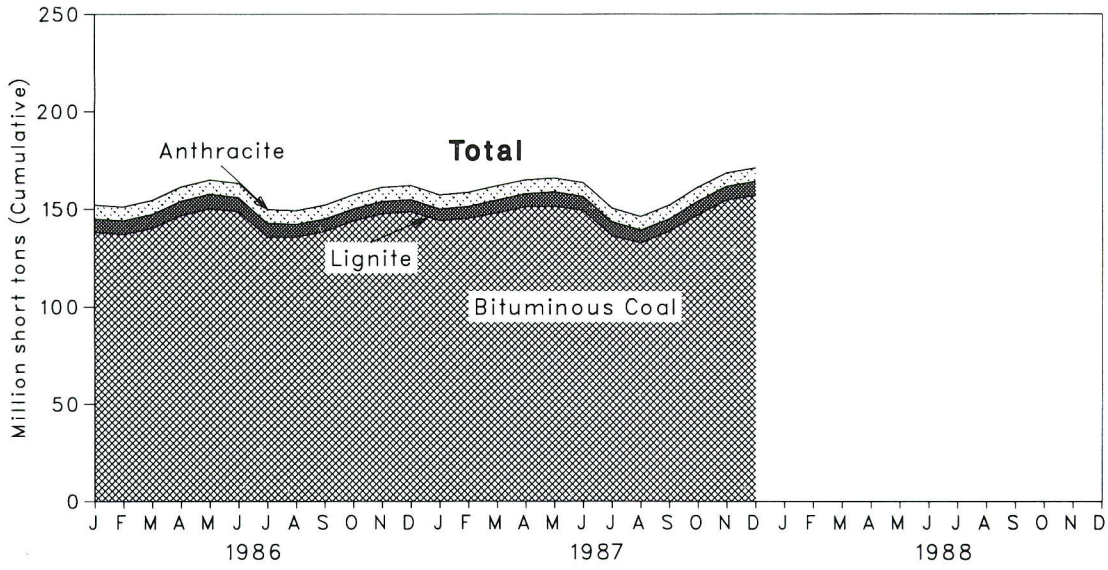
| | Coal | | | | Petroleum | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Anthracite | Bituminous Coal | Lignite | Total | Heavy[a] | Light[b] | Total Liquids | Petroleum Coke | Natural Gas[c] |
| | Thousand Short Tons | | | | Thousand Barrels | | | Thousand Short Tons | Million Cubic Feet |
| **1973 Total** | **1,443** | **376,975** | **10,794** | **389,212** | **(d)** | **(d)** | **560,248** | **507** | **3,660,172** |
| **1974 Total** | **1,498** | **378,643** | **11,670** | **391,811** | **(d)** | **(d)** | **536,274** | **625** | **3,443,428** |
| **1975 Total** | **1,480** | **388,523** | **15,960** | **405,962** | **(d)** | **(d)** | **506,128** | **70** | **3,157,669** |
| **1976 Total** | **1,350** | **425,205** | **21,817** | **448,371** | **(d)** | **(d)** | **555,920** | **68** | **3,080,868** |
| **1977 Total** | **1,425** | **451,051** | **24,650** | **477,126** | **(d)** | **(d)** | **623,705** | **98** | **3,191,200** |
| **1978 Total** | **1,064** | **448,763** | **31,407** | **481,235** | **(d)** | **(d)** | **635,839** | **398** | **3,188,363** |
| **1979 Total** | **1,046** | **488,129** | **37,876** | **527,051** | **(d)** | **(d)** | **523,297** | **268** | **3,490,523** |
| **1980 Total** | **951** | **526,680** | **41,642** | **569,274** | **391,163** | **29,051** | **420,214** | **179** | **3,681,595** |
| **1981 Total** | **1,221** | **550,784** | **44,792** | **596,797** | **329,798** | **21,313** | **351,111** | **139** | **3,640,154** |
| **1982 Total** | **1,075** | **543,346** | **49,245** | **593,666** | **234,434** | **15,337** | **249,771** | **149** | **3,225,518** |
| **1983 Total** | **1,036** | **570,108** | **54,067** | **625,211** | **228,984** | **16,512** | **245,497** | **261** | **2,910,767** |
| **1984 Total** | **1,070** | **606,339** | **56,990** | **664,399** | **189,289** | **15,190** | **204,479** | **252** | **3,111,342** |
| **1985** January | 88 | 58,155 | 5,402 | 63,645 | 18,574 | 2,482 | 21,056 | 18 | 226,276 |
| February | 70 | 50,481 | 4,940 | 55,491 | 14,729 | 1,333 | 16,062 | 17 | 202,546 |
| March | 78 | 49,793 | 4,913 | 54,784 | 11,323 | 980 | 12,303 | 16 | 207,286 |
| April | 92 | 47,072 | 3,738 | 50,903 | 9,561 | 911 | 10,471 | 16 | 233,819 |
| May | 98 | 49,890 | 4,607 | 54,595 | 11,046 | 962 | 12,008 | 13 | 236,220 |
| June | 90 | 51,984 | 5,561 | 57,634 | 12,005 | 1,111 | 13,116 | 21 | 281,939 |
| July | 92 | 58,327 | 5,833 | 64,252 | 13,238 | 1,109 | 14,347 | 20 | 336,535 |
| August | 96 | 57,304 | 5,676 | 63,076 | 15,730 | 1,338 | 17,067 | 19 | 354,653 |
| September | 74 | 52,031 | 4,675 | 56,780 | 11,994 | 979 | 12,972 | 24 | 274,868 |
| October | 85 | 50,265 | 4,619 | 54,969 | 12,060 | 969 | 13,029 | 23 | 249,579 |
| November | 83 | 49,315 | 4,913 | 54,311 | 10,925 | 1,021 | 11,946 | 23 | 229,943 |
| December | 86 | 57,270 | 6,046 | 63,402 | 17,595 | 1,440 | 19,035 | 20 | 210,417 |
| **Total** | **1,033** | **631,885** | **60,923** | **693,841** | **158,779** | **14,635** | **173,414** | **231** | **3,044,083** |
| **1986** January | 67 | 57,525 | 6,442 | 64,034 | 17,254 | 1,688 | 18,942 | 15 | 184,024 |
| February | 50 | 49,711 | 5,289 | 55,050 | 14,978 | 1,100 | 16,077 | 15 | 157,070 |
| March | 88 | 48,737 | 5,073 | 53,898 | 16,090 | 928 | 17,018 | 23 | 169,697 |
| April | 84 | 43,391 | 4,639 | 48,114 | 14,538 | 893 | 15,431 | 23 | 198,143 |
| May | 68 | 46,629 | 4,723 | 51,420 | 16,386 | 1,209 | 17,595 | 25 | 231,041 |
| June | 64 | 53,332 | 5,496 | 58,892 | 18,173 | 1,390 | 19,564 | 24 | 260,163 |
| July | 67 | 61,669 | 6,285 | 68,021 | 25,839 | 1,727 | 27,567 | 26 | 300,870 |
| August | 64 | 55,331 | 6,314 | 61,709 | 24,633 | 1,150 | 25,782 | 31 | 276,163 |
| September | 47 | 50,574 | 5,916 | 56,536 | 17,102 | 1,107 | 18,209 | 31 | 246,674 |
| October | 57 | 48,151 | 5,907 | 54,116 | 15,714 | 869 | 16,584 | 26 | 216,738 |
| November | 84 | 48,451 | 5,623 | 54,158 | 16,656 | 1,076 | 17,731 | 34 | 186,605 |
| December | 88 | 52,634 | 6,386 | 59,108 | 18,794 | 1,189 | 19,983 | 38 | 175,181 |
| **Total** | **829** | **616,134** | **68,093** | **685,056** | **216,156** | **14,326** | **230,482** | **313** | **2,602,370** |
| **1987** January | 68 | 55,686 | 6,664 | 62,418 | 19,142 | 1,317 | 20,459 | 28 | 184,722 |
| February | 75 | 48,243 | 5,397 | 53,715 | 16,510 | 1,152 | 17,662 | 29 | 158,341 |
| March | 79 | 49,428 | 5,140 | 54,647 | 15,741 | 1,289 | 17,030 | 28 | 189,732 |
| April | 75 | 47,181 | 4,207 | 51,463 | 12,297 | 1,033 | 13,330 | 23 | 206,441 |
| May | 91 | 51,437 | 4,977 | 56,505 | 12,420 | 1,183 | 13,604 | 31 | 242,615 |
| June | 100 | 57,321 | 6,093 | 63,514 | 16,384 | 1,411 | 17,794 | 26 | 283,749 |
| July | 105 | 64,203 | 6,428 | 70,736 | 19,193 | 2,076 | 21,269 | 28 | 319,236 |
| August | 95 | 63,456 | 6,524 | 70,075 | 17,470 | 1,648 | 19,118 | 31 | 338,643 |
| September | 72 | 53,338 | 5,850 | 59,259 | 12,015 | 924 | 12,939 | 31 | 268,080 |
| October | 66 | 51,588 | 5,479 | 57,134 | 10,538 | 904 | 11,442 | 35 | 238,186 |
| November | 60 | 50,095 | 5,805 | 55,961 | 14,995 | 1,411 | 16,406 | 27 | 216,781 |
| December | 85 | 55,930 | 6,535 | 62,551 | 17,380 | 1,209 | 18,590 | 30 | 196,556 |
| **Total** | **972** | **647,907** | **69,098** | **717,978** | **184,084** | **15,557** | **199,641** | **348** | **2,843,082** |

[a]Heavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils.
[b]Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.
[c]Includes supplemental gaseous fuels.
[d]Prior to 1980, petroleum consumption data were not disaggregated by type of fuel. Disaggregation by prime mover type is provided in Table 7.5.

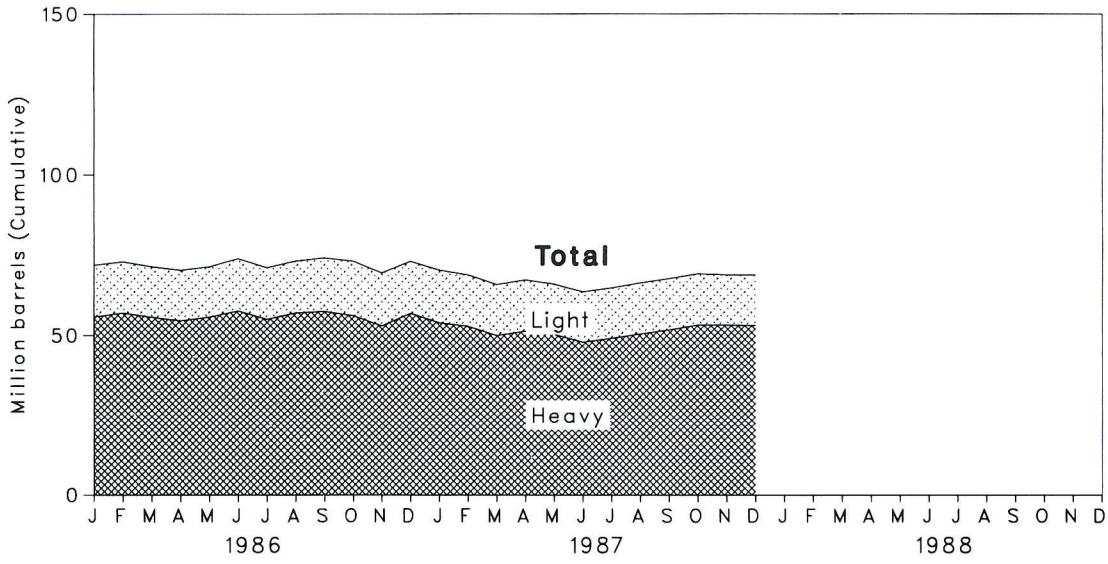
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • 1973 through September 1977: Federal Power Commission, Form 4, "Monthly Power Plant Report"; • October 1977 through 1981: Federal Energy Regulatory Commission, FPC Form 4, "Monthly Power Plant Report"; • 1982 forward: Energy Information Administration, Form EIA-759, "Monthly Power Plant Report."

## Figure 7.4 Coal Stocks at Electric Utilities, End of Period




## Figure 7.5 Petroleum Stocks at Electric Utilities, End of Period



# Table 7.4 Coal and Petroleum Stocks at Electric Utilities, End of Period

| | Coal | | | | Petroleum | | | |
|---|---|---|---|---|---|---|---|---|
| | Anthracite | Bituminous Coal | Lignite | Total | Heavy[a] | Light[b] | Total Liquids | Petroleum Coke |
| | Thousand Short Tons | | | | Thousand Barrels | | | Thousand Short Tons |
| **1973 Year** | **1,066** | **84,941** | **961** | **86,967** | **(c)** | **(c)** | **89,216** | **312** |
| **1974 Year** | **930** | **81,712** | **867** | **83,509** | **(c)** | **(c)** | **112,917** | **35** |
| **1975 Year** | **982** | **107,927** | **1,815** | **110,724** | **(c)** | **(c)** | **125,257** | **31** |
| **1976 Year** | **1,000** | **114,130** | **2,306** | **117,436** | **(c)** | **(c)** | **121,696** | **32** |
| **1977 Year** | **2,321** | **128,210** | **2,688** | **133,219** | **(c)** | **(c)** | **144,031** | **44** |
| **1978 Year** | **2,178** | **123,020** | **3,027** | **128,225** | **(c)** | **(c)** | **118,788** | **198** |
| **1979 Year** | **3,274** | **152,981** | **3,459** | **159,714** | **(c)** | **(c)** | **131,422** | **183** |
| **1980 Year** | **4,741** | **174,154** | **4,115** | **183,010** | **105,351** | **30,023** | **135,374** | **52** |
| **1981 Year** | **5,537** | **158,258** | **5,098** | **168,893** | **102,042** | **26,094** | **128,136** | **42** |
| **1982 Year** | **6,080** | **170,480** | **4,573** | **181,132** | **95,515** | **23,369** | **118,884** | **41** |
| **1983 Year** | **6,507** | **145,250** | **3,841** | **155,598** | **70,573** | **18,801** | **89,375** | **55** |
| **1984 Year** | **6,710** | **167,118** | **5,899** | **179,727** | **68,503** | **19,116** | **87,619** | **50** |
| **1985** January | 6,719 | 155,067 | 5,806 | 167,592 | 63,546 | 18,518 | 82,064 | 57 |
| February | 6,736 | 150,077 | 5,717 | 162,531 | 62,094 | 18,088 | 80,182 | 50 |
| March | 6,782 | 153,739 | 5,834 | 166,355 | 62,558 | 17,837 | 80,395 | 43 |
| April | 6,836 | 158,218 | 6,641 | 171,695 | 60,889 | 17,398 | 78,286 | 31 |
| May | 6,905 | 160,326 | 6,967 | 174,198 | 60,530 | 17,236 | 77,765 | 33 |
| June | 6,991 | 160,595 | 6,959 | 174,545 | 59,629 | 17,218 | 76,846 | 33 |
| July | 7,045 | 151,809 | 7,049 | 165,903 | 60,116 | 17,034 | 77,151 | 43 |
| August | 7,109 | 148,698 | 7,018 | 162,825 | 57,820 | 16,699 | 74,519 | 42 |
| September | 7,185 | 148,637 | 7,243 | 163,065 | 56,487 | 16,442 | 72,930 | 40 |
| October | 7,258 | 151,999 | 7,492 | 166,749 | 56,676 | 16,292 | 72,968 | 43 |
| November | 7,223 | 149,579 | 7,272 | 164,075 | 58,720 | 16,250 | 74,970 | 47 |
| December | 7,189 | 142,144 | 7,043 | 156,376 | 57,304 | 16,386 | 73,689 | 49 |
| **1986** January | 7,182 | 138,077 | 6,819 | 152,078 | 55,797 | 16,147 | 71,943 | 52 |
| February | 7,172 | 136,944 | 7,042 | 151,157 | 56,956 | 16,020 | 72,976 | 50 |
| March | 7,146 | 140,023 | 7,246 | 154,415 | 55,649 | 15,821 | 71,470 | 36 |
| April | 7,127 | 146,639 | 7,310 | 161,076 | 54,556 | 15,793 | 70,350 | 28 |
| May | 7,133 | 150,164 | 7,370 | 164,667 | 55,665 | 15,764 | 71,429 | 34 |
| June | 7,148 | 148,686 | 7,075 | 162,909 | 57,611 | 16,319 | 73,930 | 36 |
| July | 7,158 | 135,630 | 7,016 | 149,803 | 55,023 | 16,145 | 71,168 | 43 |
| August | 7,117 | 135,542 | 6,504 | 149,163 | 56,964 | 16,221 | 73,185 | 42 |
| September | 7,146 | 138,396 | 6,403 | 151,945 | 57,474 | 16,686 | 74,160 | 45 |
| October | 7,158 | 143,855 | 6,189 | 157,202 | 56,148 | 17,009 | 73,157 | 41 |
| November | 7,119 | 147,597 | 6,191 | 160,908 | 53,000 | 16,575 | 69,575 | 42 |
| December | 7,099 | 148,665 | 6,042 | 161,806 | 56,841 | 16,269 | 73,111 | 40 |
| **1987** January | 7,091 | 144,044 | 5,926 | 157,061 | 53,941 | 16,496 | 70,437 | 35 |
| February | 7,087 | 145,206 | 6,030 | 158,322 | 52,847 | 16,072 | 68,919 | 34 |
| March | 7,098 | 148,020 | 6,530 | 161,648 | 49,957 | 15,970 | 65,927 | 41 |
| April | 7,103 | 151,112 | 6,530 | 164,745 | 51,345 | 16,012 | 67,356 | 35 |
| May | 7,098 | 151,329 | 7,255 | 165,683 | 50,299 | 15,784 | 66,083 | 43 |
| June | 7,098 | 149,309 | 6,868 | 163,275 | 47,916 | 15,707 | 63,623 | 55 |
| July | 7,102 | 136,106 | 7,209 | 150,418 | 49,123 | 15,780 | 64,903 | 64 |
| August | 7,083 | 132,525 | 6,488 | 146,096 | 50,451 | 16,006 | 66,457 | 57 |
| September | 7,068 | 138,469 | 6,403 | 151,940 | 51,776 | 15,993 | 67,769 | 48 |
| October | 7,070 | 147,081 | 6,838 | 160,989 | 53,266 | 16,046 | 69,312 | 60 |
| November | 6,963 | 154,582 | 6,767 | 168,312 | 53,251 | 15,713 | 68,964 | 63 |
| December | 6,940 | 156,715 | 7,187 | 170,842 | 55,151 | 15,750 | 70,901 | 51 |

[a]Heavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils.
[b]Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.
[c]Prior to 1980, petroleum stock data were not disaggregated by type of fuel. Disaggregation by prime mover type is provided in Table 7.5.
Notes: Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Sources: • 1973 through September 1977: Federal Power Commission, Form 4, "Monthly Power Plant Report"; • October 1977 through 1981: Federal Energy Regulatory Commission, FPC Form 4, "Monthly Power Plant Report"; • 1982 forward: Energy Information Administration, Form EIA-759, "Monthly Power Plant Report."

# Table 7.5 Petroleum Consumption and Stocks at Electric Utilities by Prime Mover Type
(Thousand Barrels)

| | Petroleum Consumption | | | Petroleum Stocks, End of Period | | |
|---|---|---|---|---|---|---|
| | Steam Plants | GT/IC[a] | Total Liquids | Steam Plants | GT/IC[a] | Total Liquids |
| **1973 Total** | **513,190** | **47,058** | **560,248** | **79,121** | **10,095** | **89,216** |
| **1974 Total** | **483,146** | **53,128** | **536,274** | **97,718** | **15,199** | **112,917** |
| **1975 Total** | **467,221** | **38,907** | **506,128** | **108,825** | **16,432** | **125,257** |
| **1976 Total** | **514,077** | **41,843** | **555,920** | **106,993** | **14,703** | **121,696** |
| **1977 Total** | **574,869** | **48,837** | **623,705** | **124,750** | **19,281** | **144,031** |
| **1978 Total** | **588,319** | **47,520** | **635,839** | **102,402** | **16,386** | **118,788** |
| **1979 Total** | **492,606** | **30,691** | **523,297** | **111,121** | **20,301** | **131,422** |
| **1980 Total** | **401,863** | **18,351** | **420,214** | **117,227** | **18,147** | **135,374** |
| **1981 Total** | **339,680** | **11,431** | **351,111** | **112,380** | **15,756** | **128,136** |
| **1982 Total** | **243,537** | **6,234** | **249,771** | **105,287** | **13,597** | **118,884** |
| **1983 Total** | **237,845** | **7,652** | **245,497** | **78,285** | **11,090** | **89,375** |
| **1984 Total** | **197,050** | **7,429** | **204,479** | **76,836** | **10,784** | **87,619** |
| **1985** January | 19,846 | 1,210 | 21,056 | 71,528 | 10,536 | 82,064 |
| February | 15,595 | 467 | 16,062 | 70,088 | 10,094 | 80,182 |
| March | 11,966 | 337 | 12,303 | 70,385 | 10,010 | 80,395 |
| April | 10,133 | 338 | 10,471 | 68,651 | 9,636 | 78,286 |
| May | 11,604 | 403 | 12,008 | 68,249 | 9,516 | 77,765 |
| June | 12,516 | 601 | 13,116 | 67,529 | 9,317 | 76,846 |
| July | 13,840 | 507 | 14,347 | 67,816 | 9,334 | 77,151 |
| August | 16,272 | 795 | 17,067 | 65,307 | 9,212 | 74,519 |
| September | 12,485 | 488 | 12,972 | 63,701 | 9,229 | 72,930 |
| October | 12,646 | 383 | 13,029 | 63,908 | 9,059 | 72,968 |
| November | 11,584 | 362 | 11,946 | 66,103 | 8,867 | 74,970 |
| December | 18,355 | 680 | 19,035 | 64,704 | 8,985 | 73,689 |
| **Total** | **166,842** | **6,572** | **173,414** | | | |
| **1986** January | 17,915 | 1,027 | 18,942 | 63,043 | 8,901 | 71,943 |
| February | 15,536 | 541 | 16,077 | 64,134 | 8,842 | 72,976 |
| March | 16,585 | 433 | 17,018 | 62,671 | 8,799 | 71,470 |
| April | 14,982 | 449 | 15,431 | 61,758 | 8,591 | 70,350 |
| May | 16,933 | 662 | 17,595 | 63,010 | 8,419 | 71,429 |
| June | 18,796 | 768 | 19,564 | 65,115 | 8,816 | 73,930 |
| July | 26,373 | 1,193 | 27,567 | 62,322 | 8,845 | 71,168 |
| August | 25,104 | 678 | 25,782 | 64,167 | 9,018 | 73,185 |
| September | 17,500 | 709 | 18,209 | 65,183 | 8,976 | 74,160 |
| October | 16,194 | 390 | 16,584 | 63,937 | 9,220 | 73,157 |
| November | 17,171 | 561 | 17,731 | 60,527 | 9,048 | 69,575 |
| December | 19,410 | 572 | 19,983 | 64,258 | 8,853 | 73,111 |
| **Total** | **222,500** | **7,983** | **230,482** | | | |
| **1987** January | 19,798 | 661 | 20,459 | 61,399 | 9,037 | 70,437 |
| February | 17,007 | 655 | 17,662 | 59,903 | 9,016 | 68,919 |
| March | 16,335 | 695 | 17,030 | 57,022 | 8,905 | 65,927 |
| April | 12,873 | 457 | 13,330 | 58,442 | 8,914 | 67,356 |
| May | 13,017 | 586 | 13,604 | 57,581 | 8,502 | 66,083 |
| June | 16,976 | 818 | 17,794 | 54,874 | 8,750 | 63,623 |
| July | 19,754 | 1,515 | 21,269 | 56,224 | 8,680 | 64,903 |
| August | 17,948 | 1,170 | 19,118 | 57,739 | 8,718 | 66,457 |
| September | 12,441 | 498 | 12,939 | 58,774 | 8,995 | 67,769 |
| October | 11,108 | 334 | 11,442 | 60,225 | 9,086 | 69,312 |
| November | 15,715 | 691 | 16,406 | 59,963 | 9,001 | 68,964 |
| December | 17,994 | 596 | 18,590 | 61,777 | 9,124 | 70,901 |
| **Total** | **190,966** | **8,675** | **199,641** | | | |

[a]GT/IC = Gas turbine and internal combustion plants.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • 1973 through September 1977: Federal Power Commission, Form 4, "Monthly Power Plant Report"; • October 1977 through 1981: Federal Energy Regulatory Commission, FPC Form 4, "Monthly Power Plant Report"; • 1982 forward: Energy Information Administration, Form EIA-759, "Monthly Power Plant Report."

# Section 8. Nuclear

In December 1987, U.S. nuclear generating units produced a total of 42 net terawatthours (billion kilowatthours) of electricity, 6 percent[21] higher than in December 1986. Nuclear units generated at an average capacity factor of 60.3 percent, 2 percentage points lower than the December 1986 value. Nuclear power supplied 19.1 percent of the total electricity generated in December 1987, compared to 18.5 percent in December 1986.

On December 18, a low-power operating license for Braidwood 2 was issued by the Nuclear Regulatory Commission (NRC). Braidwood 2, located in Illinois, is expected to come on-line in mid-1988 with a generating capacity of 1,107 net megawatts. The NRC issued no full power operating licenses during December 1987.

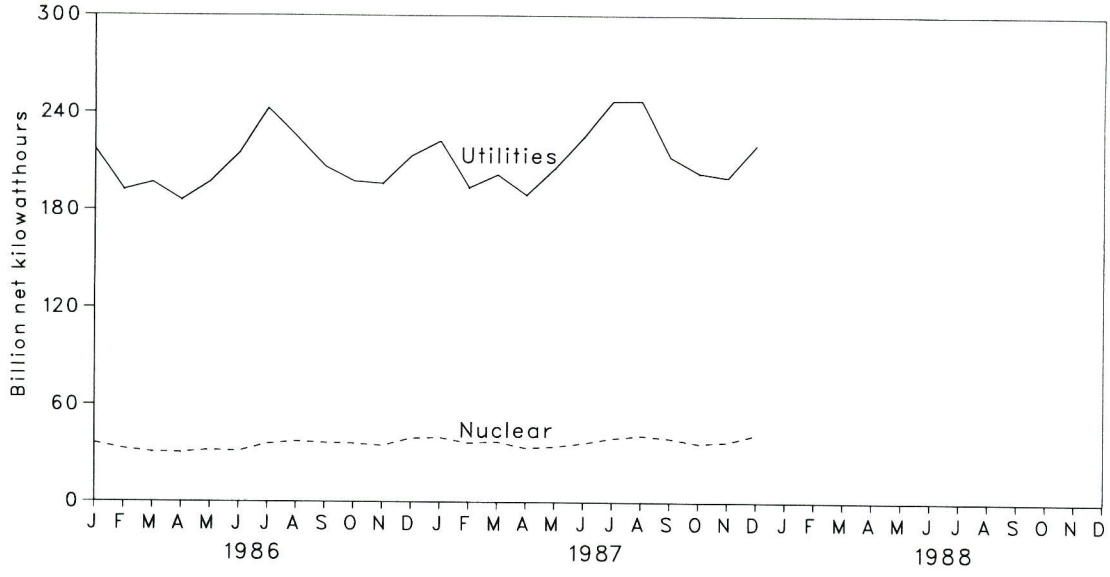
The monthly capacity factor for calendar year 1987 averaged 57.4 percent compared with 56.9 percent for calendar year 1986.

On December 31, 1987, there were 107 operable nuclear generating units in the United States, with a collective net summer generating capability of 94 million kilowatts of electricity. Four additional units (Seabrook 1, Shoreham, South Texas 1, and Braidwood 2) had been issued low-power operating licenses from the NRC authorizing fuel loading and low-power testing. Of the 107 operable units, 28 units generated at less than 25 percent of capacity. Of the 28 units, 13 units were out of service at least part of the month for maintenance or refueling.

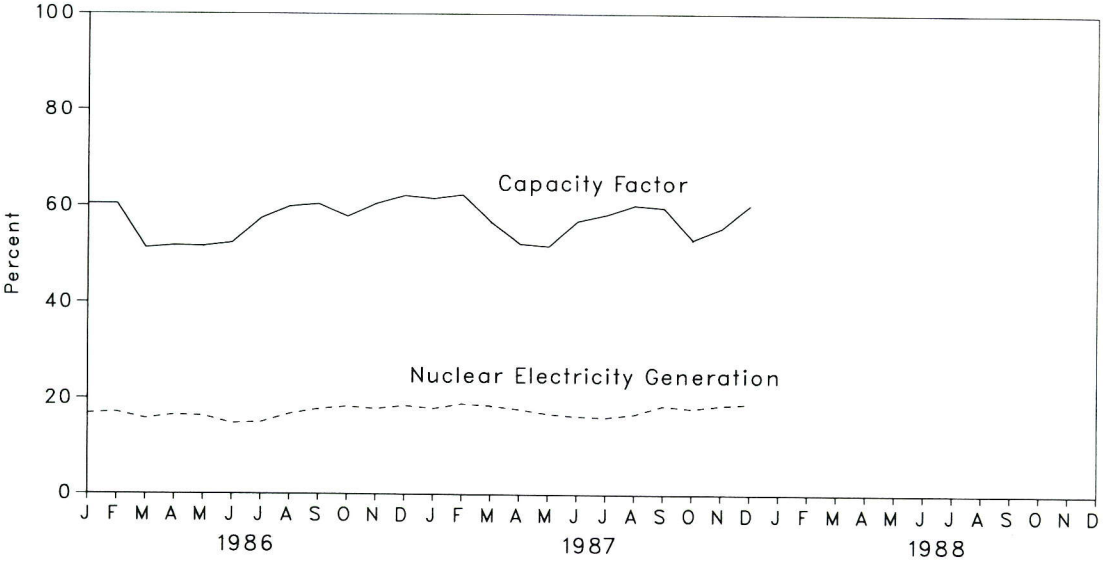
As of December 31, there were 127 domestic nuclear generating units in all stages of planning, construction, or operation, with an aggregate net design capacity of 119 million kilowatts.

[21]Percentage changes are calculated using unrounded data.

## Figure 8.1 Electricity Generated by Utilities and by Nuclear Power Plants




## Figure 8.2 Nuclear Portion of Electricity Generation and Capacity Factor



# Table 8.1 Nuclear Power Plant Operations

| | Operable Reactors[a] [b] | Nuclear-Based Electricity Generation | Nuclear Portion of Domestic Electricity Generation | Net Summer Capability of Operable Reactors[a] [c] | Capacity Factor[d] |
|---|---|---|---|---|---|
| | Number | Million Net Kilowatthours | Percent | Million Net Kilowatts | Percent |
| **1973 Year** | **39** | **83,479** | **4.5** | **22.615** | **53.7** |
| **1974 Year** | **48** | **113,976** | **6.1** | **31.803** | **47.9** |
| **1975 Year** | **54** | **172,505** | **9.0** | **37.161** | **56.0** |
| **1976 Year** | **61** | **191,104** | **9.4** | **43.657** | **54.9** |
| **1977 Year** | **65** | **250,883** | **11.8** | **46.202** | **63.4** |
| **1978 Year** | **70** | **276,403** | **12.5** | **50.709** | **64.7** |
| **1979 Year** | **68** | **255,155** | **11.4** | **49.630** | **58.5** |
| **1980 Year** | **70** | **251,116** | **11.0** | **51.668** | **56.4** |
| **1981 Year** | **74** | **272,674** | **11.9** | **55.914** | **58.4** |
| **1982 Year** | **77** | **282,773** | **12.6** | **59.927** | **56.7** |
| **1983 Year** | **80** | **293,677** | **12.7** | **63.009** | **54.4** |
| **1984 Year** | **86** | **327,634** | **13.6** | **69.652** | **56.3** |
| **1985** January | 87 | 36,186 | 15.9 | 70.675 | 68.8 |
| February | 88 | 30,812 | 15.5 | 71.795 | 63.9 |
| March | 89 | 31,041 | 15.9 | 72.899 | 57.2 |
| April | 89 | 26,458 | 14.3 | 72.899 | 50.5 |
| May | 89 | 28,697 | 14.6 | 72.899 | 52.9 |
| June | 91 | 30,837 | 15.0 | 75.275 | 56.9 |
| July | 92 | 35,184 | 15.5 | 76.354 | 61.9 |
| August | 94 | 34,812 | 15.4 | 78.478 | 59.6 |
| September | 94 | 34,508 | 17.0 | 78.478 | 61.1 |
| October | 94 | 31,205 | 16.0 | 78.478 | 53.4 |
| November | 95 | 30,166 | 15.7 | 79.397 | 52.8 |
| December | 95 | 33,782 | 15.4 | 79.397 | 57.2 |
| **Year** | | **383,691** | **15.5** | | **58.0** |
| **1986** January | 96 | 36,219 | 16.7 | 80.604 | 60.4 |
| February | 96 | 32,721 | 17.0 | 80.604 | 60.4 |
| March | 96 | 30,773 | 15.6 | 80.604 | 51.3 |
| April | 97 | 30,477 | 16.4 | 81.863 | 51.8 |
| May | 98 | 31,924 | 16.2 | 82.995 | 51.7 |
| June | 98 | 31,334 | 14.6 | 82.995 | 52.4 |
| July | 99 | 35,894 | 14.8 | 84.048 | 57.4 |
| August | 99 | 37,483 | 16.6 | 84.048 | 59.9 |
| September | 99 | 36,593 | 17.7 | 84.048 | 60.5 |
| October | 99 | 36,214 | 18.3 | 84.048 | 57.8 |
| November | 100 | 34,944 | 17.8 | 85.241 | 56.9 |
| December | 100 | 39,463 | 18.5 | 85.241 | 62.2 |
| **Year** | | **414,038** | **16.6** | | **56.9** |
| **1987** January | 102 | 39,975 | 17.9 | 87.248 | 61.6 |
| February | 102 | 36,598 | 18.9 | 87.248 | 62.4 |
| March | 103 | 37,290 | 18.5 | 88.446 | 56.7 |
| April | 103 | 33,518 | 17.7 | 89.330 | 52.2 |
| May | 103 | 34,320 | 16.7 | 89.330 | 51.7 |
| June | 103 | 36,560 | 16.2 | 89.330 | 56.9 |
| July | 105 | 39,603 | 16.0 | 91.581 | 58.2 |
| August | 106 | 41,352 | 16.7 | 92.417 | 60.2 |
| September | 106 | 39,666 | 18.6 | 92.417 | 59.7 |
| October | 106 | 36,492 | 18.0 | 92.417 | 53.1 |
| November | 107 | 37,438 | 18.7 | 93.676 | 55.5 |
| December | 107 | 42,006 | 19.1 | 93.676 | 60.3 |
| **Year** | | **454,818** | **17.7** | | **57.4** |

[a]Monthly data are the status as of the last day of the month. Yearly data are the status as of December 31 of each year.
[b]See Note 1 at end of section.
[c]When possible, net summer capability is used. When a reactor has not operated long enough to permit determination of a net summer capability, an estimation is made based on the net design electrical rating. For the definitions of net summer capability and net design electrical rating, see Note 3 at end of section.
[d]For an explanation of the method of calculating the capacity factor, see Note 4 at end of section.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

# Table 8.2 Status of Nuclear Reactor Units[a]

| | Licensed for Operation | | Construction Permits | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Operable[b] | In Startup[c] | Granted | Pending | On Order | Announced | Total | Total Design Capacity[d] |
| | Number of Reactor Units | | | | | | | Million Net Kilowatts |
| **1973 Year** | **39** | **3** | **51** | **58** | **48** | **20** | **219** | **212** |
| **1974 Year** | **48** | **5** | **58** | **80** | **28** | **16** | **235** | **234** |
| **1975 Year** | **54** | **2** | **69** | **73** | **19** | **19** | **236** | **236** |
| **1976 Year** | **61** | **0** | **72** | **66** | **16** | **19** | **234** | **236** |
| **1977 Year** | **65** | **1** | **80** | **52** | **13** | **9** | **220** | **220** |
| **1978 Year** | **70** | **0** | **90** | **32** | **9** | **4** | **205** | **204** |
| **1979 Year** | **68** | **0** | **91** | **21** | **3** | **0** | **183** | **179** |
| **1980 Year** | **70** | **2** | **82** | **12** | **3** | **0** | **169** | **163** |
| **1981 Year** | **74** | **0** | **75** | **11** | **3** | **0** | **163** | **157** |
| **1982 Year** | **77** | **2** | **60** | **3** | **2** | **0** | **144** | **135** |
| **1983 Year** | **80** | **3** | **53** | **0** | **2** | **0** | **138** | **129** |
| **1984 Year** | **86** | **6** | **38** | **0** | **2** | **0** | **132** | **123** |
| **1985** January | 87 | 5 | 38 | 0 | 2 | 0 | 132 | 123 |
| February | 88 | 4 | 38 | 0 | 2 | 0 | 132 | 123 |
| March | 89 | 5 | 36 | 0 | 2 | 0 | 132 | 123 |
| April | 89 | 6 | 33 | 0 | 2 | 0 | 130 | 121 |
| May | 89 | 6 | 33 | 0 | 2 | 0 | 130 | 121 |
| June | 91 | 4 | 33 | 0 | 2 | 0 | 130 | 121 |
| July | 92 | 3 | 33 | 0 | 2 | 0 | 130 | 121 |
| August | 94 | 2 | 32 | 0 | 2 | 0 | 130 | 121 |
| September | 94 | 2 | 32 | 0 | 2 | 0 | 130 | 121 |
| October | 94 | 2 | 32 | 0 | 2 | 0 | 130 | 121 |
| November | 95 | 2 | 31 | 0 | 2 | 0 | 130 | 121 |
| December | 95 | 3 | 30 | 0 | 2 | 0 | 130 | 121 |
| **1986** January | 96 | 2 | 30 | 0 | 2 | 0 | 130 | 121 |
| February | 96 | 3 | 29 | 0 | 2 | 0 | 130 | 121 |
| March | 96 | 4 | 28 | 0 | 2 | 0 | 130 | 121 |
| April | 97 | 4 | 27 | 0 | 2 | 0 | 130 | 121 |
| May | 98 | 3 | 27 | 0 | 2 | 0 | 130 | 121 |
| June | 98 | 3 | 27 | 0 | 2 | 0 | 130 | 121 |
| July | 99 | 2 | 25 | 0 | 2 | 0 | 128 | 119 |
| August | 99 | 2 | 25 | 0 | 2 | 0 | 128 | 119 |
| September | 99 | 3 | 24 | 0 | 2 | 0 | 128 | 119 |
| October | 99 | 7 | 20 | 0 | 2 | 0 | 128 | 119 |
| November | 100 | 7 | 19 | 0 | 2 | 0 | 128 | 119 |
| December | 100 | 7 | 19 | 0 | 2 | 0 | 128 | 119 |
| **1987** January | 102 | 6 | 18 | 0 | 2 | 0 | 128 | 119 |
| February | 102 | 6 | 18 | 0 | 2 | 0 | 128 | 119 |
| March | 103 | 6 | 17 | 0 | 2 | 0 | 128 | 119 |
| April | 103 | 5 | 17 | 0 | 2 | 0 | 127 | 119 |
| May | 103 | 6 | 16 | 0 | 2 | 0 | 127 | 119 |
| June | 103 | 6 | 16 | 0 | 2 | 0 | 127 | 119 |
| July | 105 | 4 | 16 | 0 | 2 | 0 | 127 | 119 |
| August | 106 | 3 | 16 | 0 | 2 | 0 | 127 | 119 |
| September | 106 | 4 | 15 | 0 | 2 | 0 | 127 | 119 |
| October | 106 | 4 | 15 | 0 | 2 | 0 | 127 | 119 |
| November | 107 | 3 | 15 | 0 | 2 | 0 | 127 | 119 |
| December | 107 | 4 | 14 | 0 | 2 | 0 | 127 | 119 |

[a]Monthly data are the status as of the last day of the month. Annual data are the status as of December 31 of each year.
[b]See Note 1 at end of section.
[c]See Note 2 at end of section.
[d]Net design electrical rating (DER) is used because many of the units were canceled prior to being assigned a net summer capability. See Note 3 at end of section.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

# Notes and Sources for the Nuclear Section

## *Notes*

**1. Operable Reactors:** Nuclear power generating units that have been issued a Full-Power Operating License by the Nuclear Regulatory Commission (NRC), plus the Hanford-N unit operated by the Department of Energy (DOE). Although the Hanford-N unit, with a net summer capability of 840 megawatts electric (MWe), is not licensed by the NRC, it is included because electricity produced from its output steam is distributed commercially. Similarly, the Shippingport unit (net summer capability of 60 MWe) operated by DOE was included prior to retirement from service on October 1, 1982, except during March 1974 through August 1977, when it was excluded because of a major core modification outage. The DOE-operated Experimental Breeder Reactor 2 unit (EBR-2) is not included because the electricity it generates is not distributed commercially.

Six units were deleted from entries subsequent to their removal from service: Peach Bottom 1 (net summer capability of 40 MWe) and Indian Point 1 (net summer capability of 265 MWe), both out of service since November 1974; Humboldt Bay (net summer capability of 65 MWe), down since August 1976 for major seismic modifications and subsequently officially retired; Dresden 1 (net summer capability of 200 MWe), out of service since January 1979 for major modifications and officially retired in August 1984; Three Mile Island 2 (net summer capability of 880 MWe), whose core was severely damaged by a loss-of-coolant accident in March 1979; and LaCrosse (net summer capability of 51 MWe), out of service as of April 30, 1987.

Eight units with Full Power Operating Licenses have been shut down by the NRC for an extended period. The names of the eight units, their net summer capabilities, and dates of shut down are as follows: Rancho Seco, 873 MWe, December 1985; Browns Ferry 1, 1,065 MWe, March 1985; Browns Ferry 2, 1,065 MWe, September 1984; Browns Ferry 3, 1,065 MWe, March 1985; Sequoyah 1, 1,148 MWe, August 1985; Sequoyah 2, 1,148 MWe, August 1985; Peach Bottom 2, 1,052, March 1987; and Peach Bottom 3, 1,033 MWe, March 1987.

**2. In Startup:** Units that have been issued a Low-Power Operating License by the NRC authorizing fuel loading and low power testing prior to issuance of a Full Power Operating License.

**3. Capacity:** Nuclear power units may have more than one type of net capacity rating including:

(a) Net Summer Capability--The steady hourly output which generating equipment is expected to supply to system load exclusive of auxiliary power, as demonstrated by test at the time of summer peak demand. Auxiliary power of a typical nuclear power plant is about 5 percent of gross generation.

(b) Net Design Capacity or Net Design Electrical Rating (DER)--The nominal net electrical output of the unit, specified by the utility and used for plant design.

**4. Monthly Capacity Factors:** The monthly capacity factors are computed as the actual monthly generation divided by the maximum possible generation for that month. The maximum possible generation is the number of hours in the month multiplied by the monthly net summer capability. This fraction is then multiplied by 100 to obtain a percentage. Annual capacity factors are averages of the monthly values for that year.

## *Sources*

**Reactors Licensed for Operation:** Nuclear Regulatory Commission Report NUREG-0020, "Licensed Operating Reactors."

**Electricity Generation:** 1973 through September 1977--Federal Power Commission, Form 4, "Monthly Power Plant Report." October 1977 through 1981--Federal Energy Regulatory Commission, FPC Form 4, "Monthly Power Plant Report." 1982 forward--Energy Information Administration, Form EIA-759, "Monthly Power Plant Report."

**Net Summer Capability:** Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

**Capacity Factor:** Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels.

**Unit Construction and Planning Data:** 1973 through June 1982--Compiled from various sources, primarily the Department of Energy, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones," Nuclear Regulatory Commission Report NUREG-0020, "Licensed Operating Reactors," and from the Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels. July 1982 forward--Nuclear Regulatory Commission Report NUREG-0871, "Summary Information Report," Nuclear Regulatory Commission Report NUREG-0020, "Licensed Operating Reactors," and various trade journals.

**Total Design Capacity:** Nuclear Regulatory Commission report NUREG-0020, "Licensed Operating Reactors" and Nuclear Regulatory Commission Report NUREG-0871, "Summary Information Report."

# Section 9. Price

**Crude Oil.** The average price of domestic crude oil purchased at the wellhead was $14.27 per barrel in December 1987, 22 percent above the level in December 1986.

The refiner acquisition cost of imported crude oil in December 1987 was $17.42 per barrel, 23 percent above the December 1986 level. The cost of domestic crude oil in December 1987 was $17.03, an increase of 25 percent from the December 1986 average.

**Motor Gasoline.** The national city average retail price of leaded regular gasoline at all types of stations was 88 cents per gallon in January 1988, 3 percent below the price in December 1987. The price of unleaded regular gasoline at all types of stations was 93 cents per gallon in January 1988, 3 percent below the price in December 1987. The price of unleaded premium gasoline averaged $1.10 per gallon in January 1988, 2 percent lower than the price in December 1987.

**Residual Fuel Oil.** The average price, excluding taxes, of residual fuel oil sold to end users in December 1987 was 38 cents per gallon, 10 percent below the previous month's price, but 8 percent above the December 1986 average. The average resale price, excluding taxes, of residual fuel oil in December 1987 was 34 cents per gallon, 10 percent below the November 1987 average, but 11 percent above the December 1986 average.

**Aviation Fuel.** The average price, excluding taxes, of aviation gasoline sold to end users in December 1987 was 90 cents per gallon, almost 1 percent lower than the price in the previous month, but 1 percent above the price in December 1986. The average price, excluding taxes, of kerosene-type jet fuel sold to end users in December 1987 was 58 cents per gallon, 3 percent below the previous month's price, but 35 percent above the price 1 year earlier.

**No. 2 Distillate Fuel Oil.** The national average price of heating oil sold to residential customers in December 1987 was 84 cents per gallon, slightly above the November 1987 price and 19 percent above the December 1986 price. The average price for resale was 54 cents per gallon in December 1987, 5 percent below the price in the previous month, but 23 percent above the price in December 1986.

**Natural Gas.** In December 1987, the average wellhead price of natural gas was $1.75 per thousand cubic feet, 1 percent below the December 1986 price. The average price of natural gas delivered to electric utility plants was $2.29 per thousand cubic feet in November 1987, 3 percent above the November 1986 price. The average price of natural gas used by residential consumers in December 1987 was $5.14 per thousand cubic feet, 3 percent less than the December 1986 price. The average price of natural gas used by industrial consumers in December 1987 was $2.77 per thousand cubic feet, 8 percent less than the December 1986 price.

**Electricity.** Beginning with January 1986, there are new series of national average price estimates based on a statistically derived sample of both publicly and privately owned electric utilities. Previously, average price estimates were derived from selected privately owned electric utilities and were not national averages.

The national retail price of electricity to residential consumers in December 1987 was 7.1 cents per kilowatthour, 1 percent above the December 1986 price. The price of electricity to commercial consumers averaged 6.9 cents per kilowatthour in December 1987, slightly below the December 1986 price. The average electricity price to industrial users during December 1987 was 4.6 cents per kilowatthour, 1 percent[22] below the price 1 year earlier. The December national retail price of electricity to other consumers was 6.4 cents per kilowatthour, 3 percent above the December 1986 price.

[22]Percentage changes are calculated using unrounded data.

**Figure 9.1 Crude Oil Prices**

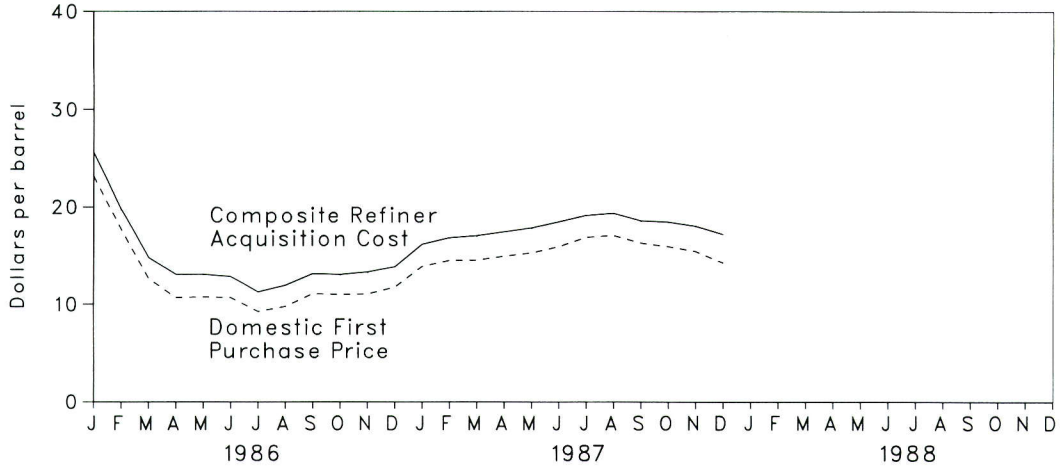



**Figure 9.2 Refiner Sales Prices to End Users: Motor Gasoline, Diesel Fuel, and Jet Fuel**

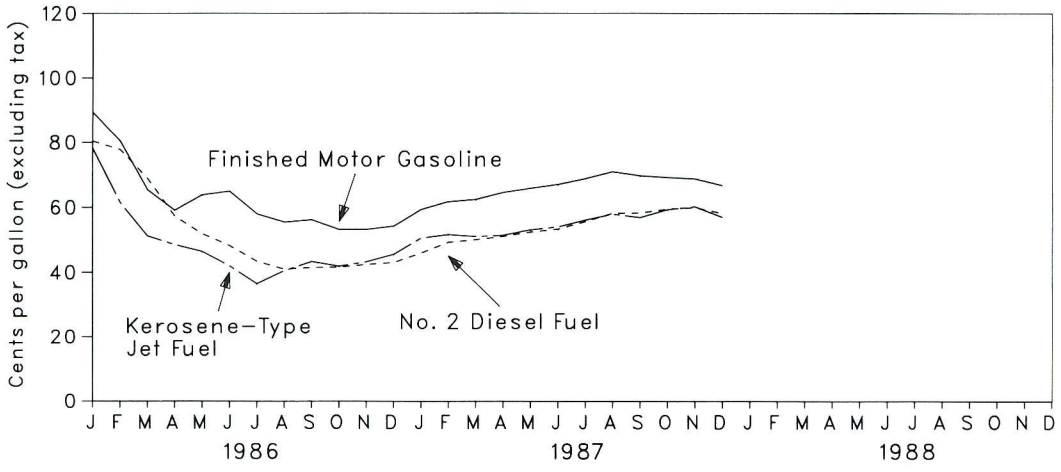
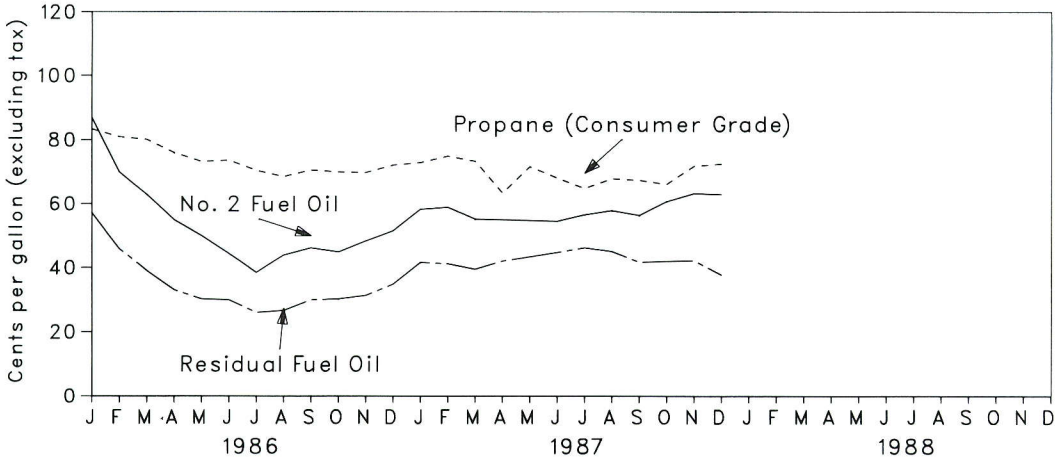



**Figure 9.3 Refiner Sales Prices to End Users: No. 2 Fuel Oil, Propane, and Residual Fuel Oil**



# Table 9.1 Crude Oil Price Summary
(Dollars per Barrel)

| | Domestic First Purchase Price[a] | FOB Cost of Imports[b] | Landed Cost of Imports[c] | Refiner Acquisition Cost[d] | | |
|---|---|---|---|---|---|---|
| | | | | Domestic | Imported | Composite |
| **1976 Average** | **8.19** | **12.17** | **13.34** | **8.84** | **13.48** | **10.89** |
| **1977 Average** | **8.57** | **13.24** | **14.31** | **9.55** | **14.53** | **11.96** |
| **1978 Average** | **9.00** | **13.30** | **14.38** | **10.61** | **14.57** | **12.46** |
| **1979 Average** | **12.64** | **20.19** | **21.65** | **14.27** | **21.67** | **17.72** |
| **1980 Average** | **21.59** | **32.27** | **33.95** | **24.23** | **33.89** | **28.07** |
| **1981 Average** | **31.77** | **35.10** | **36.52** | **34.33** | **37.05** | **35.24** |
| **1982 Average** | **28.52** | **32.11** | **33.18** | **31.22** | **33.55** | **31.87** |
| **1983 Average** | **26.19** | **27.73** | **28.93** | **28.87** | **29.30** | **28.99** |
| **1984 Average** | **25.88** | **27.44** | **28.46** | **28.53** | **28.88** | **28.63** |
| **1985** January | 24.26 | 26.34 | 27.02 | 26.89 | 27.49 | 27.02 |
| February | 23.64 | 26.23 | 26.86 | 26.35 | 26.99 | 26.49 |
| March | 23.89 | 26.50 | 27.13 | 26.60 | 27.20 | 26.76 |
| April | 24.19 | 26.75 | 27.51 | 26.79 | 27.59 | 27.03 |
| May | 24.18 | 26.38 | 27.21 | 26.91 | 27.60 | 27.12 |
| June | 24.07 | 25.71 | 26.49 | 26.60 | 27.25 | 26.76 |
| July | 24.04 | 25.43 | 26.37 | 26.60 | 26.57 | 26.59 |
| August | 23.99 | 25.51 | 26.26 | 26.46 | 26.61 | 26.50 |
| September | 23.96 | 25.56 | 26.48 | 26.41 | 26.56 | 26.45 |
| October | 24.10 | 25.74 | 26.71 | 26.60 | 26.79 | 26.66 |
| November | 24.27 | 25.81 | 26.73 | 26.73 | 27.12 | 26.86 |
| December | 24.51 | 24.12 | 25.19 | 26.93 | 26.21 | 26.72 |
| **Average** | **24.09** | **25.83** | **26.66** | **26.66** | **26.99** | **26.75** |
| **1986** January | 23.12 | 21.46 | 22.88 | 25.91 | 24.93 | 25.63 |
| February | 17.65 | 15.11 | 16.23 | 20.31 | 18.11 | 19.76 |
| March | 12.62 | 12.62 | 13.55 | 15.02 | 14.22 | 14.80 |
| April | 10.68 | 11.60 | 12.45 | 13.01 | 13.15 | 13.05 |
| May | 10.75 | 11.05 | 12.22 | 12.99 | 13.17 | 13.05 |
| June | 10.68 | 10.85 | 11.90 | 13.12 | 12.25 | 12.83 |
| July | 9.25 | 9.74 | 10.87 | 11.44 | 10.91 | 11.26 |
| August | 9.77 | 10.59 | 11.51 | 11.97 | 11.87 | 11.93 |
| September | 11.09 | 11.78 | 12.70 | 13.29 | 12.85 | 13.13 |
| October | 11.00 | 11.98 | 13.10 | 13.20 | 12.78 | 13.05 |
| November | 11.05 | 12.63 | 13.55 | 13.22 | 13.46 | 13.30 |
| December | 11.73 | 13.84 | 14.50 | 13.66 | 14.17 | 13.84 |
| **Average** | **12.51** | **12.52** | **13.49** | **14.82** | **14.00** | **14.55** |
| **1987** January | 13.89 | 15.30 | 16.16 | 16.02 | 16.43 | 16.17 |
| February | 14.50 | 15.98 | 16.87 | 16.76 | 16.96 | 16.82 |
| March | 14.53 | 16.31 | 17.05 | 16.93 | 17.24 | 17.03 |
| April | 14.95 | 16.79 | 17.52 | 17.21 | 17.88 | 17.43 |
| May | 15.29 | 17.20 | 17.91 | 17.64 | 18.24 | 17.84 |
| June | 15.95 | 17.52 | 18.34 | 18.34 | 18.71 | 18.47 |
| July | 16.88 | 17.92 | 18.89 | 19.05 | 19.25 | 19.14 |
| August | 17.06 | 17.74 | 18.88 | 19.41 | 19.30 | 19.36 |
| September | 16.29 | 17.10 | 18.05 | 18.58 | 18.55 | 18.57 |
| October | 15.95 | 17.16 | 18.07 | 18.37 | 18.57 | 18.45 |
| November | 15.45 | R 16.68 | R 17.71 | R 17.95 | 18.16 | R 18.03 |
| December | 14.27 | 15.41 | 16.58 | 17.03 | 17.42 | 17.18 |
| **Average** | **15.41** | **16.86** | **17.77** | **17.77** | **18.15** | **17.91** |

[a]See Note 1 at end of section.
[b]See Note 2 at end of section.
[c]See Note 3 at end of section.
[d]See Note 4 at end of section.
R=Revised data.

Notes: • Geographic coverage is the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, and all U.S. Territories and Possessions. • Values for Domestic First Purchase Price and Refiner Acquisition Cost of Crude Oil for the current month, and for FOB and Landed Cost of Crude Oil Imports for the current 2 months, are preliminary.

Sources: See end of section.

# Table 9.2 FOB Cost of Crude Oil Imports from Selected Countries[a]
(Dollars per Barrel)

| | Algeria | Indonesia | Iran | Mexico | Nigeria | Saudi Arabia | United Kingdom | Venezuela | Other Countries | Arab OPEC[b] | Total OPEC[c] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1976 Average** | **13.05** | **12.76** | **11.61** | **NA** | **13.08** | **11.69** | **NA** | **11.32** | **NA** | **NA** | **NA** |
| **1977 Average** | **14.36** | **13.57** | **12.67** | **13.42** | **14.44** | **12.37** | **NA** | **12.68** | **NA** | **NA** | **NA** |
| **1978 Average** | **14.10** | **13.64** | **12.65** | **13.24** | **14.04** | **12.70** | **13.82** | **12.45** | **13.35** | **13.28** | **13.30** |
| **1979 Average** | **20.65** | **19.35** | **23.71** | **20.29** | **21.80** | **17.63** | **21.20** | **17.37** | **21.43** | **19.25** | **19.91** |
| **1980 Average** | **36.57** | **32.37** | **(d)** | **31.11** | **35.82** | **28.53** | **34.58** | **24.78** | **34.24** | **31.61** | **32.25** |
| **1981 Average** | **39.09** | **35.93** | **(d)** | **33.13** | **38.53** | **32.48** | **36.08** | **28.86** | **36.69** | **34.73** | **35.11** |
| **1982 Average** | **34.23** | **35.27** | **30.93** | **28.07** | **35.13** | **33.50** | **33.46** | **23.77** | **31.96** | **33.84** | **33.45** |
| **1983 Average** | **30.06** | **29.93** | **28.25** | **25.19** | **29.78** | **28.03** | **29.84** | **21.48** | **27.96** | **28.38** | **28.45** |
| **1984 Average** | **28.04** | **29.10** | **26.93** | **26.37** | **29.39** | **27.60** | **28.90** | **24.16** | **27.65** | **27.68** | **27.59** |
| **1985** January | 25.47 | 27.43 | NA | 26.43 | 27.22 | W | W | 24.32 | 26.11 | 26.22 | 26.15 |
| February | W | 27.62 | NA | 26.13 | 27.41 | W | W | 24.36 | 26.08 | 26.53 | 26.48 |
| March | 26.50 | 27.01 | W | 26.45 | 28.20 | NA | W | 24.91 | 26.36 | 26.44 | 26.47 |
| April | 27.34 | 27.46 | W | 26.42 | 27.95 | NA | 27.99 | 24.57 | 26.57 | 27.07 | 26.81 |
| May | W | 27.30 | W | 26.34 | 27.81 | NA | 27.37 | 24.51 | 26.17 | W | 26.29 |
| June | W | 27.06 | W | 24.99 | 27.09 | NA | 26.65 | 24.32 | 26.00 | W | 25.72 |
| July | W | 27.44 | W | 24.49 | 27.86 | NA | 26.51 | 23.13 | 25.50 | W | 25.71 |
| August | NA | 26.74 | W | 24.81 | 27.83 | NA | 26.98 | 22.59 | 25.92 | NA | 25.36 |
| September | W | 25.29 | W | 24.72 | 27.97 | W | 27.60 | 22.49 | 25.97 | W | 25.29 |
| October | W | 26.95 | W | 24.76 | 28.30 | W | 28.22 | 22.84 | 26.08 | W | 25.60 |
| November | W | 27.24 | W | 24.57 | 28.67 | W | 28.69 | 23.08 | 26.67 | 24.40 | 25.68 |
| December | W | 27.49 | W | 23.57 | 29.19 | 18.48 | 28.08 | 22.78 | 25.71 | 19.52 | 23.22 |
| **Average** | **26.84** | **27.12** | **W** | **25.33** | **28.04** | **22.04** | **27.63** | **23.64** | **26.11** | **24.30** | **25.66** |
| **1986** January | 25.21 | 26.68 | NA | 19.96 | 26.17 | 12.75 | 25.15 | 21.40 | 23.21 | 14.74 | 21.02 |
| February | W | W | W | 14.26 | 19.83 | 11.64 | 17.82 | 12.56 | 16.82 | 11.63 | 13.99 |
| March | W | 13.32 | W | 11.60 | 15.78 | 11.95 | 15.62 | 10.45 | 13.43 | 12.15 | 12.53 |
| April | W | 10.77 | W | 10.39 | 14.54 | 12.12 | 12.14 | 10.48 | 11.87 | 12.04 | 11.82 |
| May | 12.17 | 11.28 | W | 10.72 | 13.58 | 7.91 | 13.25 | 10.82 | 11.91 | 8.80 | 10.46 |
| June | W | 11.84 | W | 9.93 | 12.31 | 8.54 | 12.91 | 9.54 | 11.88 | 9.03 | 10.33 |
| July | W | 10.00 | W | 8.61 | 10.99 | 10.15 | 10.38 | 7.71 | 10.55 | 10.20 | 9.85 |
| August | W | 9.82 | W | 10.55 | 11.44 | 9.35 | 10.45 | 9.96 | 11.52 | 9.80 | 10.36 |
| September | W | 12.22 | NA | 11.58 | 13.43 | 10.45 | 13.47 | 10.16 | 12.35 | 10.64 | 11.31 |
| October | W | 12.47 | W | 11.40 | 13.86 | 11.34 | 13.65 | 10.26 | 12.64 | 11.45 | 11.81 |
| November | W | 12.05 | NA | 11.78 | 13.88 | 13.65 | 14.05 | 10.73 | 12.84 | 13.37 | 12.64 |
| December | W | W | W | 12.73 | 15.04 | 15.15 | 15.26 | 12.68 | 13.80 | 14.98 | 14.13 |
| **Average** | **13.62** | **13.19** | **W** | **11.84** | **14.35** | **11.36** | **13.84** | **10.92** | **13.32** | **11.59** | **12.21** |
| **1987** January | 16.30 | 15.22 | W | 15.55 | 17.38 | 14.51 | 17.42 | 13.76 | 15.71 | 14.81 | 14.93 |
| February | 16.35 | 17.75 | W | 15.34 | 18.07 | W | W | 13.93 | 16.52 | 16.31 | 15.89 |
| March | W | 16.91 | W | 16.02 | 17.72 | W | 17.36 | 14.76 | 16.31 | 16.37 | 16.34 |
| April | W | 17.24 | W | 16.40 | 18.44 | W | 17.79 | 15.29 | 16.83 | 16.46 | 16.78 |
| May | W | 17.28 | W | 17.68 | 18.68 | 16.75 | 18.36 | 15.65 | 17.14 | 16.82 | 16.92 |
| June | W | 17.66 | W | 17.78 | 18.75 | 16.64 | 18.61 | 16.24 | 17.58 | 16.77 | 17.24 |
| July | W | 17.89 | W | 18.75 | 18.93 | 16.57 | 19.33 | 16.49 | 18.13 | 16.80 | 17.38 |
| August | W | 18.46 | NA | 17.54 | 19.60 | W | 19.55 | 15.70 | 18.18 | 17.05 | 17.38 |
| September | W | 17.74 | NA | 16.27 | 18.58 | 16.73 | 18.35 | 15.50 | R 17.51 | 16.90 | 17.05 |
| October | W | 17.66 | NA | 16.64 | R 18.69 | R 16.60 | 18.40 | 15.69 | R 17.39 | R 16.81 | R 17.07 |
| November | W | R 17.56 | NA | R 15.51 | R 18.49 | 16.49 | 17.90 | R 14.47 | R 17.09 | R 16.88 | R 16.75 |
| December | W | 16.85 | NA | 12.77 | 17.77 | W | W | 13.10 | 16.17 | 15.74 | 15.81 |
| **Average** | **16.84** | **17.42** | **W** | **16.37** | **18.50** | **16.36** | **18.29** | **15.13** | **17.16** | **16.54** | **16.73** |

[a]The Free on Board (FOB) cost at the country of origin excludes all costs related to insurance and transportation. See Note 2 at end of section.
[b]The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.
[c]"Total OPEC" consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members.
[d]No crude oil was imported.
R=Revised data. NA=Not available. W=Value withheld to avoid disclosure of company data.
Notes: • Values for the current 2 months are preliminary. • Prices through 1980 reflect the period of reporting; prices since then reflect the period of loading. Annual averages are the weighted average of the 12 monthly prices, including those prices that were not published. • Cargoes that were purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude is acquired for importation into the United States, are not included in the published data until the actual prices have been determined and reported.
Sources: See end of section.

# Table 9.3 Landed Cost of Crude Oil Imports from Selected Countries[a]
(Dollars per Barrel)

| | Algeria | Canada | Indonesia | Iran | Mexico | Nigeria | Saudi Arabia | United Kingdom | Venezuela | Other Countries | Arab OPEC[b] | Total OPEC[c] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1975 Average** | **12.72** | **12.72** | **13.79** | **12.21** | **NA** | **12.62** | **12.30** | **NA** | **11.65** | **NA** | **NA** | **NA** |
| **1976 Average** | **13.81** | **13.57** | **13.82** | **12.82** | **NA** | **13.80** | **13.04** | **NA** | **11.80** | **NA** | **NA** | **NA** |
| **1977 Average** | **15.20** | **14.21** | **14.63** | **13.80** | **13.75** | **15.25** | **13.61** | **NA** | **13.13** | **NA** | **NA** | **NA** |
| **1978 Average** | **14.91** | **14.50** | **14.64** | **13.88** | **13.54** | **14.86** | **13.92** | **NA** | **12.83** | **14.58** | **14.36** | **14.34** |
| **1979 Average** | **21.90** | **20.43** | **20.69** | **25.02** | **20.86** | **22.96** | **19.15** | **22.16** | **18.18** | **23.18** | **20.79** | **21.29** |
| **1980 Average** | **37.90** | **30.47** | **33.92** | **(d)** | **31.80** | **37.05** | **30.02** | **35.88** | **25.86** | **36.02** | **32.97** | **33.56** |
| **1981 Average** | **40.49** | **32.16** | **37.57** | **(d)** | **33.78** | **39.70** | **34.19** | **37.24** | **29.87** | **38.54** | **36.22** | **36.60** |
| **1982 Average** | **35.28** | **26.92** | **36.75** | **32.40** | **28.64** | **36.17** | **35.00** | **34.28** | **24.82** | **34.03** | **35.15** | **34.81** |
| **1983 Average** | **31.26** | **25.63** | **31.57** | **29.81** | **25.78** | **30.84** | **29.76** | **30.87** | **22.94** | **29.68** | **30.03** | **29.87** |
| **1984 Average** | **29.08** | **26.59** | **30.64** | **28.67** | **26.87** | **30.50** | **29.50** | **29.60** | **25.15** | **29.20** | **29.12** | **28.93** |
| **1985** January | 26.28 | 25.30 | 29.26 | NA | 26.80 | 28.70 | W | W | 25.36 | 27.24 | 27.39 | 27.60 |
| February | 26.06 | 24.00 | 28.84 | NA | 26.51 | 28.55 | W | W | 25.37 | 28.09 | 27.38 | 27.68 |
| March | 27.09 | 25.17 | 28.40 | W | 26.72 | 29.42 | NA | W | 25.73 | 28.16 | 27.40 | 27.60 |
| April | 28.18 | 26.14 | 28.99 | W | 26.67 | 28.99 | W | 28.70 | 25.44 | 28.03 | 27.87 | 27.95 |
| May | W | 26.30 | 28.98 | W | 26.66 | 28.73 | NA | 28.07 | 25.26 | 27.34 | 27.33 | 27.50 |
| June | W | 26.24 | 28.73 | 24.55 | 25.29 | 27.81 | NA | 27.54 | 25.13 | 26.68 | 26.25 | 26.63 |
| July | 27.35 | 25.97 | 28.95 | 24.33 | 24.76 | 28.56 | W | 27.60 | 23.81 | 26.57 | 26.86 | 26.87 |
| August | W | 26.05 | 28.14 | 25.76 | 24.96 | 28.54 | NA | 27.61 | 23.45 | 26.89 | 27.07 | 26.44 |
| September | W | 25.94 | 26.79 | 26.47 | 25.00 | 28.76 | W | 28.23 | 23.38 | 27.13 | 27.26 | 26.61 |
| October | W | 25.90 | 28.47 | 26.56 | 25.09 | 29.06 | 26.69 | 29.00 | 23.57 | 27.44 | 26.80 | 26.90 |
| November | W | 25.91 | 29.00 | 27.00 | 24.91 | 29.61 | 24.72 | 29.45 | 23.80 | 28.00 | 25.52 | 26.82 |
| December | W | 25.56 | 28.82 | W | 23.94 | 30.38 | 21.09 | 28.75 | 23.53 | 26.36 | 21.69 | 24.69 |
| **Average** | **27.46** | **25.71** | **28.67** | **25.79** | **25.63** | **28.96** | **24.72** | **28.35** | **24.43** | **27.33** | **25.88** | **26.85** |
| **1986** January | 24.69 | 23.89 | 28.45 | NA | 20.33 | 27.73 | 14.54 | 25.36 | 22.21 | 24.85 | 17.57 | 22.68 |
| February | W | 17.42 | W | W | 14.61 | 21.18 | 13.80 | 18.22 | 13.27 | 17.58 | 13.88 | 15.40 |
| March | W | 12.96 | 14.94 | W | 11.94 | 16.44 | 13.60 | 16.02 | 11.04 | 14.89 | 13.52 | 13.67 |
| April | W | 11.69 | 12.29 | W | 10.74 | 15.02 | 13.66 | 13.00 | 11.13 | 13.20 | 13.44 | 12.97 |
| May | 13.27 | 12.11 | 12.74 | W | 10.06 | 14.22 | 10.68 | 14.17 | 11.44 | 13.21 | 11.43 | 11.98 |
| June | W | 12.74 | 13.27 | W | 10.26 | 13.95 | 10.49 | 13.65 | 10.24 | 12.66 | 11.08 | 11.70 |
| July | W | 11.19 | 11.72 | W | 8.93 | 12.11 | 11.33 | 11.83 | 8.45 | 11.34 | 11.45 | 11.14 |
| August | W | 11.71 | 11.45 | 11.18 | 10.87 | 12.29 | 11.27 | 11.56 | 10.66 | 11.86 | 11.63 | 11.54 |
| September | 12.88 | 12.52 | 13.67 | W | 11.95 | 14.11 | 12.08 | 14.15 | 10.86 | 13.18 | 12.53 | 12.60 |
| October | W | 12.47 | 14.18 | W | 11.74 | 14.64 | 12.84 | 14.76 | 10.87 | 13.91 | 13.00 | 13.15 |
| November | 13.19 | 12.51 | 13.96 | NA | 12.13 | 14.64 | 14.63 | 14.65 | 11.24 | 14.21 | 14.39 | 13.72 |
| December | W | 12.85 | 14.32 | W | 13.04 | 15.56 | 16.13 | 15.42 | 13.24 | 14.94 | 15.82 | 15.01 |
| **Average** | **14.82** | **13.43** | **14.63** | **12.38** | **12.17** | **15.29** | **12.84** | **14.63** | **11.52** | **14.25** | **13.14** | **13.46** |
| **1987** January | 16.96 | 14.65 | 16.24 | W | 15.94 | 18.02 | 15.87 | 17.47 | 14.46 | 17.17 | 16.08 | 16.03 |
| February | 17.03 | 15.49 | 18.10 | 17.76 | 15.67 | 18.54 | 17.80 | 18.14 | 14.63 | 18.11 | 17.38 | 16.99 |
| March | W | 15.72 | 18.19 | 17.78 | 16.32 | 18.30 | 17.61 | 18.02 | 15.27 | 17.75 | 17.49 | 17.25 |
| April | 18.06 | 16.31 | 18.32 | 17.87 | 16.71 | 18.96 | 17.69 | 18.14 | 16.03 | 18.06 | 17.55 | 17.69 |
| May | 18.51 | 17.11 | 18.38 | 17.96 | 18.02 | 19.29 | 17.66 | 19.04 | 16.24 | 18.36 | 17.82 | 17.82 |
| June | W | 17.73 | 19.04 | 18.32 | 18.07 | 19.54 | 17.77 | 19.43 | 16.85 | 18.70 | 17.96 | 18.28 |
| July | W | 18.61 | 19.10 | 18.69 | 19.08 | 19.95 | 17.70 | 20.38 | 17.09 | 19.27 | 18.04 | 18.56 |
| August | 19.05 | 19.00 | 19.68 | 19.00 | 17.89 | 20.63 | 18.02 | 20.41 | 16.53 | 19.38 | 18.35 | 18.72 |
| September | 18.26 | 17.81 | 19.18 | 18.67 | 16.61 | 19.38 | R 17.93 | 18.96 | 16.14 | 18.55 | 18.11 | 18.14 |
| October | W | R 17.68 | 18.94 | 18.37 | 16.98 | 19.45 | R 18.17 | 19.05 | 16.26 | R 18.35 | R 18.18 | R 18.15 |
| November | 18.18 | 17.38 | R 18.77 | W | R 15.84 | R 19.44 | R 17.72 | 18.76 | R 15.19 | R 18.19 | R 18.01 | R 17.90 |
| December | W | 16.13 | 18.26 | NA | 13.12 | 18.67 | 17.90 | 17.96 | 13.79 | 17.42 | 17.50 | 17.25 |
| **Average** | **17.91** | **17.04** | **18.51** | **18.26** | **16.71** | **19.35** | **17.64** | **18.78** | **15.81** | **18.36** | **17.80** | **17.85** |

[a]See Note 3 at end of section.
[b]The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.
[c]"Total OPEC" consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members.
[d]No crude oil was imported.
R=Revised data. NA=Not available. W=Value withheld to avoid disclosure of company data.
Notes: • Values for the current 2 months are preliminary. • Prices through 1980 reflect the period of reporting; prices since then reflect the period of loading. Annual averages are the weighted average of the 12 monthly prices, including those prices that were not published. • Cargoes that were purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude is acquired for importation into the United States, are not included in the published data until the actual prices have been determined and reported.
Sources: See end of section.

## Table 9.4 U.S. City Average Retail Prices of Motor Gasoline[a]
(Cents per Gallon, Including Tax)

| | Leaded Regular | Unleaded Regular | Unleaded Premium | Average for All Types[b] |
|---|---|---|---|---|
| **1974 Average** | **53.2** | **NA** | **NA** | **NA** |
| **1975 Average** | **56.7** | **NA** | **NA** | **NA** |
| **1976 Average** | **59.0** | **61.4** | **NA** | **NA** |
| **1977 Average** | **62.2** | **65.6** | **NA** | **NA** |
| **1978 Average** | **62.6** | **67.0** | **NA** | **65.2** |
| **1979 Average** | **85.7** | **90.3** | **NA** | **88.2** |
| **1980 Average** | **119.1** | **124.5** | **NA** | **122.1** |
| **1981 Average[c]** | **131.1** | **137.8** | **147.0** | **135.3** |
| **1982 Average** | **122.2** | **129.6** | **141.5** | **128.1** |
| **1983 Average** | **115.7** | **124.1** | **138.3** | **122.5** |
| **1984 Average** | **112.9** | **121.2** | **136.6** | **119.8** |
| **1985** January | 106.0 | 114.8 | 130.4 | 114.5 |
| February | 104.1 | 113.1 | 129.0 | 112.8 |
| March | 107.1 | 115.9 | 131.0 | 115.5 |
| April | 111.9 | 120.5 | 134.0 | 119.9 |
| May | 114.4 | 123.1 | 136.0 | 122.3 |
| June | 115.3 | 124.1 | 137.1 | 123.3 |
| July | 115.4 | 124.2 | 136.7 | 123.3 |
| August | 114.3 | 122.9 | 135.9 | 122.2 |
| September | 112.9 | 121.6 | 134.9 | 120.9 |
| October | 111.7 | 120.4 | 134.2 | 119.8 |
| November | 112.3 | 120.7 | 133.9 | 120.1 |
| December | 112.3 | 120.8 | 134.4 | 120.3 |
| **Average** | **111.5** | **120.2** | **134.0** | **119.6** |
| **1986** January | 110.7 | 119.4 | 133.6 | 119.0 |
| February | 103.4 | 112.0 | 128.2 | 111.9 |
| March | 89.4 | 98.1 | 116.0 | 98.3 |
| April | 81.5 | 88.8 | 106.1 | 89.5 |
| May | 85.2 | 92.3 | 107.5 | 92.7 |
| June | 88.5 | 95.5 | 110.0 | 95.8 |
| July | 82.2 | 89.0 | 104.5 | 89.5 |
| August | 77.8 | 84.3 | 99.9 | 84.8 |
| September | 79.7 | 86.0 | 101.0 | 86.4 |
| October | 77.1 | 83.1 | 98.7 | 83.7 |
| November | 76.2 | 82.1 | 98.0 | 82.7 |
| December | 76.4 | 82.3 | 98.4 | 83.0 |
| **Average** | **85.7** | **92.7** | **108.5** | **93.1** |
| **1987** January | 80.6 | 86.2 | 100.7 | 86.8 |
| February | 84.8 | 90.5 | 104.7 | 91.1 |
| March | 85.6 | 91.2 | 105.2 | 91.8 |
| April | 87.9 | 93.4 | 107.3 | 94.0 |
| May | 88.8 | 94.1 | 107.9 | 94.8 |
| June | 90.6 | 95.8 | 109.8 | 96.6 |
| July | 92.1 | 97.1 | 111.5 | 98.0 |
| August | 94.6 | 99.5 | 113.9 | 100.4 |
| September | 94.0 | 99.0 | 113.6 | 100.0 |
| October | 93.1 | 97.6 | 112.8 | 98.8 |
| November | 92.8 | 97.6 | 112.5 | 98.7 |
| December | 91.2 | 96.1 | 111.9 | 97.5 |
| **Average** | **89.7** | **94.8** | **109.3** | **95.7** |
| **1988** January | 88.1 | 93.3 | 109.5 | 94.7 |

[a]See Note 5 at end of section.
[b]Also includes types of gasoline not shown separately.
[c]In September 1981, the Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline prices. From September 1981 forward, in the average for all types category, gasohol is included and unleaded premium is weighted more heavily.
NA = Not available.
Note: Geographic coverage for 1974 through 1977 is 56 urban areas. For 1978 forward, it is 85 urban areas.
Sources: See end of section.

# Table 9.5 Refiner Sales Prices of Residual Fuel Oil[a]
(Cents per Gallon, Excluding Tax)

| | Residual Fuel Oil Sulfur Content Less Than or Equal to 1 Percent | | Residual Fuel Oil Sulfur Content Greater Than 1 Percent | | Average | |
|---|---|---|---|---|---|---|
| | Sales for Resale | Sales to End Users | Sales for Resale | Sales to End Users | Sales for Resale | Sales to End Users |
| **1978 Average** | **29.3** | **31.4** | **24.5** | **27.5** | **26.3** | **29.8** |
| **1979 Average** | **45.0** | **46.8** | **36.6** | **38.9** | **39.9** | **43.6** |
| **1980 Average** | **60.8** | **67.5** | **47.9** | **52.3** | **52.8** | **60.7** |
| **1981 Average** | **74.8** | **82.9** | **62.2** | **67.3** | **66.3** | **75.6** |
| **1982 Average** | **69.5** | **74.7** | **57.2** | **61.1** | **61.2** | **67.6** |
| **1983 Average** | **64.3** | **69.5** | **59.1** | **61.1** | **60.9** | **65.1** |
| **1984 Average** | **68.5** | **72.0** | **63.9** | **65.9** | **65.4** | **68.7** |
| **1985** January | 67.6 | 71.2 | 63.4 | 66.5 | 64.8 | 68.6 |
| February | 67.6 | 71.1 | 63.4 | 66.0 | 65.0 | 68.6 |
| March | 66.2 | 69.8 | 60.8 | 65.0 | 62.4 | 67.1 |
| April | 63.0 | 67.5 | 58.8 | 61.9 | 60.3 | 64.1 |
| May | 58.1 | 61.2 | 53.5 | 58.0 | 55.0 | 59.5 |
| June | 54.9 | 59.9 | 50.6 | 52.7 | 52.4 | 55.6 |
| July | 56.4 | 58.9 | 52.8 | 54.5 | 53.9 | 56.3 |
| August | 55.2 | 57.1 | 52.0 | 53.8 | 53.2 | 55.6 |
| September | 60.1 | 62.8 | 53.1 | 54.8 | 56.1 | 58.6 |
| October | 60.1 | 63.6 | 52.3 | 53.8 | 54.9 | 58.3 |
| November | 57.8 | 61.7 | 50.7 | 52.8 | 53.6 | 56.8 |
| December | 60.7 | 62.6 | 52.3 | 54.4 | 55.1 | 58.2 |
| **Average** | **61.0** | **64.4** | **56.0** | **58.2** | **57.7** | **61.0** |
| **1986** January | 56.0 | 62.0 | 49.7 | 52.8 | 51.8 | 57.1 |
| February | 43.0 | 49.0 | 36.5 | 42.7 | 38.7 | 45.8 |
| March | 37.0 | 42.7 | 28.7 | 35.7 | 31.8 | 39.0 |
| April | 31.0 | 36.8 | 26.0 | 30.1 | 28.0 | 33.0 |
| May | 30.1 | 35.0 | 23.6 | 26.8 | 26.5 | 30.1 |
| June | 29.9 | 32.3 | 23.1 | 26.8 | 26.2 | 29.8 |
| July | 23.7 | 27.4 | 20.4 | 24.4 | 21.9 | 25.9 |
| August | 26.5 | 29.3 | 21.7 | 23.2 | 23.4 | 26.5 |
| September | 29.7 | 31.5 | 26.6 | 28.2 | 28.1 | 29.8 |
| October | 28.7 | 31.9 | 26.4 | 28.8 | 27.6 | 30.1 |
| November | 29.3 | 33.7 | 25.2 | 29.0 | 27.4 | 31.2 |
| December | 34.0 | 37.7 | 27.7 | 31.6 | 30.4 | 34.8 |
| **Average** | **32.8** | **37.2** | **28.9** | **31.7** | **30.5** | **34.3** |
| **1987** January | 39.9 | 44.5 | 35.7 | 37.9 | 37.7 | 41.5 |
| February | 40.2 | 43.5 | 34.4 | 38.3 | 37.2 | 41.1 |
| March | 39.5 | 41.8 | 33.5 | 37.2 | 36.3 | 39.4 |
| April | 40.1 | 43.7 | 35.5 | 39.9 | 37.2 | 41.9 |
| May | 41.8 | 44.6 | 38.6 | 41.7 | 39.8 | 43.3 |
| June | 43.7 | 45.3 | 40.9 | 43.8 | 42.2 | 44.7 |
| July | 44.3 | 47.2 | 42.1 | 44.4 | 43.3 | 46.2 |
| August | 44.4 | 45.4 | 41.4 | 44.5 | 42.8 | 45.0 |
| September | 41.4 | 44.0 | 36.7 | 39.6 | 39.0 | 41.6 |
| October | 41.3 | 44.5 | 36.2 | 39.5 | 38.8 | 41.9 |
| November | R 41.3 | 45.0 | 34.6 | 38.7 | R 37.4 | 42.1 |
| December | 39.2 | 41.4 | 28.2 | 32.8 | 33.8 | 37.7 |
| **Average** | **41.3** | **44.3** | **36.2** | **39.5** | **38.6** | **42.1** |

[a]Sales for resale, that is, wholesale sales, are those made to purchasers who are other than ultimate consumers. Sales to end users are to the ultimate consumer, including bulk customers such as agriculture, industry, and utilities, as well as commercial customers.

R = Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration estimates. See Note 6 at end of section.

Sources: See end of section.

# Table 9.6 Refiner Sales Prices of Petroleum Products for Resale[a]
(Cents per Gallon, Excluding Tax)

| | Finished Motor Gasoline[b] | Finished Aviation Gasoline | Kerosene-Type Jet Fuel | Kerosene | No. 2 Fuel Oil | No. 2 Diesel Fuel | Propane (Consumer Grade) |
|---|---|---|---|---|---|---|---|
| **1978 Average** | **43.4** | **53.7** | **38.6** | **40.4** | **36.9** | **36.5** | **23.7** |
| **1979 Average** | **63.7** | **72.1** | **66.0** | **62.4** | **56.9** | **57.4** | **29.1** |
| **1980 Average** | **94.1** | **112.8** | **86.8** | **86.4** | **80.3** | **80.1** | **41.5** |
| **1981 Average** | **106.4** | **125.0** | **101.2** | **106.6** | **97.6** | **97.2** | **46.6** |
| **1982 Average** | **97.3** | **122.8** | **95.3** | **101.8** | **91.4** | **91.4** | **42.7** |
| **1983 Average** | **88.2** | **117.8** | **85.4** | **89.2** | **81.5** | **80.8** | **48.4** |
| **1984 Average** | **83.2** | **116.5** | **83.0** | **91.6** | **82.1** | **80.3** | **45.0** |
| **1985** January | 75.2 | 114.5 | 79.6 | 85.8 | 75.7 | 74.9 | 40.1 |
| February | 76.4 | 114.0 | 79.5 | 86.5 | 75.2 | 74.2 | 39.3 |
| March | 81.1 | 113.6 | 78.9 | 85.7 | 76.1 | 75.6 | 38.0 |
| April | 86.0 | 112.6 | 79.4 | 84.7 | 79.3 | 79.2 | 37.9 |
| May | 87.5 | 113.2 | 78.2 | 80.4 | 76.5 | 78.9 | 38.1 |
| June | 87.7 | 113.7 | 76.1 | 75.9 | 72.9 | 75.5 | 37.0 |
| July | 87.3 | 113.6 | 75.2 | 76.9 | 70.3 | 72.3 | 36.3 |
| August | 85.0 | 113.3 | 76.8 | 79.7 | 72.1 | 72.5 | 36.5 |
| September | 83.2 | 113.0 | 79.2 | 85.9 | 77.0 | 76.3 | 37.6 |
| October | 83.1 | 113.0 | 81.6 | 90.1 | 81.7 | 80.5 | 39.7 |
| November | 84.7 | 112.6 | 83.6 | 93.6 | 84.9 | 84.3 | 43.0 |
| December | 83.0 | 108.1 | 83.1 | 92.7 | 83.2 | 82.1 | 46.8 |
| **Average** | **83.5** | **113.0** | **79.4** | **87.4** | **77.6** | **77.2** | **39.8** |
| **1986** January | 76.7 | 111.0 | 77.9 | 83.8 | 73.6 | 73.3 | 44.0 |
| February | 65.1 | 108.9 | 67.7 | 67.1 | 56.4 | 56.1 | 35.4 |
| March | 52.4 | 105.1 | 58.6 | 60.8 | 51.9 | 47.4 | 29.2 |
| April | 51.8 | 97.8 | 50.0 | 52.2 | 45.9 | 46.3 | 27.3 |
| May | 57.9 | 95.6 | 47.5 | 50.1 | 45.2 | 44.2 | 28.5 |
| June | 54.4 | 91.7 | 44.5 | 49.3 | 40.0 | 39.6 | 28.3 |
| July | 45.7 | 86.3 | 40.1 | 41.1 | 34.8 | 34.0 | 25.3 |
| August | 47.9 | 83.7 | 39.8 | 47.8 | 40.0 | 38.8 | 24.6 |
| September | 48.6 | 81.6 | 42.5 | 49.1 | 41.6 | 41.8 | 24.8 |
| October | 46.1 | 82.9 | 43.4 | 47.9 | 41.0 | 40.9 | 25.1 |
| November | 47.1 | 81.7 | 43.7 | 51.3 | 42.4 | 41.9 | 24.3 |
| December | 47.4 | 81.4 | 45.2 | 53.4 | 44.2 | 43.4 | 23.6 |
| **Average** | **53.1** | **91.2** | **49.5** | **60.6** | **48.6** | **45.2** | **29.0** |
| **1987** January | 53.3 | 82.9 | 49.0 | 59.1 | 50.6 | 49.5 | 25.0 |
| February | 55.0 | 84.3 | 49.5 | 56.7 | 49.3 | 49.5 | 24.5 |
| March | 56.2 | 83.6 | 49.2 | 54.0 | 49.0 | 48.7 | 23.7 |
| April | 57.7 | 83.7 | 50.0 | 55.2 | 49.4 | 49.6 | 24.5 |
| May | 59.4 | 85.4 | 51.1 | 54.7 | 51.5 | 52.0 | 24.0 |
| June | 60.7 | 86.9 | 52.6 | 55.2 | 52.6 | 53.0 | 23.5 |
| July | 62.5 | 86.4 | 55.0 | 56.7 | 54.8 | 55.0 | 24.4 |
| August | 63.6 | 86.8 | 56.6 | 58.9 | 55.1 | 57.0 | 25.6 |
| September | 60.6 | 86.7 | 55.8 | 58.5 | 53.2 | 55.9 | 26.1 |
| October | 60.5 | 86.8 | 57.9 | 62.7 | 56.7 | 58.1 | 26.8 |
| November | 59.9 | R 87.1 | 58.4 | 63.5 | 57.0 | 57.9 | 27.1 |
| December | 55.6 | 86.1 | 55.7 | 60.7 | 54.2 | 53.9 | 26.1 |
| **Average** | **58.9** | **85.7** | **53.6** | **59.2** | **52.7** | **53.4** | **25.2** |

[a]Sales for resale, that is, wholesale sales, are those made to purchasers who are other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and utilities, as well as residential and commercial customers.

[b]See Note 5 at end of section.

R=Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration estimates. See Note 6 at end of section.

Sources: See end of section.

# Table 9.7 Refiner Sales Prices of Petroleum Products to End Users[a]
(Cents per Gallon, Excluding Tax)

| | Finished Motor Gasoline[b] | Finished Aviation Gasoline | Kerosene-Type Jet Fuel | Kerosene | No. 2 Fuel Oil | No. 2 Diesel Fuel | Propane (Consumer Grade) |
|---|---|---|---|---|---|---|---|
| **1978 Average** | **48.4** | **51.6** | **38.7** | **42.1** | **40.0** | **37.7** | **33.5** |
| **1979 Average** | **71.3** | **68.9** | **54.7** | **58.5** | **51.6** | **58.5** | **35.7** |
| **1980 Average** | **103.5** | **108.4** | **86.8** | **90.2** | **78.8** | **81.8** | **48.2** |
| **1981 Average** | **114.7** | **130.3** | **102.4** | **112.3** | **91.4** | **99.5** | **56.5** |
| **1982 Average** | **106.0** | **131.2** | **96.3** | **108.9** | **90.5** | **94.2** | **59.2** |
| **1983 Average** | **95.4** | **125.5** | **87.8** | **96.1** | **91.6** | **82.6** | **70.9** |
| **1984 Average** | **90.7** | **123.4** | **84.2** | **103.6** | **91.6** | **82.3** | **73.7** |
| **1985** January | 84.6 | 121.7 | 81.4 | 105.9 | 87.4 | 77.6 | 78.7 |
| February | 83.6 | 121.1 | 80.9 | 103.7 | 86.8 | 76.7 | 76.1 |
| March | 87.1 | 121.4 | 80.4 | 103.1 | 86.0 | 77.0 | 74.6 |
| April | 92.4 | 121.2 | 80.1 | 101.0 | 85.8 | 79.9 | 68.4 |
| May | 94.4 | 121.9 | 79.5 | 94.1 | 82.2 | 79.7 | 70.5 |
| June | 95.2 | 121.7 | 78.6 | 88.2 | 77.8 | 77.2 | 66.8 |
| July | 95.4 | 120.2 | 78.5 | 86.0 | 72.3 | 74.5 | 62.9 |
| August | 94.0 | 118.9 | 77.7 | 89.9 | 74.7 | 73.8 | 62.8 |
| September | 91.9 | 119.5 | 78.1 | 96.1 | 81.2 | 78.1 | 63.8 |
| October | 90.8 | 118.9 | 78.8 | 100.6 | 85.2 | 81.6 | 72.4 |
| November | 91.7 | 118.3 | 80.1 | 106.8 | 91.3 | 85.5 | 74.0 |
| December | 91.9 | 117.0 | 80.9 | 111.5 | 92.3 | 85.6 | 77.0 |
| **Average** | **91.2** | **120.1** | **79.6** | **103.0** | **84.9** | **78.9** | **71.7** |
| **1986** January | 89.3 | 116.2 | 80.4 | 104.7 | 86.9 | 78.1 | 83.3 |
| February | 80.5 | 117.2 | 77.8 | 93.0 | 69.8 | 61.5 | 80.9 |
| March | 65.4 | 111.5 | 68.9 | 84.9 | 62.9 | 51.2 | 80.1 |
| April | 59.1 | 104.3 | 57.3 | 79.5 | 54.9 | 48.5 | 75.9 |
| May | 63.8 | 102.2 | 51.9 | 67.6 | 50.0 | 46.4 | 73.1 |
| June | 64.9 | 101.0 | 48.2 | 51.6 | 44.3 | 42.0 | 73.5 |
| July | 58.0 | 98.2 | 43.4 | 48.2 | 38.4 | 36.5 | 70.3 |
| August | 55.5 | 94.9 | 41.0 | 60.5 | 43.8 | 40.5 | 68.4 |
| September | 56.2 | 93.2 | 41.5 | 73.7 | 46.1 | 43.3 | 70.4 |
| October | 53.2 | 91.2 | 41.6 | 69.5 | 44.8 | 41.9 | 69.8 |
| November | 53.2 | 87.2 | 42.4 | 74.5 | 48.3 | 43.2 | 69.6 |
| December | 54.2 | 88.8 | 43.0 | 76.8 | 51.5 | 45.5 | 72.0 |
| **Average** | **62.4** | **101.1** | **52.9** | **79.0** | **56.0** | **47.8** | **74.5** |
| **1987** January | 59.3 | 87.9 | 45.9 | 82.8 | 58.2 | 50.5 | 72.8 |
| February | 61.7 | 89.7 | 49.2 | 80.4 | 58.8 | 51.6 | 74.8 |
| March | 62.4 | 90.3 | 50.0 | 82.0 | 55.1 | 51.0 | 73.2 |
| April | 64.5 | 89.8 | 51.0 | 78.2 | 54.9 | 51.4 | 63.3 |
| May | 65.8 | 90.0 | 52.4 | 66.8 | 54.7 | 53.1 | 71.5 |
| June | 67.0 | 90.6 | 53.3 | 59.8 | 54.5 | 54.0 | 68.0 |
| July | 68.8 | 91.1 | 55.6 | 60.4 | 56.5 | 56.1 | 64.8 |
| August | 70.9 | 92.0 | 58.2 | 60.1 | 57.8 | 57.9 | 67.8 |
| September | 69.7 | 91.6 | 58.3 | 76.6 | 56.3 | 56.9 | 67.3 |
| October | 69.2 | 91.2 | 59.5 | 78.8 | 60.7 | 59.3 | 66.1 |
| November | 68.8 | 90.7 | 59.9 | R 82.7 | 63.2 | R 60.2 | 71.7 |
| December | 66.7 | 90.1 | 58.2 | 87.9 | 62.9 | 57.0 | 72.4 |
| **Average** | **66.2** | **90.5** | **54.3** | **76.9** | **58.1** | **54.9** | **70.0** |

[a]Sales for resale, that is, wholesale sales, are those made to purchasers who are other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and utilities, as well as residential and commercial customers.

[b]See Note 5 at end of section.

R=Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration estimates. See Note 6 at end of section.

Sources: See end of section.

## Table 9.8a Sales Prices of No. 2 Distillate to Residences for Selected States[a]
(Cents per Gallon, Excluding Tax)

| | CT | ME | MA | NH | RI | VT | DE | DC |
|---|---|---|---|---|---|---|---|---|
| **1978 Average** | **50.1** | **48.6** | **48.8** | **50.3** | **50.7** | **50.8** | **47.8** | **50.7** |
| **1979 Average** | **72.0** | **68.8** | **70.9** | **72.5** | **72.8** | **72.5** | **68.2** | **74.2** |
| **1980 Average** | **98.0** | **96.3** | **97.8** | **100.4** | **101.1** | **101.5** | **95.4** | **102.6** |
| **1981 Average** | **121.7** | **120.4** | **121.3** | **123.7** | **123.8** | **125.4** | **117.3** | **127.4** |
| **1982 Average** | **118.3** | **115.5** | **117.6** | **117.4** | **120.1** | **120.1** | **111.3** | **124.5** |
| **1983 Average** | **109.1** | **102.8** | **109.1** | **104.1** | **110.5** | **112.9** | **106.0** | **117.0** |
| **1984 Average** | **112.1** | **103.9** | **111.6** | **108.4** | **111.4** | **111.9** | **109.6** | **118.7** |
| **1985** January | 106.9 | 97.9 | 107.2 | 100.7 | 108.1 | 106.9 | 103.8 | 112.1 |
| February | 107.2 | 98.5 | 107.1 | 102.7 | 106.9 | 107.3 | 104.0 | 117.1 |
| March | 106.8 | 100.6 | 107.3 | 103.3 | 106.2 | 107.9 | 104.6 | 115.9 |
| April | 107.0 | 101.5 | 106.6 | 102.3 | 106.8 | 106.5 | 104.1 | 113.9 |
| May | 106.2 | 99.4 | 104.5 | 99.9 | 102.1 | 105.4 | 100.7 | 112.4 |
| June | 103.5 | 95.4 | 101.0 | 94.4 | 98.6 | 103.7 | 96.4 | 107.2 |
| July | 100.6 | 91.4 | 98.3 | 91.2 | 97.4 | 101.4 | 96.2 | 107.3 |
| August | 99.6 | 90.5 | 96.2 | 91.8 | 95.9 | 101.4 | 97.5 | 105.5 |
| September | 100.5 | 94.0 | 100.7 | 97.6 | 101.0 | 104.7 | 98.8 | 107.1 |
| October | 106.6 | 99.5 | 104.6 | 102.3 | 104.4 | 106.7 | 102.7 | 109.9 |
| November | 111.4 | 103.7 | 110.7 | 108.0 | 111.6 | 111.1 | 107.0 | 114.4 |
| December | 114.2 | 105.5 | 111.1 | 108.9 | 110.9 | 113.0 | 110.5 | 117.2 |
| **Average** | **108.0** | **99.7** | **107.0** | **102.4** | **106.7** | **107.7** | **104.6** | **114.3** |
| **1986** January | 111.5 | 101.1 | 105.9 | 103.7 | 101.8 | 109.0 | 102.3 | 116.5 |
| February | 99.5 | 90.9 | 90.6 | 88.6 | 93.5 | 100.2 | 93.9 | 105.5 |
| March | 93.5 | 86.5 | 85.8 | 84.3 | 84.6 | 95.6 | 87.0 | 97.6 |
| April | 86.2 | 77.9 | 76.8 | 75.2 | 79.7 | 89.0 | 77.1 | 93.2 |
| May | 80.7 | 74.5 | 74.2 | 70.7 | 76.6 | 84.7 | 74.3 | 87.9 |
| June | 77.6 | 68.5 | 68.7 | 65.4 | 69.0 | 78.9 | 73.7 | 81.7 |
| July | 68.5 | 59.4 | 65.6 | 63.3 | 69.2 | 70.9 | 65.5 | 74.7 |
| August | 66.9 | 58.5 | 65.0 | 63.3 | 69.1 | 68.8 | 66.6 | 70.7 |
| September | 68.4 | 58.2 | 67.8 | 63.0 | 69.6 | 69.4 | 67.0 | 72.1 |
| October | 68.9 | 58.7 | 68.2 | 64.3 | 68.7 | 69.5 | 66.6 | 74.2 |
| November | 70.2 | 59.3 | 69.3 | 65.3 | 71.6 | 70.5 | 67.9 | 77.0 |
| December | 72.5 | 66.3 | 72.6 | 69.5 | 74.6 | 72.4 | 71.2 | 80.8 |
| **Average** | **89.0** | **74.4** | **82.1** | **75.9** | **82.8** | **86.6** | **85.0** | **93.1** |
| **1987** January | 80.0 | 72.8 | 80.4 | 76.1 | 79.9 | 78.2 | 78.2 | 87.1 |
| February | 83.4 | 73.3 | 80.7 | 75.3 | 81.5 | 79.6 | 79.5 | 92.6 |
| March | 82.4 | 74.3 | 80.2 | 74.0 | 81.6 | 79.2 | 79.5 | 91.9 |
| April | 82.5 | 75.0 | 79.3 | 73.5 | 81.4 | 78.5 | 78.1 | 90.6 |
| May | 83.0 | 75.0 | 80.1 | 74.1 | 81.0 | 79.8 | 78.6 | 91.0 |
| June | 78.2 | 74.1 | 76.3 | 74.3 | 79.0 | 79.9 | 73.6 | 92.2 |
| July | 82.7 | 74.5 | 74.7 | 74.3 | 80.4 | 80.8 | 76.2 | 90.2 |
| August | 83.0 | 74.8 | 73.7 | 75.9 | 79.5 | 80.3 | 74.8 | 92.4 |
| September | 82.5 | 74.7 | 78.7 | 76.0 | 80.9 | 81.0 | 76.2 | 91.4 |
| October | 84.6 | 73.2 | 80.8 | 78.0 | 83.1 | 83.6 | 79.5 | 92.2 |
| November | R 87.5 | R 75.1 | R 83.2 | R 79.3 | R 86.0 | R 84.4 | R 82.5 | 93.7 |
| December | 88.0 | 78.9 | 83.7 | 81.8 | 87.7 | 84.9 | 82.6 | 95.6 |
| **Average** | **83.3** | **74.7** | **80.5** | **76.4** | **82.6** | **81.2** | **79.4** | **91.8** |

[a]The States are listed by geographic region of the country. State names are abbreviated as follows: CT - Connecticut, ME - Maine, MA - Massachusetts, NH - New Hampshire, RI - Rhode Island, VT - Vermont, DE - Delaware, DC - District of Columbia, MD - Maryland, NJ - New Jersey, NY - New York, PA - Pennsylvania, VA - Virginia, WV - West Virginia, IL - Illinois, IN - Indiana, MI - Michigan, MN - Minnesota, OH - Ohio, WI - Wisconsin, ID - Idaho, AK - Alaska, OR - Oregon, WA - Washington.

Footnotes continued on following page.

## Table 9.8b Sales Prices of No. 2 Distillate to Residences for Selected States[a] (continued)

(Cents per Gallon, Excluding Tax)

| | MD | NJ | NY | PA | VA | WV | IL | IN |
|---|---|---|---|---|---|---|---|---|
| **1978 Average** | **49.2** | **49.6** | **50.1** | **48.8** | **49.1** | **46.2** | **46.5** | **48.5** |
| **1979 Average** | **70.1** | **71.0** | **71.2** | **69.8** | **70.4** | **65.1** | **68.8** | **72.7** |
| **1980 Average** | **97.9** | **97.9** | **98.2** | **96.4** | **98.5** | **92.2** | **95.8** | **99.6** |
| **1981 Average** | **121.4** | **121.5** | **123.2** | **118.1** | **120.5** | **115.0** | **114.9** | **118.5** |
| **1982 Average** | **117.1** | **117.4** | **120.5** | **113.7** | **117.7** | **109.3** | **110.9** | **114.3** |
| **1983 Average** | **110.3** | **107.9** | **112.1** | **105.8** | **108.7** | **101.0** | **100.4** | **100.7** |
| **1984 Average** | **113.5** | **111.0** | **115.5** | **107.9** | **110.5** | **102.1** | **100.1** | **103.1** |
| **1985** January | 107.5 | 105.0 | 111.3 | 102.9 | 106.2 | 98.4 | 95.2 | 98.6 |
| February | 108.6 | 105.7 | 112.0 | 103.2 | 106.8 | 98.3 | 94.4 | 97.8 |
| March | 108.3 | 105.1 | 111.3 | 102.1 | 105.8 | 98.1 | 94.5 | 96.3 |
| April | 109.6 | 105.2 | 111.0 | 101.0 | 105.4 | 96.0 | 96.6 | 98.6 |
| May | 108.2 | 103.3 | 109.8 | 99.7 | 105.9 | 93.8 | 96.4 | 97.4 |
| June | 104.4 | 99.6 | 108.1 | 94.9 | 104.3 | 90.7 | 92.0 | 97.6 |
| July | 101.2 | 97.4 | 105.3 | 92.1 | 99.3 | 90.3 | 89.7 | 93.3 |
| August | 98.9 | 97.5 | 105.5 | 92.5 | 98.9 | 88.6 | 90.6 | 92.9 |
| September | 103.3 | 101.3 | 104.5 | 96.8 | 101.9 | 96.2 | 95.6 | 96.5 |
| October | 106.2 | 103.3 | 107.1 | 98.6 | 105.6 | 98.7 | 100.1 | 101.2 |
| November | 111.9 | 109.3 | 114.4 | 105.5 | 108.4 | 104.4 | 104.0 | 105.3 |
| December | 112.7 | 112.0 | 115.0 | 109.0 | 109.9 | 104.7 | 103.4 | 105.3 |
| **Average** | **108.8** | **105.9** | **111.3** | **102.3** | **106.3** | **98.0** | **97.5** | **99.1** |
| **1986** January | 112.2 | 107.7 | 111.5 | 104.7 | 106.9 | 99.8 | 97.6 | 99.9 |
| February | 99.9 | 98.3 | 102.7 | 95.3 | 98.2 | 87.8 | 82.9 | 85.0 |
| March | 93.9 | 91.5 | 96.3 | 87.2 | 90.8 | 79.6 | 74.7 | 75.6 |
| April | 88.5 | 84.8 | 87.6 | 78.1 | 84.5 | 70.6 | 69.9 | 74.0 |
| May | 84.9 | 80.1 | 85.0 | 72.6 | 75.1 | 67.4 | 72.9 | 67.2 |
| June | 79.7 | 75.6 | 81.4 | 66.0 | 74.3 | 63.4 | 67.4 | 66.6 |
| July | 71.4 | 75.8 | 72.3 | 63.6 | 69.5 | 53.9 | NA | 60.1 |
| August | 70.7 | 72.4 | 71.3 | 62.6 | 71.5 | 59.7 | 64.7 | 65.6 |
| September | 70.2 | 73.4 | 73.7 | 63.6 | 70.9 | 61.3 | 65.5 | 66.7 |
| October | 72.4 | 74.7 | 73.9 | 64.1 | 69.5 | 63.0 | 60.0 | 65.2 |
| November | 73.5 | 74.6 | 76.0 | 66.1 | 68.9 | 67.3 | NA | 65.1 |
| December | 77.1 | 76.7 | 78.8 | 68.2 | 70.6 | 71.7 | NA | 68.5 |
| **Average** | **91.4** | **90.2** | **91.1** | **81.4** | **86.6** | **74.6** | **NA** | **74.8** |
| **1987** January | 82.6 | 83.1 | 83.2 | 74.8 | 77.0 | 72.9 | 76.6 | 72.8 |
| February | 85.4 | 84.3 | 84.8 | 75.6 | 79.5 | 76.1 | 73.7 | 72.1 |
| March | 85.8 | 82.5 | 84.2 | 74.1 | 80.5 | 71.9 | 77.9 | 71.0 |
| April | 84.8 | 82.1 | 84.1 | 73.4 | 81.1 | 69.0 | 77.9 | 72.8 |
| May | 84.3 | 81.4 | 84.6 | 72.1 | 79.4 | 69.3 | 79.5 | 74.8 |
| June | 84.5 | 82.0 | 83.5 | 72.7 | 76.4 | 66.7 | 82.8 | 76.2 |
| July | 85.4 | 82.3 | 82.7 | 73.0 | 76.6 | 69.3 | 83.4 | 76.7 |
| August | 87.1 | 81.7 | 83.4 | 73.1 | 75.8 | 75.6 | 84.7 | 77.3 |
| September | 87.3 | 82.3 | 81.9 | 75.0 | 78.5 | 74.2 | 83.0 | 78.1 |
| October | 88.2 | 83.9 | 85.5 | 77.8 | 78.5 | 74.9 | 89.2 | 80.7 |
| November | R 90.2 | R 86.2 | R 87.8 | 81.3 | R 80.8 | R 78.3 | 89.5 | R 82.2 |
| December | NA | 87.1 | 88.3 | 82.1 | 80.6 | 79.7 | 86.1 | 80.6 |
| **Average** | **NA** | **84.0** | **85.0** | **76.8** | **79.0** | **74.0** | **79.6** | **75.4** |

Footnotes continued on following page.

## Table 9.8c Sales Prices of No. 2 Distillate to Residences for Selected States[a] (continued)
(Cents per Gallon, Excluding Tax)

| | MI | MN | OH | WI | ID | AK | OR | WA | U.S. Average |
|---|---|---|---|---|---|---|---|---|---|
| **1978 Average** | **47.9** | **47.8** | **47.4** | **44.7** | **43.6** | **53.2** | **45.8** | **48.6** | **49.0** |
| **1979 Average** | **70.9** | **72.4** | **68.6** | **67.3** | **62.1** | **68.2** | **68.0** | **69.7** | **70.4** |
| **1980 Average** | **97.8** | **99.9** | **91.9** | **91.5** | **91.6** | **97.8** | **97.3** | **100.8** | **97.4** |
| **1981 Average** | **118.3** | **118.4** | **113.2** | **109.1** | **110.4** | **118.0** | **111.4** | **116.5** | **119.4** |
| **1982 Average** | **113.9** | **115.1** | **110.2** | **107.8** | **110.4** | **117.4** | **111.6** | **117.6** | **116.0** |
| **1983 Average** | **106.4** | **103.1** | **101.3** | **101.2** | **101.8** | **108.8** | **103.6** | **109.0** | **107.8** |
| **1984 Average** | **105.0** | **104.1** | **102.1** | **101.0** | **98.5** | **106.9** | **99.3** | **102.6** | **109.1** |
| **1985** January | 102.1 | 99.5 | 98.3 | 97.3 | 97.4 | 108.6 | 97.0 | 100.6 | 104.9 |
| February | 101.0 | 99.8 | 98.7 | 96.2 | 96.9 | 107.6 | 96.6 | 99.8 | 105.4 |
| March | 101.3 | 101.0 | 97.9 | 96.4 | 96.6 | 112.8 | 95.7 | 100.3 | 105.0 |
| April | 100.0 | 101.1 | 99.8 | 97.7 | 95.7 | 107.0 | 96.5 | 99.2 | 105.3 |
| May | 98.3 | 103.8 | 99.6 | 99.5 | 96.0 | 106.9 | 96.7 | 98.1 | 103.6 |
| June | 98.4 | 104.3 | 97.1 | 94.2 | 95.9 | 107.3 | 95.5 | 99.2 | 100.7 |
| July | 97.4 | 100.5 | 92.9 | 93.0 | 94.8 | 108.4 | 95.3 | 97.3 | 98.0 |
| August | 97.2 | 100.1 | 91.8 | 93.0 | 94.5 | 106.9 | 93.0 | 96.7 | 97.3 |
| September | 99.1 | 98.7 | 95.6 | 94.9 | 94.3 | 109.2 | 93.4 | 97.6 | 99.6 |
| October | 101.8 | 101.1 | 97.9 | 99.1 | 97.2 | 109.1 | 94.0 | 100.0 | 103.0 |
| November | 103.5 | 105.7 | 104.4 | 102.0 | 97.9 | 106.1 | 98.8 | 104.4 | 108.6 |
| December | 107.1 | 105.2 | 105.9 | 103.2 | 98.8 | 106.5 | 102.3 | 106.1 | 110.5 |
| **Average** | **102.1** | **101.9** | **99.7** | **98.3** | **97.2** | **108.3** | **97.1** | **101.1** | **105.3** |
| **1986** January | 102.6 | 100.5 | 100.7 | 96.5 | 97.1 | 106.5 | 100.1 | 104.6 | 106.4 |
| February | 91.9 | 86.2 | 91.9 | 83.9 | 91.2 | 103.7 | 83.5 | 90.4 | 95.8 |
| March | 80.6 | 80.2 | 80.8 | 75.9 | 76.2 | 113.8 | 65.9 | 75.3 | 88.7 |
| April | 74.5 | 76.4 | 78.1 | 73.8 | 69.9 | 95.6 | 62.5 | 74.9 | 81.2 |
| May | 72.4 | 79.5 | 75.2 | 71.8 | 74.8 | 94.3 | 64.1 | 71.2 | 77.4 |
| June | 65.5 | 74.6 | 69.0 | 69.0 | 66.9 | 89.0 | 60.0 | 65.3 | 72.8 |
| July | 67.2 | 69.5 | 62.3 | 63.6 | 62.2 | NA | 55.7 | 60.2 | 67.0 |
| August | 69.7 | 67.6 | 62.5 | 63.7 | 58.6 | 84.2 | 55.6 | 60.6 | 66.3 |
| September | 70.7 | 70.0 | 64.2 | 67.9 | 59.4 | 89.2 | 61.9 | 66.9 | 68.1 |
| October | 69.8 | 67.7 | 61.5 | 63.3 | 60.8 | 79.2 | 62.3 | 68.2 | 67.4 |
| November | 70.3 | 68.0 | 61.0 | 66.0 | 62.1 | 80.1 | 62.6 | 68.8 | 68.2 |
| December | 72.5 | 68.3 | 64.8 | 69.0 | 61.6 | 85.4 | 63.9 | 66.7 | 70.6 |
| **Average** | **81.0** | **79.2** | **77.7** | **75.6** | **73.8** | **94.9** | **70.4** | **77.5** | **83.6** |
| **1987** January | 75.9 | 70.7 | 69.1 | 72.0 | 62.7 | 86.5 | 67.6 | 71.3 | 78.2 |
| February | 75.1 | 69.9 | 72.0 | 73.0 | 65.1 | 88.9 | 71.1 | 74.1 | 79.6 |
| March | 76.1 | 70.1 | 70.5 | 73.5 | 65.6 | 82.8 | 71.1 | 74.7 | 78.9 |
| April | 74.4 | 69.9 | 68.8 | 73.6 | 65.7 | 83.4 | 70.4 | 74.3 | 78.3 |
| May | 75.0 | 70.6 | 63.7 | 70.8 | 64.9 | 81.2 | 69.1 | 71.9 | 77.9 |
| June | 75.7 | 76.4 | 75.3 | 75.3 | NA | 82.7 | 70.9 | 72.9 | 77.6 |
| July | 76.1 | 77.2 | 74.5 | 73.5 | NA | 85.6 | NA | 75.0 | 77.8 |
| August | 77.0 | 77.5 | 73.3 | 74.5 | 75.3 | 87.3 | 77.3 | 78.4 | 78.2 |
| September | 77.0 | 76.4 | 75.9 | 74.4 | 76.9 | 89.6 | 77.4 | 80.2 | 78.8 |
| October | 78.0 | 79.9 | 77.4 | 77.6 | 75.9 | 92.8 | 76.6 | 82.0 | 81.2 |
| November | R 80.6 | R 80.7 | R 79.2 | R 79.3 | 77.1 | R 92.4 | R 75.2 | 83.7 | R 83.6 |
| December | 80.6 | 78.4 | 78.4 | 77.0 | 76.7 | 90.5 | 75.9 | 84.1 | 83.9 |
| **Average** | **77.0** | **75.0** | **73.4** | **74.5** | **68.5** | **87.8** | **72.7** | **77.8** | **80.1** |

Footnotes continued.
R = Revised data. NA = Not available.
Notes: • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration estimates. See Note 6 at end of section.
Sources: See end of section.

# Table 9.9 Retail Prices[a] of Electricity
(Cents per kilowatthour)

| | Residential | | Commercial | | Industrial | | Other | | Total[b] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Old Series[c] | New Series | Old Series[c] | New Series | Old Series[c] | New Series | Old Series[c] | New Series | Old Series[c] | New Series |
| **1973 Average** | **2.54** | | **2.41** | | **1.25** | | **2.10** | | **1.96** | |
| **1974 Average** | **3.10** | | **3.04** | | **1.69** | | **2.75** | | **2.49** | |
| **1975 Average** | **3.51** | | **3.45** | | **2.07** | | **3.08** | | **2.92** | |
| **1976 Average** | **3.73** | | **3.69** | | **2.21** | | **3.27** | | **3.09** | |
| **1977 Average** | **4.05** | | **4.09** | | **2.50** | | **3.51** | | **3.42** | |
| **1978 Average** | **4.31** | | **4.36** | | **2.79** | | **3.62** | | **3.69** | |
| **1979 Average** | **4.64** | | **4.68** | | **3.05** | | **3.96** | | **3.99** | |
| **1980 Average** | **5.36** | | **5.48** | | **3.69** | | **4.76** | | **4.73** | |
| **1981 Average** | **6.20** | | **6.29** | | **4.29** | | **5.28** | | **5.46** | |
| **1982 Average** | **6.86** | | **6.86** | | **4.95** | | **5.92** | | **6.13** | |
| **1983 Average** | **7.18** | | **7.02** | | **4.96** | | **6.38** | | **6.30** | |
| **1984 Average** | **7.54** | | **7.33** | | **5.04** | | **6.78** | | **6.52** | |
| **1985** January | 7.28 | | 7.25 | | 5.12 | | 6.80 | | 6.52 | |
| February | 7.19 | | 7.21 | | 5.12 | | 6.77 | | 6.47 | |
| March | 7.48 | | 7.36 | | 5.13 | | 7.01 | | 6.55 | |
| April | 7.73 | | 7.44 | | 5.09 | | 6.95 | | 6.58 | |
| May | 7.98 | | 7.55 | | 5.08 | | 7.09 | | 6.66 | |
| June | 8.15 | | 7.60 | | 5.24 | | 7.07 | | 6.86 | |
| July | 8.24 | | 7.64 | | 5.36 | | 7.13 | | 7.02 | |
| August | 8.18 | | 7.55 | | 5.20 | | 7.01 | | 6.92 | |
| September | 8.18 | | 7.62 | | 5.24 | | 7.08 | | 6.95 | |
| October | 8.05 | | 7.65 | | 5.19 | | 6.98 | | 6.80 | |
| November | 7.73 | | 7.49 | | 5.10 | | 6.91 | | 6.63 | |
| December | 7.44 | | 7.29 | | 5.10 | | 6.73 | | 6.56 | |
| **Average** | **7.79** | | **7.47** | | **5.16** | | **6.96** | | **6.71** | |
| **1986** January[d] | 7.35 | 6.92 | 7.29 | 7.04 | 5.16 | 4.95 | 7.00 | 6.70 | 6.61 | 6.30 |
| February | 7.56 | 7.14 | 7.43 | 7.16 | 5.12 | 4.95 | 7.07 | 6.71 | 6.65 | 6.37 |
| March | 7.59 | 7.22 | 7.47 | 7.21 | 5.12 | 4.93 | 7.28 | 6.76 | 6.64 | 6.37 |
| April | 7.79 | 7.42 | 7.45 | 7.22 | 5.04 | 4.84 | 7.15 | 6.90 | 6.60 | 6.36 |
| May | 7.83 | 7.49 | 7.39 | 7.16 | 5.06 | 4.84 | 7.11 | 6.63 | 6.59 | 6.34 |
| June | 8.11 | 7.71 | 7.56 | 7.26 | 5.07 | 4.87 | 7.21 | 6.67 | 6.82 | 6.53 |
| July | 8.21 | 7.75 | 7.49 | 7.08 | 5.32 | 5.08 | 7.19 | 6.68 | 7.02 | 6.66 |
| August | 8.19 | 7.70 | 7.51 | 7.23 | 5.34 | 5.07 | 7.08 | 6.56 | 7.02 | 6.68 |
| September | 8.16 | 7.71 | 7.57 | 7.27 | 5.20 | 4.98 | 7.35 | 6.93 | 6.91 | 6.60 |
| October | 7.78 | 7.46 | 7.34 | 7.14 | 5.05 | 4.83 | 6.89 | 6.43 | 6.61 | 6.36 |
| November | 7.68 | 7.40 | 7.31 | 6.97 | 4.93 | 4.76 | 7.01 | 6.52 | 6.53 | 6.27 |
| December | 7.29 | 7.01 | 7.05 | 6.87 | 4.83 | 4.68 | 6.65 | 6.24 | 6.36 | 6.15 |
| **Average** | **7.80** | **7.41** | **7.41** | **7.13** | **5.10** | **4.90** | **7.08** | **6.64** | **6.70** | **6.42** |
| **1987** January[d] | 7.24 | 6.93 | 7.06 | 6.85 | 4.85 | 4.72 | 6.86 | 6.47 | 6.40 | 6.18 |
| February | 7.29 | 6.95 | 7.06 | 6.85 | 4.79 | 4.65 | 6.86 | 6.53 | 6.36 | 6.13 |
| March | 7.47 | 7.14 | 7.16 | 6.95 | 4.80 | 4.68 | 6.88 | 6.53 | 6.40 | 6.19 |
| April | 7.61 | 7.26 | 7.17 | 6.93 | 4.76 | 4.63 | 7.45 | 6.87 | 6.40 | 6.17 |
| May | 7.79 | 7.47 | 7.16 | 6.92 | 4.80 | 4.66 | 6.97 | 6.56 | 6.44 | 6.22 |
| June | 8.15 | 7.83 | 7.35 | 7.11 | 4.98 | 4.80 | 7.13 | 6.77 | 6.75 | 6.50 |
| July | 8.24 | 7.82 | 7.39 | 7.08 | 5.11 | 4.90 | 7.00 | 6.65 | 6.92 | 6.61 |
| August | 8.22 | 7.80 | 7.39 | 7.12 | 5.07 | 4.86 | 7.06 | 6.67 | 6.92 | 6.62 |
| September | 8.13 | 7.66 | 7.42 | 7.12 | 5.01 | 4.80 | 7.12 | 6.90 | 6.78 | 6.48 |
| October | 7.99 | 7.63 | 7.44 | 7.20 | 4.85 | 4.72 | 7.11 | 6.87 | 6.61 | 6.38 |
| November | 7.66 | 7.38 | 7.26 | 7.05 | 4.69 | 4.60 | 6.86 | 6.46 | 6.38 | 6.20 |
| December | 7.37 | 7.09 | 7.03 | 6.85 | 4.70 | 4.61 | 6.79 | 6.43 | 6.32 | 6.14 |
| **Average** | **7.76** | **7.41** | **7.24** | **7.00** | **4.87** | **4.72** | **7.01** | **6.64** | **6.56** | **6.32** |

[a]Prices are calculated by dividing revenues by sales. Revenues may not correspond to sales for a particular month because of utility billing and accounting procedures. This could result in uncharacteristic increases or decreases in the monthly prices.

[b]Average price for total sales to ultimate consumers.

[c]Data through 1979 cover privately owned electric utilities in Classes A and B. Data for 1980 forward cover selected privately owned electric utilities in Class A whose electric operating revenues were $100 million or more during the previous year.

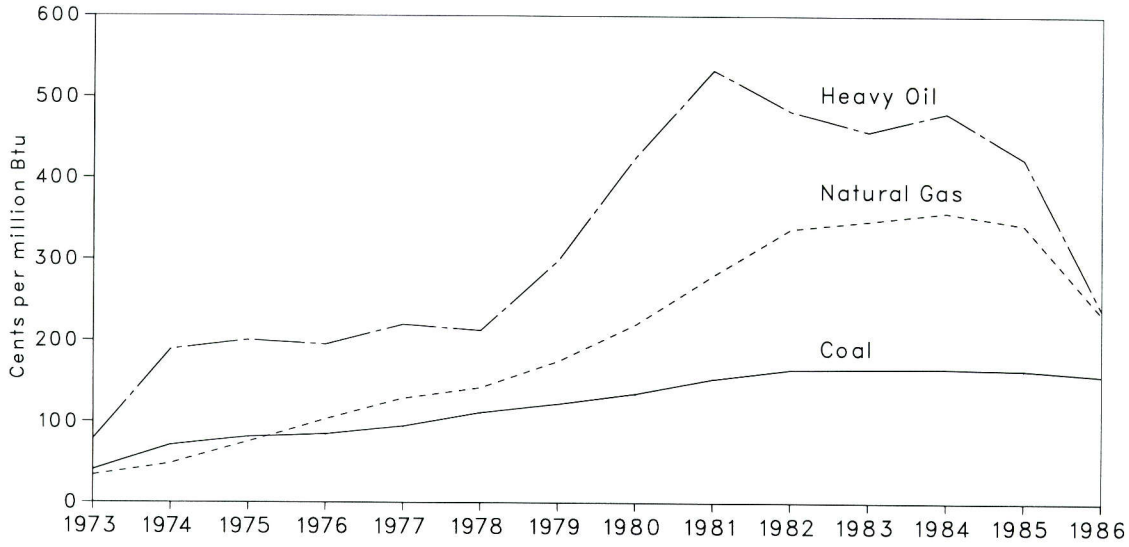
[d]See Note 7 at end of section.

Note: Geographic coverage is the 50 States and the District of Columbia.

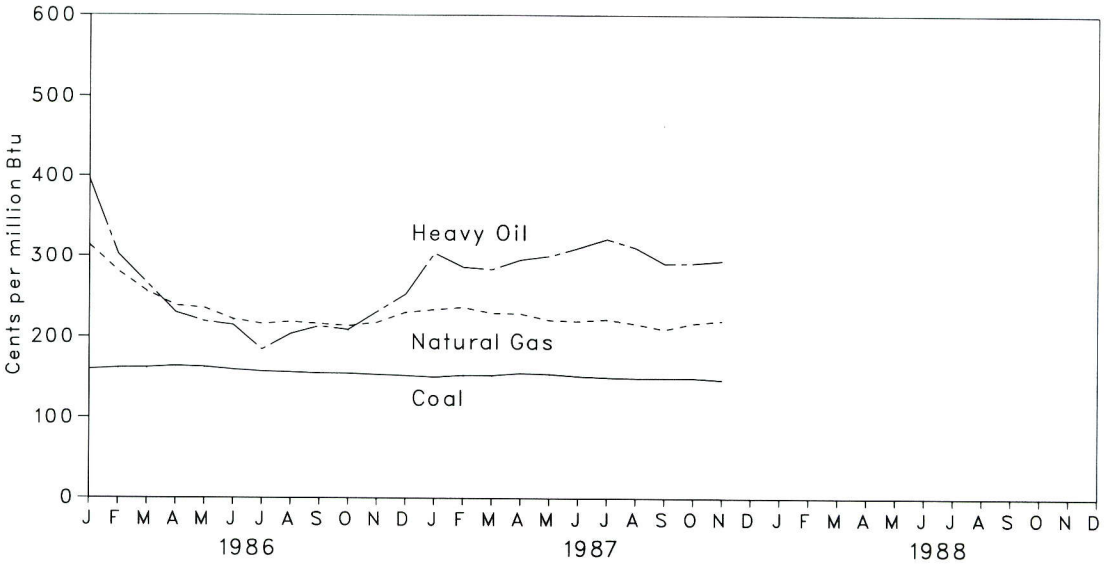
Sources: See end of section.

## Figure 9.4 Cost of Fossil Fuels Delivered to Steam-Electric Utility Plants

Yearly




Monthly



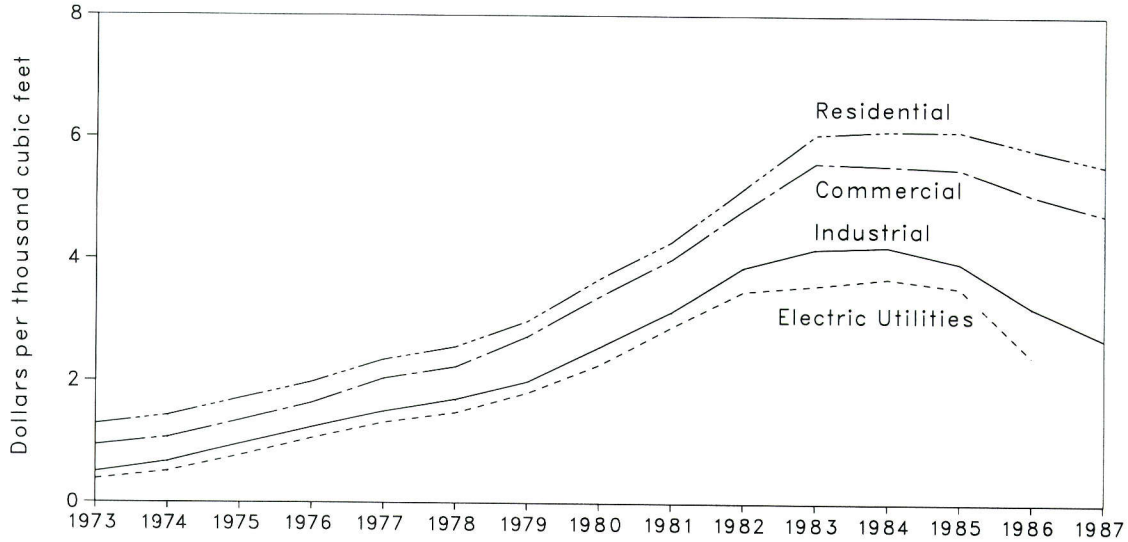
# Table 9.10 Cost of Fossil Fuels Delivered to Steam-Electric Utility Plants[a]
(Cents per million Btu)

| | Coal | Heavy Oil[b] | Natural Gas[c] | All Fossil Fuels[b] |
|---|---|---|---|---|
| **1973 Average** | **40.5** | **78.5** | **33.8** | **47.6** |
| **1974 Average** | **70.9** | **189.0** | **48.2** | **91.4** |
| **1975 Average** | **81.4** | **200.5** | **75.2** | **104.4** |
| **1976 Average** | **84.8** | **195.2** | **103.4** | **111.9** |
| **1977 Average** | **94.7** | **219.8** | **129.1** | **129.7** |
| **1978 Average** | **111.6** | **212.5** | **142.2** | **141.1** |
| **1979 Average** | **122.4** | **298.8** | **174.9** | **163.9** |
| **1980 Average** | **135.1** | **426.7** | **219.9** | **192.8** |
| **1981 Average** | **153.2** | **533.4** | **280.5** | **225.6** |
| **1982 Average** | **164.7** | **483.2** | **337.6** | **224.9** |
| **1983 Average** | **165.6** | **457.8** | **347.4** | **220.6** |
| **1984 Average** | **166.4** | **481.2** | **358.3** | **219.2** |
| **1985** January | 164.1 | 472.0 | 364.4 | 218.7 |
| February | 167.0 | 482.4 | 358.1 | 218.1 |
| March | 167.1 | 458.8 | 364.9 | 209.5 |
| April | 167.6 | 452.1 | 361.6 | 210.6 |
| May | 166.8 | 403.1 | 346.1 | 206.3 |
| June | 165.0 | 384.9 | 344.8 | 208.1 |
| July | 164.2 | 392.8 | 344.0 | 217.4 |
| August | 164.0 | 380.5 | 334.8 | 211.1 |
| September | 163.2 | 419.0 | 328.7 | 204.9 |
| October | 163.5 | 415.8 | 330.4 | 204.3 |
| November | 163.6 | 397.2 | 329.3 | 204.5 |
| December | 161.0 | 424.3 | 320.9 | 202.9 |
| **Average** | **164.8** | **424.4** | **343.1** | **209.6** |
| **1986** January | 159.6 | 396.0 | 313.6 | 195.7 |
| February | 161.4 | 302.1 | 281.2 | 185.6 |
| March | 161.7 | 266.2 | 256.2 | 179.9 |
| April | 163.5 | 229.7 | 238.4 | 177.7 |
| May | 162.3 | 218.9 | 235.2 | 177.7 |
| June | 159.2 | 214.4 | 221.5 | 174.1 |
| July | 157.1 | 184.1 | 216.1 | 171.1 |
| August | 156.1 | 203.6 | 218.5 | 170.7 |
| September | 154.9 | 213.0 | 216.2 | 168.5 |
| October | 154.7 | 208.6 | 213.6 | 165.8 |
| November | 153.3 | 230.5 | 217.6 | 166.1 |
| December | 152.2 | 252.7 | 230.1 | 170.3 |
| **Average** | **157.9** | **240.1** | **234.4** | **175.0** |
| **1987** January | 150.4 | 304.1 | 233.6 | 173.3 |
| February | 152.7 | 286.5 | 236.3 | 172.0 |
| March | 152.6 | 283.6 | 229.3 | 170.0 |
| April | 155.2 | 295.6 | 228.6 | 174.1 |
| May | 154.3 | 300.4 | 220.9 | 172.6 |
| June | 151.6 | 310.6 | 219.6 | 172.3 |
| July | 150.1 | 321.7 | 221.9 | 177.3 |
| August | 149.3 | 310.8 | 216.5 | 172.6 |
| September | 149.5 | 291.1 | 209.7 | 166.0 |
| October | 149.7 | 291.7 | 217.4 | 165.6 |
| November | 147.4 | 294.5 | 220.7 | 166.2 |
| **11-Month Average** | **151.1** | **300.5** | **221.9** | **171.0** |
| **1986 11-Month Average** | **158.4** | **238.6** | **234.7** | **175.5** |
| **1985 11-Month Average** | **165.1** | **424.4** | **344.7** | **210.2** |

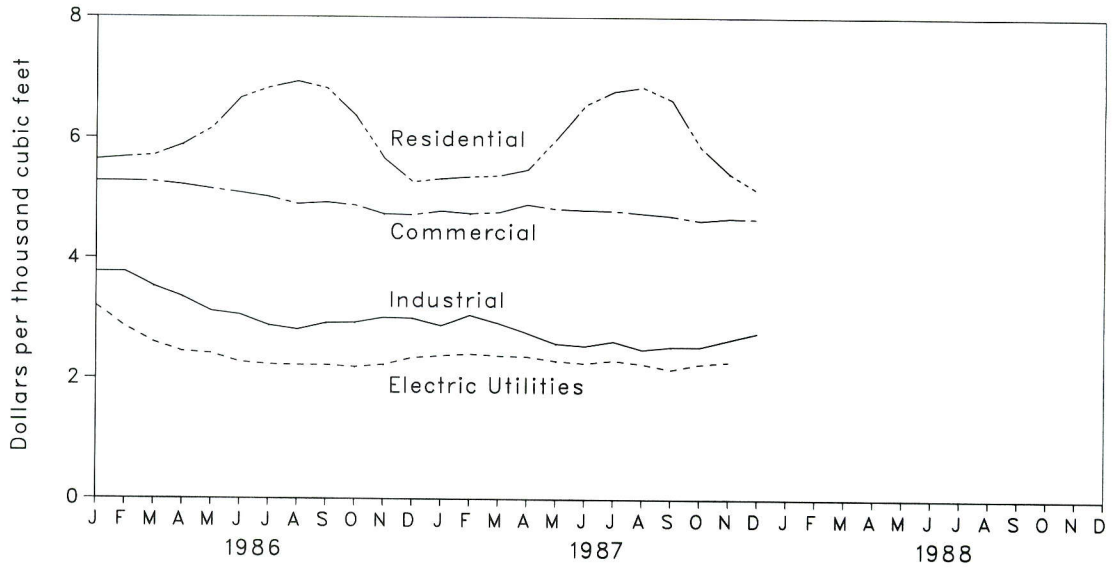
[a]Data through 1982 cover all steam-electric utility plants with a capacity of 25 megawatts or greater. From 1974 through 1982, data include peaking units. Beginning with 1983, data cover steam-electric utility plants with a capacity of 50 megawatts or greater.
[b]See Note 8 at end of section.
[c]Includes supplemental gaseous fuels.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

## Figure 9.5 Natural Gas Prices

Yearly




Monthly



# Table 9.11 Natural Gas Prices[a]
(Dollars per Thousand Cubic Feet)

| | Wellhead | Major Interstate Pipeline Companies | | City Gate | Delivered to Consumers[b] | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Imports | Purchases from Producers | | Residential | Commercial | Industrial | Electric Utilities[c] | Average |
| **1973 Average** | **0.22** | **NA** | **NA** | **NA** | **1.29** | **0.94** | **0.50** | **0.38** | **0.73** |
| **1974 Average** | **.30** | **NA** | **NA** | **NA** | **1.43** | **1.07** | **.67** | **.51** | **.89** |
| **1975 Average** | **.45** | **NA** | **NA** | **NA** | **1.71** | **1.35** | **.96** | **.77** | **1.19** |
| **1976 Average** | **.58** | **NA** | **NA** | **NA** | **1.98** | **1.64** | **1.24** | **1.06** | **1.47** |
| **1977 Average** | **.79** | **NA** | **NA** | **NA** | **2.35** | **2.04** | **1.50** | **1.32** | **1.78** |
| **1978 Average** | **.91** | **2.21** | **0.83** | **NA** | **2.56** | **2.23** | **1.70** | **1.48** | **1.98** |
| **1979 Average** | **1.18** | **2.60** | **1.22** | **NA** | **2.98** | **2.73** | **1.99** | **1.81** | **2.34** |
| **1980 Average** | **1.59** | **4.42** | **1.63** | **NA** | **3.68** | **3.39** | **2.56** | **2.27** | **2.91** |
| **1981 Average** | **1.98** | **4.84** | **2.15** | **NA** | **4.29** | **4.00** | **3.14** | **2.89** | **3.51** |
| **1982 Average** | **2.46** | **4.94** | **2.72** | **NA** | **5.17** | **4.82** | **3.87** | **3.48** | **4.32** |
| **1983 Average** | **2.59** | **4.51** | **2.93** | **NA** | **6.06** | **5.59** | **4.18** | **3.58** | **4.82** |
| **1984 Average** | **2.66** | **4.08** | **2.91** | **3.95** | **6.12** | **5.55** | **4.22** | **3.70** | **4.85** |
| **1985** January | 2.64 | 3.21 | R 2.88 | 3.89 | 5.97 | 5.62 | 4.22 | 3.74 | 5.09 |
| February | 2.71 | R 3.11 | 2.87 | 3.94 | 5.86 | 5.53 | 4.26 | 3.68 | 5.12 |
| March | 2.62 | 3.29 | R 2.93 | 3.97 | 5.99 | 5.59 | 4.16 | 3.74 | 5.02 |
| April | 2.64 | 3.39 | 2.86 | 3.91 | 6.11 | 5.65 | 4.01 | 3.72 | 4.84 |
| May | 2.53 | 3.32 | 2.89 | 3.89 | 6.59 | 5.59 | 3.88 | 3.57 | 4.58 |
| June | 2.58 | 3.40 | R 2.99 | 3.86 | 6.96 | 5.65 | 3.78 | 3.56 | 4.43 |
| July | 2.51 | 3.41 | 2.82 | 3.69 | 7.07 | 5.44 | 3.92 | 3.56 | 4.35 |
| August | 2.47 | R 3.35 | R 2.70 | 3.70 | 7.21 | 5.42 | 3.94 | 3.46 | 4.30 |
| September | 2.42 | 3.28 | R 2.92 | 3.68 | 7.06 | 5.37 | 3.84 | 3.40 | 4.32 |
| October | 2.37 | 3.16 | 2.68 | 3.59 | 6.50 | 5.30 | 3.78 | 3.37 | 4.37 |
| November | 2.36 | R 2.87 | R 2.90 | 3.46 | 6.13 | 5.39 | 3.84 | 3.38 | 4.57 |
| December | 2.28 | 2.79 | R 2.77 | 3.45 | 5.70 | 5.25 | 3.70 | 3.29 | 4.68 |
| **Average** | **2.51** | **R 3.19** | **R 2.85** | **3.75** | **6.12** | **5.50** | **3.95** | **3.55** | **4.72** |
| **1986** January | 2.28 | 2.81 | R 2.63 | 3.52 | 5.63 | 5.28 | 3.77 | 3.20 | 4.73 |
| February | 2.26 | 2.79 | R 2.61 | 3.52 | 5.67 | 5.28 | 3.77 | 2.85 | 4.72 |
| March | 2.16 | R 3.36 | R 2.66 | 3.50 | 5.70 | 5.27 | 3.53 | 2.60 | 4.53 |
| April | 2.10 | 3.14 | 2.37 | 3.33 | 5.88 | 5.22 | 3.35 | 2.44 | 4.24 |
| May | 1.96 | 2.75 | R 2.46 | 3.15 | 6.16 | 5.15 | 3.11 | 2.41 | 3.90 |
| June | 1.85 | 2.56 | R 2.56 | 3.11 | 6.67 | 5.09 | 3.05 | 2.27 | 3.65 |
| July | 1.80 | 2.78 | 2.40 | 3.08 | 6.84 | 5.02 | 2.88 | 2.23 | 3.42 |
| August | 1.77 | R 2.59 | R 2.24 | 3.04 | 6.94 | 4.90 | 2.81 | 2.22 | 3.39 |
| September | 1.78 | 2.26 | R 2.05 | 3.02 | 6.83 | 4.93 | 2.92 | 2.22 | 3.54 |
| October | 1.73 | 2.22 | 2.27 | 2.94 | 6.38 | 4.88 | 2.93 | 2.19 | 3.71 |
| November | 1.77 | 1.84 | R 2.07 | 2.90 | 5.66 | 4.74 | 3.01 | 2.23 | 3.98 |
| December | 1.76 | 1.99 | R 2.11 | 2.99 | 5.28 | 4.73 | 3.00 | 2.35 | 4.15 |
| **Average** | **1.94** | **R 2.53** | **R 2.39** | **3.22** | **5.83** | **5.08** | **3.23** | **2.43** | **4.13** |
| **1987** January | R 1.77 | 1.90 | 2.16 | 2.98 | 5.33 | 4.79 | 2.88 | 2.38 | 4.21 |
| February | R 1.76 | 2.21 | 2.11 | 3.03 | 5.36 | 4.75 | 3.05 | 2.41 | 4.31 |
| March | R 1.74 | 2.30 | 2.08 | 2.91 | 5.38 | 4.77 | 2.92 | 2.38 | 4.16 |
| April | R 1.74 | 2.25 | 2.11 | 2.86 | 5.48 | 4.90 | 2.76 | 2.37 | 3.96 |
| May | R 1.69 | 2.22 | 2.20 | 2.81 | 5.99 | 4.83 | 2.59 | 2.30 | 3.58 |
| June | R 1.64 | 2.26 | 2.19 | 2.83 | 6.57 | 4.81 | 2.55 | 2.26 | 3.35 |
| July | R 1.68 | 2.73 | 2.22 | 2.91 | 6.79 | 4.80 | 2.63 | 2.31 | 3.33 |
| August | R 1.67 | 2.17 | R 2.12 | 2.88 | 6.86 | 4.76 | 2.49 | 2.25 | 3.16 |
| September | R 1.65 | 2.17 | 2.29 | 2.83 | 6.65 | 4.72 | 2.54 | 2.16 | 3.27 |
| October | R 1.68 | 1.98 | 1.99 | 2.69 | 5.86 | 4.64 | 2.54 | 2.25 | 3.48 |
| November | 1.73 | 1.94 | 2.06 | 2.76 | 5.43 | 4.68 | 2.66 | 2.29 | 3.74 |
| December | 1.75 | 2.00 | 2.17 | 2.85 | 5.14 | 4.67 | 2.77 | NA | NA |
| **Average** | **1.71** | **2.14** | **2.12** | **2.87** | **5.56** | **4.76** | **2.71** | **NA** | **NA** |

[a]Prices shown on this page are intended to include all taxes. See Note 9 at end of section.
[b]Includes supplemental gaseous fuels.
[c]Data through December 1982 cover all steam-electric utility plants with a capacity of 25 megawatts or greater. From 1974 through 1982, data include peaking units. Beginning with January 1983, data cover steam-electric utility plants with a capacity of 50 megawatts or greater.
[d]The decline from the previous month was primarily the result of refunds in the form of reduced charges.
R=Revised data. NA=Not available.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1985 are final. Subsequent data are preliminary.
Sources: See end of section.

# Notes and Sources for the Price Section

## Notes

**1.** The average domestic first purchase price represents the average price at which all domestic crude oil is purchased. Prior to February 1976, the price represented an estimate of the average of posted prices; after February 1976, the price represents an average of actual first purchase prices. The data series was previously called "Actual Domestic Wellhead Price."

**2.** FOB literally means "Free on Board." It denotes a transaction whereby the seller makes the product available with an agreement on a given port at a given price; it is the responsibility of the buyer to arrange for the transportation and insurance.

**3.** The landed cost of imported crude oil from selected countries does not represent the total cost of all imported crude. Prior to March 1975, imported crude costs to U.S. company-owned refineries in the Caribbean were not included in the landed cost, and costs of crude oil from countries that export only small amounts to the United States were also excluded. Beginning in March 1975, however, coverage was expanded to include U.S. company-owned refineries in the Caribbean. Landed costs do not include supplemental fees.

**4.** Beginning with January 1981, refiner acquisition costs of crude oil are from data collected on EIA Form 14, the "Refiners' Monthly Cost Report." These prices were previously published from data collected on ERA Form 49, the "Domestic Crude Oil Entitlements Program Refiners Monthly Report." The ERA Form 49 was discontinued with the decontrol of crude oil on January 28, 1981. Crude oil purchases and costs are defined for EIA Form 14 in accordance with conventions used for ERA Form 49. Also, the respondents for the two forms are essentially the same. However, due to possible different interpretations of the filing requirements and a different method for handling prior period adjustments, care must be taken in comparing the data collected on the two forms.

The refiner acquisition cost of crude oil is the average price paid by refiners for crude oil booked into their refineries in accordance with accounting procedures generally accepted and consistently and historically applied by the refiners concerned. Domestic crude oil is that oil produced in the United States or from the outer continental shelf as defined in 43 USC Section 1331. Imported crude oil is either that oil reported on ERA Form 51, the "Transfer Pricing Report," or any crude oil that is not domestic oil. The composite cost is the weighted average of domestic and imported crude oil costs.

Crude oil costs and volumes reported on ERA Form 49 excluded unfinished oils but included the Strategic Petroleum Reserve (SPR). Crude oil costs and volumes reported on the FEA Form P110-M-1 included unfinished oils but excluded SPR. Imported averages derived from ERA Form 49 exclude oil purchased for SPR, whereas the composite averages derived from ERA Form 49 include SPR. None of the prices derived from EIA Form 14 include either unfinished oils or SPR.

**5.** Several different series of motor gasoline prices are published in this section. U.S. City Average Retail Prices of Motor Gasoline are calculated monthly by the Bureau of Labor Statistics during the development of the Consumer Price Index (CPI). These prices include all Federal, State, and local taxes paid at the time of sale. For the period 1974 through 1978, prices were collected in 56 urban areas. For the period 1978 forward, prices were collected from a new sample of service stations in 85 urban areas selected to represent all urban consumers-about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-serve).

Refiner and Gas Plant Operator Sales Prices of Finished Motor Gasoline for Resale and to End Users are determined by the Energy Information Administration in a monthly survey of refiners and gas plant operators (Form EIA-782A). The prices do not include any Federal, State, or local taxes paid at the time of sale. Estimates of prices prior to January 1983 are based on FEA Form P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices," and also exclude all Federal, State, or local taxes paid at the time of sale. Sales for Resale are those made to purchasers who are other-than-ultimate consumers. Sales to End Users are sales made directly to the consumer of the product, including bulk consumers such as agriculture, industry, and utilities, as well as residential and commercial consumers.

**6.** Starting in January 1983, Form EIA-782, "Monthly Petroleum Product Sales Report," replaced 10 previous surveys. Every attempt was made to continue the most important price series. However, prices published through December 1982 and those published since January 1983 do not necessarily form continuous data series due to changes in survey forms, definitions, instructions, populations, samples, processing systems, and statistical procedures. To provide historical data, continuous annual data series have been generated for 1978-1980, and monthly series for 1981 and 1982, by estimating the prices that would have been published had the EIA-782 survey and system been in operation at that time. This form of estimation was performed after detailed adjustment for product and sales type matching, and for discontinuity due to other factors.

An important difference between the previous and present prices is the distinction between wholesale and resale, and between retail and end user. The resale category continues to include sales among resellers. However, bulk sales to utility, industrial, and commercial accounts previously included in the wholesale category are now counted as made to end users. The end user category continues to include retail sales through company owned and operated outlets but also includes the bulk utility, industrial, and commercial sales. Additional information may be found in "Estimated Historic Time Series for the EIA-782," a feature article reprinted from the December 1983 [3] *Petroleum Marketing Monthly* published by the Energy Information Administration.

**7.** Beginning with January 1986, national average price estimates are based on a statistically derived sample of both publicly and privately owned electric utilities. Prior to that time, national average price estimates were based on a sample of only privately owned electric utilities. Respondents to Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions," formerly the "Electric Utility Company Monthly Statement," consist of a sample of 201 electric utilities that were statistically chosen using stratification techniques. The respondents were chosen from more than 3,000 electric utilities reporting on Form EIA-861, "Annual Electric Utility Report." This scheme differs from the cut-off sample used prior to January 1986. Data are shown for both the old and new series. Publication of both series will continue until sufficient information exists to estimate historical data based on the new series.

**8.** Heavy fuel oil prices include fuel oils No. 4, No. 5, and No. 6, and topped crude fuel oil prices. The weighted average for all fossil fuels includes both residual fuel oil prices and light oil (No. 2 fuel oil, kerosene, and jet fuel) prices.

**9.** Natural gas prices are intended to include all taxes. Instructions on the data collection forms specifically direct that all U.S., State, and local taxes, surcharges, and/or adjustments billed to consumers are to be included. However, sales and other taxes itemized on consumers' bills are sometimes excluded by the reporting utilities.

**Sources**

**Petroleum and Petroleum Products:**

- Domestic First Purchase Prices--Economic Regulatory Administration (ERA), January 1976: FEA Form 90, "Crude Petroleum Production Monthly Report"; February 1976 through September 1979: FEA Form P124, "Domestic Crude Oil Purchaser's (Monthly) Report"; October 1979 through December 1982: ERA Form 182, "Domestic Crude Oil First Purchase Report."; January 1983 forward: EIA Form 182, "Domestic Crude Oil First Purchase Report."
- Crude Oil Import Prices--Energy Information Administration (EIA), 1975 through January 1979: FEA Form F701-M-0, "Transfer Pricing Report"; February 1979 through September 1982: ERA Form 51, "Transfer Pricing Report"; October 1982 through June 1984: EP Form 51, "Monthly Foreign Crude Oil Transaction Report"; July 1984 forward: Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report."
- Refiner Acquisition Costs--EIA, January 1976: FEO Form 96, "Monthly Cost Allocation Report"; February 1976 through June 1978: FEA Form P110-M-1, "Refiners' Monthly Cost Allocation Report"; July 1978 through December 1980: ERA Form 49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report"; January 1981 forward: EIA Form 14, "Refiners' Monthly Cost Report."
- U.S. City Average Retail Motor Gasoline Prices--Bureau of Labor Statistics.
- No. 2 Distillate to Residences--January 1983 forward, EIA Form-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report" and EIA-782B, "Resellers/Retailers' Monthly Petroleum Product Sales Report." Prices prior to January 1983 are EIA estimates using data from FEA Form P112-M-1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report" and EIA Form 9A, "No. 2 Distillate Price Monitoring Report." See Note 8 on the previous page for additional information on the estimated data.
- All Other Petroleum Products--January 1983 forward, EIA Form-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report." Prices prior to January 1983 are EIA estimates using data from FEA Form 302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices." See Note 8 on the previous page for additional information on the estimated data.

**Natural Gas:**

- Average Wellhead--Annual data through 1982 from EIA, *Natural Gas Annual, 1973* through *1982.* Annual data for 1983 through 1986 from Form EIA-627, "Annual Quantity and Value of Natural Gas Report" and the U.S. Minerals Management Service. Monthly data are estimated primarily on the basis of values reported by State agencies in Mississippi, New Mexico, Oklahoma, and Texas. These States together account for almost 50 percent of total U.S. marketed production. Monthly data are adjusted to conform with final reported annual data.
- Imports and Purchases from Producers by Major Interstate Pipeline Companies--FERC Form 11,

"Interstate Pipeline Company Purchases, and Industrial Sales".

- City Gate--EIA, October 1983 forward: Form EIA--857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

- Residential, Commercial, Industrial and Consumer Average-Annual data from EIA, Form EIA-176 "Annual Report of Natural and Supplemental Gas Supply and Disposition." Monthly data from EIA, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers." Monthly data are adjusted to conform to final reported annual data.

- Electric Utilities--EIA, FPC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

**Electricity:**

- Cost of Fossil Fuels--EIA, FPC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

- Retail Prices--EIA, January 1973 through February 1980: FPC Form 5, "Monthly Statement of Electric Operating Revenue and Income"; March 1980 through December 1982: FERC Form 5, "Electric Utility Company Monthly Statement"; January 1983 forward: EIA Form 826, "Electric Utility Company Monthly Statement."

# Section 10. International

**Crude Oil Production.** World crude oil production during December 1987 was 57 million barrels per day, up 0.1 million from the level in the previous month. World crude oil production during 1987 averaged 56 million barrels per day, down slightly compared with production in 1986.

Organization of Petroleum Exporting Countries (OPEC) production during December 1987 averaged 19 million barrels per day, up slightly from the level during the previous month. OPEC production during 1987 averaged 18 million barrels per day, a 1.9-percent decrease compared with production in the previous year. Production by the Arab members of OPEC during December 1987 averaged 12 million barrels per day, up 0.1 million from the November 1987 level. During December 1987, production increased in Saudi Arabia by 360 thousand and in Iraq by 50 thousand barrels per day. Production in the United Arab Emirates decreased by 250 thousand barrels per day and in Kuwait by 40 thousand barrels per day. Production remained the same in Algeria, Libya, and Qatar as during the previous month. Among non-Arab members of OPEC, production during December 1987 decreased in Nigeria by 100 thousand barrels per day. Production remained the same in Indonesia, Iran, and Venezuela as during the previous month.

Among the non-OPEC nations, production during December 1987 increased in Canada by 45 thousand, in the United Kingdom by 15 thousand, and in the United States by 10 thousand barrels per day. Production remained the same in Mexico as during the previous month.

**Petroleum Consumption.** In September 1987, consumption in all Organization for Economic Cooperation and Development (OECD) countries was 36 million barrels per day, 3 percent more than the level in September 1986. Consumption was higher in both the United States and Japan by 4 percent[23] and in Canada by 2 percent, compared with levels 1 year earlier. Consumption in all European OECD countries combined in September 1987 was 12 million barrels per day, 3 percent above the level in the previous September. Consumption was higher in West Germany by 15 percent, in France by 7 percent, and in Italy by 5 percent, but lower in the United Kingdom by 7 percent, compared with levels 1 year earlier.

**Petroleum Stocks.** For all OECD countries, petroleum stocks at the end of September 1987 totaled 3.5 billion barrels, 1 percent below the stock level in September 1986. Stocks were higher in Canada by 1 percent, but lower in both the United States and Japan by 1 percent, compared with levels 1 year earlier. Stock levels in all European OECD countries as of the end of September 1987 were 1.1 billion barrels, 1 percent below the stock level in September 1986. Stocks were up in West Germany by 4 percent, but down in France by 9 percent and in the United Kingdom by 2 percent, compared with levels 1 year earlier.

**Nuclear Electricity Generation.** In December 1987, the 20 non-Communist countries with nuclear power capacity generated 141 gross terawatthours (billion kilowatthours) of nuclear-generated electricity, 5 percent more than in December 1986.

Based on *Nucleonics Week* information, as of December 31, 1987, there were 337 operable nuclear generating units in the 20 non-Communist countries. These units had a collective gross generating capacity of 270.1 gigawatts (million kilowatts).

In December 1987, the 107 U.S. units accounted for 99.5 gross gigawatts, 36.9 percent of the total non-Communist nuclear generating capacity.

[23]Percentage changes are calculated using unrounded data.

# Table 10.1a World Crude Oil Production
(Thousand Barrels per Day)

| | Algeria | Iraq | Kuwait[a] | Libya | Qatar | Saudi Arabia[a] | United Arab Emirates | Arab OPEC[b] | Indonesia | Iran | Nigeria |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average** | **1,097** | **2,018** | **3,020** | **2,175** | **570** | **7,596** | **1,533** | **18,009** | **1,339** | **5,861** | **2,054** |
| **1974 Average** | **1,009** | **1,971** | **2,546** | **1,521** | **518** | **8,480** | **1,679** | **17,724** | **1,375** | **6,022** | **2,255** |
| **1975 Average** | **983** | **2,262** | **2,084** | **1,480** | **438** | **7,075** | **1,664** | **15,986** | **1,307** | **5,350** | **1,783** |
| **1976 Average** | **1,075** | **2,415** | **2,145** | **1,933** | **497** | **8,577** | **1,936** | **18,578** | **1,504** | **5,883** | **2,067** |
| **1977 Average** | **1,152** | **2,348** | **1,969** | **2,063** | **445** | **9,245** | **1,999** | **19,221** | **1,686** | **5,663** | **2,085** |
| **1978 Average** | **1,161** | **2,563** | **2,131** | **1,983** | **487** | **8,301** | **1,831** | **18,457** | **1,635** | **5,242** | **1,897** |
| **1979 Average** | **1,154** | **3,477** | **2,500** | **2,092** | **508** | **9,532** | **1,831** | **21,094** | **1,591** | **3,168** | **2,302** |
| **1980 Average** | **1,012** | **2,514** | **1,656** | **1,787** | **472** | **9,900** | **1,709** | **19,050** | **1,577** | **1,662** | **2,055** |
| **1981 Average** | **805** | **1,000** | **1,125** | **1,140** | **405** | **9,815** | **1,474** | **15,764** | **1,605** | **1,380** | **1,433** |
| **1982 Average** | **710** | **1,012** | **823** | **1,150** | **330** | **6,483** | **1,250** | **11,758** | **1,339** | **2,214** | **1,295** |
| **1983 Average** | **660** | **1,005** | **1,064** | **1,105** | **295** | **5,086** | **1,149** | **10,364** | **1,343** | **2,440** | **1,241** |
| **1984 Average** | **638** | **1,209** | **1,157** | **1,087** | **394** | **4,663** | **1,146** | **10,294** | **1,412** | **2,174** | **1,388** |
| **1985** January | 640 | 1,250 | 1,118 | 1,000 | 270 | 3,510 | 1,100 | 8,887 | 1,380 | 1,942 | 1,423 |
| February | 660 | 1,250 | 1,133 | 1,000 | 290 | 4,025 | 1,160 | 9,517 | 1,401 | 2,147 | 1,718 |
| March | 690 | 1,200 | 1,092 | 1,000 | 315 | 3,835 | 1,215 | 9,347 | 1,369 | 2,249 | 1,728 |
| April | 650 | 1,370 | 977 | 1,000 | 260 | 3,470 | 1,215 | 8,942 | 1,369 | 2,351 | 1,626 |
| May | 650 | 1,300 | 946 | 1,100 | 290 | 2,590 | 1,160 | 8,036 | 1,264 | 2,045 | 1,474 |
| June | 600 | 1,370 | 926 | 980 | 300 | 2,420 | 1,100 | 7,696 | 1,106 | 2,249 | 1,118 |
| July | 600 | 1,450 | 946 | 910 | 320 | 2,740 | 1,155 | 8,121 | 1,369 | 2,249 | 1,016 |
| August | 600 | 1,400 | 946 | 910 | 320 | 2,340 | 1,200 | 7,716 | 1,369 | 2,453 | 1,220 |
| September | 650 | 1,600 | 987 | 1,100 | 295 | 2,980 | 1,285 | 8,897 | 1,264 | 2,249 | 1,474 |
| October | 650 | 1,650 | 1,062 | 1,200 | 320 | 3,910 | 1,255 | 10,048 | 1,327 | 2,351 | 1,728 |
| November | 680 | 1,700 | 1,057 | 1,200 | 300 | 4,200 | 1,250 | 10,388 | 1,369 | 2,249 | 1,789 |
| December | 650 | 1,650 | 1,087 | 1,300 | 335 | 4,680 | 1,225 | 10,928 | 1,317 | 2,453 | 1,646 |
| **Average** | **643** | **1,433** | **1,023** | **1,059** | **301** | **3,388** | **1,193** | **9,040** | **1,325** | **2,250** | **1,495** |
| **1986** January | 650 | 1,650 | 1,115 | 1,100 | 360 | 4,465 | 1,245 | 10,585 | 1,459 | 2,100 | 1,200 |
| February | 550 | 1,650 | 1,315 | 900 | 325 | 4,715 | 1,445 | 10,900 | 1,336 | 2,000 | 1,400 |
| March | 600 | 1,650 | 1,515 | 900 | 350 | 4,115 | 1,395 | 10,525 | 1,336 | 1,800 | 1,600 |
| April | 600 | 1,500 | 1,520 | 900 | 180 | 4,720 | 1,345 | 10,765 | 1,377 | 2,000 | 1,700 |
| May | 600 | 1,700 | 1,510 | 1,100 | 360 | 4,360 | 1,495 | 11,125 | 1,464 | 2,100 | 1,600 |
| June | 600 | 1,800 | 1,650 | 1,200 | 430 | 5,250 | 1,595 | 12,525 | 1,387 | 2,100 | 1,540 |
| July | 600 | 1,800 | 1,805 | 1,150 | 400 | 5,905 | 1,595 | 13,255 | 1,382 | 2,050 | 1,555 |
| August | 600 | 1,800 | 1,733 | 1,150 | 400 | 6,433 | 1,625 | 13,741 | 1,462 | 1,700 | 1,765 |
| September | 600 | 1,800 | 1,118 | 990 | 280 | 4,818 | 1,345 | 10,951 | 1,346 | 1,500 | 1,300 |
| October | 600 | 1,800 | 1,130 | 1,000 | 300 | 5,030 | 1,355 | 11,215 | 1,361 | 1,500 | 1,325 |
| November | 600 | 1,600 | 1,350 | 1,000 | 300 | 5,350 | 1,195 | 11,395 | 1,407 | 1,700 | 1,325 |
| December | 600 | 1,500 | 1,250 | 1,000 | 300 | 5,350 | 1,215 | 11,215 | 1,366 | 2,000 | 1,325 |
| **Average** | **600** | **1,688** | **1,419** | **1,034** | **333** | **5,045** | **1,404** | **11,523** | **1,390** | **1,879** | **1,470** |
| **1987** January | 600 | 1,650 | R 1,250 | 950 | 285 | R 3,950 | 1,195 | R 9,880 | 1,280 | 2,600 | 1,240 |
| February | 600 | 1,670 | 1,165 | 950 | 250 | 3,815 | 1,175 | 9,625 | 1,250 | 2,500 | 1,140 |
| March | 600 | 1,700 | 1,105 | 850 | 200 | 3,255 | 1,155 | 8,865 | 1,265 | 2,500 | 1,230 |
| April | 600 | 1,900 | 1,125 | 925 | 150 | 3,975 | 1,195 | 9,870 | 1,280 | 2,300 | R 1,132 |
| May | 600 | 1,900 | 1,090 | 930 | 280 | 4,140 | 1,225 | 10,165 | 1,300 | 2,600 | R 1,297 |
| June | 600 | 2,000 | 1,180 | 950 | 350 | 4,180 | 1,395 | 10,655 | 1,300 | 2,500 | R 1,362 |
| July | 670 | 1,950 | R 1,772 | 1,100 | 450 | 4,540 | 1,565 | R 12,047 | 1,330 | 2,500 | R 1,362 |
| August | 670 | 2,200 | R 1,772 | 1,200 | 420 | 4,690 | 1,815 | R 12,767 | 1,450 | 2,700 | 1,350 |
| September | 670 | 2,300 | R 1,740 | 900 | 330 | 4,590 | 1,955 | R 12,485 | 1,310 | 2,100 | 1,300 |
| October | 670 | 2,500 | R 1,375 | 1,000 | 320 | 4,575 | 1,855 | R 12,295 | 1,320 | 2,400 | 1,350 |
| November | 670 | 2,550 | R 1,390 | 950 | 300 | 4,190 | 1,855 | R 11,905 | 1,320 | 2,200 | 1,400 |
| December | 670 | 2,600 | 1,350 | 950 | 300 | 4,550 | 1,605 | 12,025 | 1,320 | 2,200 | 1,300 |
| **Average** | **635** | **2,079** | **1,361** | **972** | **304** | **4,207** | **1,501** | **11,058** | **1,311** | **2,426** | **1,290** |

[a]Includes about one-half of the production in the former Kuwait-Saudi Arabia Neutral Zone. In December 1987, total production in that region amounted to approximately 300 thousand barrels per day.

[b]The Arab members of the Organization of Petroleum Exporting Countries (OPEC) are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

[c]"Total OPEC" consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members.

[d]Other is a calculated total derived from the difference between world production and the nations represented above.

R = Revised data.

Footnotes continued on following page.

## Table 10.1b World Crude Oil Production (continued)
(Thousand Barrels per Day)

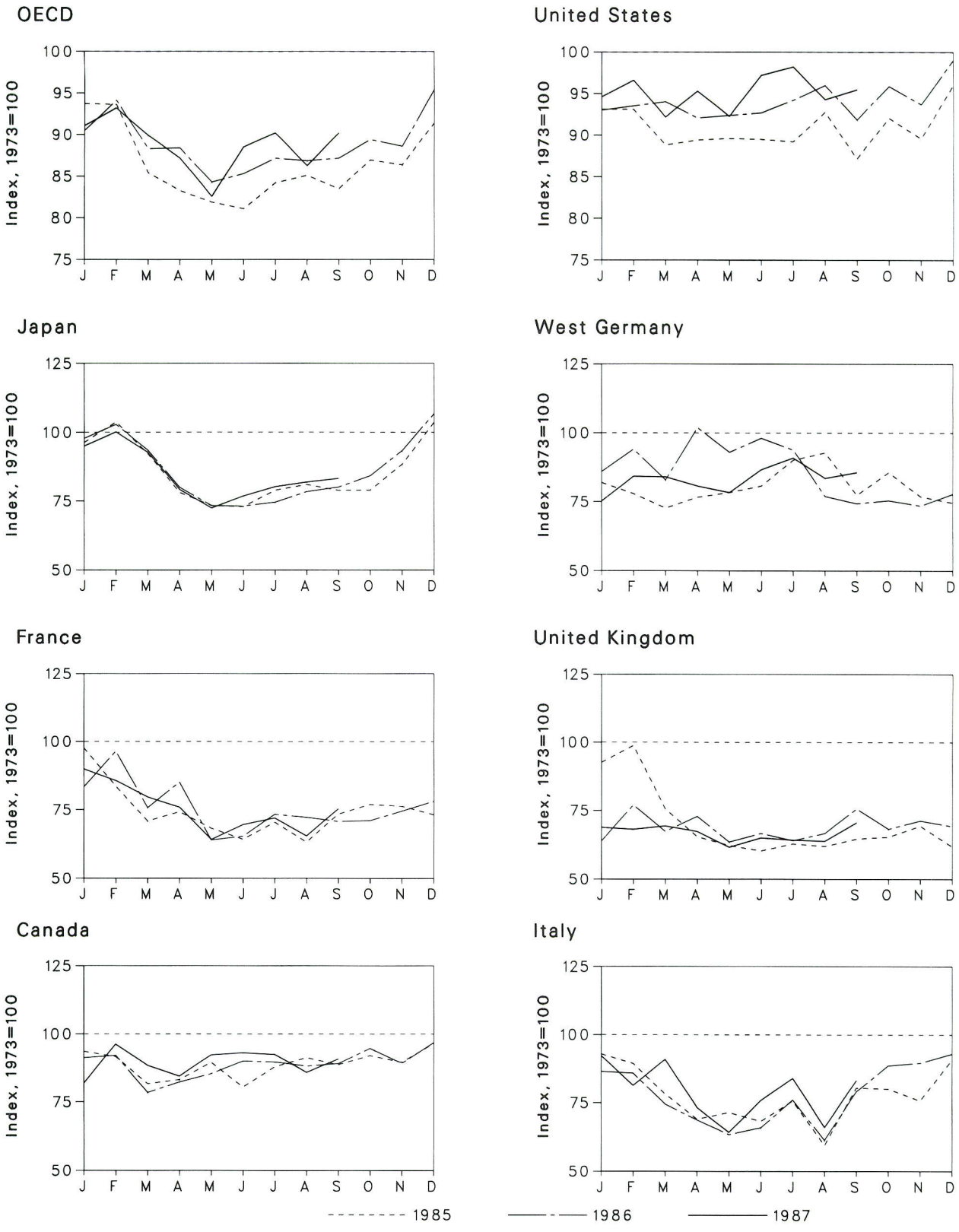
| | Venezuela | Total OPEC[c] | Canada | Mexico | United Kingdom | United States | China | USSR | Other[d] | World |
|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average** | **3,366** | **30,988** | **1,798** | **465** | **2** | **9,208** | **1,090** | **8,329** | **3,691** | **55,571** |
| **1974 Average** | **2,976** | **30,731** | **1,551** | **571** | **2** | **8,774** | **1,315** | **8,856** | **3,835** | **55,635** |
| **1975 Average** | **2,346** | **27,156** | **1,430** | **705** | **12** | **8,375** | **1,490** | **9,472** | **4,116** | **52,756** |
| **1976 Average** | **2,294** | **30,737** | **1,314** | **831** | **245** | **8,132** | **1,670** | **9,985** | **4,298** | **57,212** |
| **1977 Average** | **2,238** | **31,298** | **1,321** | **981** | **768** | **8,245** | **1,874** | **10,485** | **4,551** | **59,523** |
| **1978 Average** | **2,165** | **29,807** | **1,316** | **1,209** | **1,082** | **8,707** | **2,082** | **10,950** | **4,718** | **59,871** |
| **1979 Average** | **2,356** | **30,928** | **1,500** | **1,461** | **1,568** | **8,552** | **2,122** | **11,187** | **5,039** | **62,357** |
| **1980 Average** | **2,168** | **26,891** | **1,435** | **1,936** | **1,622** | **8,597** | **2,114** | **11,460** | **5,170** | **59,225** |
| **1981 Average** | **2,102** | **22,646** | **1,285** | **2,313** | **1,811** | **8,572** | **2,012** | **11,552** | **5,355** | **55,546** |
| **1982 Average** | **1,895** | **18,868** | **1,271** | **2,748** | **2,065** | **8,649** | **2,045** | **11,615** | **5,640** | **52,901** |
| **1983 Average** | **1,801** | **17,583** | **1,356** | **2,689** | **2,291** | **8,688** | **2,120** | **11,684** | **6,244** | **52,655** |
| **1984 Average** | **1,798** | **17,481** | **1,438** | **2,780** | **2,480** | **8,879** | **2,296** | **11,576** | **6,917** | **53,847** |
| **1985** January | 1,673 | 15,737 | 1,416 | 2,645 | 2,755 | 8,740 | 2,475 | 11,150 | R 7,363 | 52,281 |
| February | 1,678 | 16,904 | 1,462 | 2,695 | 2,625 | 9,025 | 2,475 | 11,150 | R 7,399 | 53,735 |
| March | 1,683 | 16,828 | 1,516 | 2,820 | 2,575 | 9,095 | 2,475 | 11,150 | R 7,474 | 53,933 |
| April | 1,678 | 16,414 | 1,415 | 2,835 | 2,610 | 9,043 | 2,505 | 11,150 | R 7,555 | 53,527 |
| May | 1,688 | 14,953 | 1,467 | 2,800 | 2,520 | 9,132 | 2,505 | 11,190 | R 7,528 | 52,095 |
| June | 1,673 | 14,261 | 1,463 | 2,565 | 2,430 | 9,022 | 2,505 | 11,130 | R 7,294 | 50,670 |
| July | 1,673 | 14,873 | 1,480 | 2,630 | 2,365 | 8,949 | 2,515 | 11,250 | R 7,625 | 51,687 |
| August | 1,673 | 14,867 | 1,447 | 2,805 | 2,195 | 8,803 | 2,515 | 11,290 | R 7,616 | 51,538 |
| September | 1,673 | 16,025 | 1,448 | 2,825 | 2,575 | 8,954 | 2,515 | 11,350 | R 7,707 | 53,399 |
| October | 1,673 | 17,606 | 1,485 | 2,760 | 2,645 | 8,970 | 2,525 | 11,390 | R 7,699 | 55,080 |
| November | 1,678 | 17,955 | 1,535 | 2,805 | 2,655 | 8,902 | 2,525 | 11,400 | R 7,765 | 55,542 |
| December | 1,683 | 18,516 | 1,517 | 2,750 | 2,420 | 9,030 | 2,525 | 11,390 | R 7,733 | 55,881 |
| **Average** | **1,677** | **16,240** | **1,471** | **2,745** | **2,530** | **8,971** | **2,505** | **11,250** | **R 7,565** | **53,277** |
| **1986** January | 1,730 | 17,539 | 1,488 | 2,510 | 2,668 | 9,137 | 2,570 | 11,325 | 7,768 | 55,004 |
| February | 1,730 | 17,831 | 1,396 | 2,125 | 2,727 | 9,173 | 2,570 | 11,385 | 7,891 | 55,097 |
| March | 1,730 | 17,466 | 1,354 | 2,220 | 2,712 | 9,013 | 2,570 | 11,480 | 7,752 | 54,566 |
| April | 1,730 | 18,052 | 1,389 | 2,360 | 2,582 | 8,864 | 2,570 | 11,530 | 7,312 | 54,658 |
| May | 1,730 | 18,499 | 1,440 | 2,530 | 2,547 | 8,838 | 2,570 | 11,615 | 7,786 | 55,824 |
| June | 1,755 | 19,797 | 1,556 | 2,550 | 2,200 | 8,623 | 2,570 | 11,625 | 7,725 | 56,645 |
| July | 1,770 | 20,502 | 1,544 | 2,540 | 2,610 | 8,660 | 2,570 | 11,650 | 7,731 | 57,806 |
| August | 2,115 | 21,233 | 1,531 | 2,570 | 2,600 | 8,374 | 2,570 | 11,700 | 7,929 | 58,506 |
| September | 1,760 | 17,242 | 1,516 | 2,375 | 2,560 | 8,328 | 2,635 | 11,720 | 8,038 | 54,413 |
| October | 1,750 | 17,551 | 1,533 | 2,325 | 2,575 | 8,419 | 2,635 | 11,745 | 7,995 | 54,777 |
| November | 1,780 | 18,052 | 1,444 | 2,455 | 2,478 | 8,412 | 2,770 | 11,795 | 8,278 | 55,683 |
| December | 1,855 | 18,206 | 1,458 | 2,570 | 2,348 | 8,352 | 2,770 | 11,790 | 8,332 | 55,825 |
| **Average** | **1,787** | **18,505** | **1,471** | **2,430** | **2,550** | **8,680** | **2,614** | **11,615** | **7,878** | **55,743** |
| **1987** January | R 1,660 | R 17,080 | 1,470 | 2,510 | 2,637 | 8,477 | 2,690 | 11,735 | 8,174 | R 54,773 |
| February | R 1,660 | R 16,585 | R 1,455 | 2,540 | 2,566 | 8,318 | 2,690 | 11,710 | 8,152 | R 54,016 |
| March | R 1,795 | R 15,850 | R 1,465 | 2,520 | 2,513 | 8,349 | 2,690 | 11,830 | 8,030 | R 53,247 |
| April | R 1,690 | R 16,422 | 1,450 | 2,530 | 2,534 | 8,426 | 2,690 | 11,760 | 8,129 | R 53,941 |
| May | R 1,715 | R 17,267 | R 1,480 | 2,555 | 2,533 | 8,305 | 2,690 | 11,760 | 8,219 | R 54,809 |
| June | R 1,755 | R 17,762 | R 1,565 | 2,530 | 1,933 | 8,263 | 2,690 | 11,760 | R 7,984 | R 54,487 |
| July | R 1,875 | R 19,324 | R 1,585 | 2,520 | 2,483 | 8,242 | R 2,690 | 11,815 | R 8,298 | R 56,957 |
| August | R 1,785 | R 20,392 | R 1,605 | 2,545 | 2,448 | 8,190 | R 2,690 | 11,805 | R 8,073 | R 57,748 |
| September | R 1,735 | R 19,340 | R 1,535 | 2,560 | 2,453 | 8,190 | R 2,690 | 11,975 | R 8,372 | R 57,115 |
| October | R 1,740 | R 19,575 | 1,515 | R 2,555 | 2,498 | 8,293 | R 2,690 | 11,805 | R 8,363 | R 57,294 |
| November | R 1,735 | R 19,030 | 1,495 | 2,560 | 2,528 | 8,330 | R 2,690 | 11,735 | R 8,400 | R 56,768 |
| December | 1,735 | 19,065 | 1,540 | 2,560 | 2,543 | 8,340 | 2,690 | 11,805 | 8,365 | 56,908 |
| **Average** | **1,741** | **18,154** | **1,514** | **2,540** | **2,473** | **8,311** | **2,690** | **11,792** | **8,214** | **55,687** |

Footnotes continued.

Note: • U.S. geographic coverage is the 50 States and the District of Columbia. • Monthly data are often preliminary figures and may not average to the annual totals because of rounding or because updates to the preliminary monthly data are not available.

Sources: • 1973-1986 annual data (except the United States): Energy Information Administration (EIA), *International Energy Annual.* • 1973-1987 U.S. annual and monthly data: EIA, *Petroleum Supply Monthly.* • 1985-1987 monthly data (except United States and world): Central Intelligence Agency, "International Energy Statistical Review," and other industry sources. • 1985-1987 monthly data for world: Sum of data for all countries using above sources.

## Figure 10.1 Petroleum Consumption in OECD Countries



## Table 10.2 Petroleum Consumption in OECD Countries[a]
(Thousand Barrels per Day)

| | Canada | France | Italy | Japan | United Kingdom | United States | West Germany | OECD Europe[b] | Other OECD[c] | OECD[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average** | **1,707** | **2,422** | **2,147** | **5,071** | **2,301** | **17,308** | **2,915** | **14,521** | **1,006** | **39,612** |
| **1974 Average** | **1,740** | **2,260** | **2,090** | **4,960** | **2,138** | **16,653** | **2,612** | **13,708** | **1,056** | **38,117** |
| **1975 Average** | **1,718** | **2,136** | **1,940** | **4,502** | **1,872** | **16,322** | **2,515** | **13,059** | **999** | **36,600** |
| **1976 Average** | **1,751** | **2,280** | **1,991** | **4,771** | **1,856** | **17,461** | **2,708** | **13,813** | **1,068** | **38,864** |
| **1977 Average** | **1,779** | **2,235** | **1,907** | **5,231** | **1,880** | **18,431** | **2,837** | **13,795** | **1,123** | **40,359** |
| **1978 Average** | **1,823** | **2,169** | **1,948** | **5,142** | **1,850** | **18,847** | **3,048** | **13,963** | **1,117** | **40,892** |
| **1979 Average** | **1,893** | **2,385** | **2,013** | **5,480** | **1,930** | **18,513** | **3,073** | **14,670** | **1,090** | **41,646** |
| **1980 Average** | **1,873** | **2,256** | **1,934** | **4,960** | **1,725** | **17,056** | **2,707** | **13,634** | **1,072** | **38,595** |
| **1981 Average** | **1,768** | **2,023** | **1,874** | **4,848** | **1,590** | **16,058** | **2,449** | **12,515** | **1,080** | **36,269** |
| **1982 Average** | **1,576** | **1,927** | **1,779** | **4,549** | **1,584** | **15,296** | **2,323** | **12,069** | **1,000** | **34,489** |
| **1983 Average** | **1,486** | **1,891** | **1,727** | **4,365** | **1,518** | **15,231** | **2,287** | **11,772** | **940** | **33,794** |
| **1984 Average** | **1,491** | **1,838** | **1,633** | **4,574** | **1,822** | **15,726** | **2,296** | **11,781** | **994** | **34,565** |
| **1985** January | 1,598 | 2,363 | 1,997 | 4,884 | 2,130 | 16,109 | 2,390 | 13,522 | 973 | 37,085 |
| February | 1,564 | 2,022 | 1,919 | 5,259 | 2,274 | 16,121 | 2,271 | 13,076 | 1,026 | 37,046 |
| March | 1,395 | 1,715 | 1,679 | 4,677 | 1,737 | 15,373 | 2,116 | 11,346 | 1,026 | 33,818 |
| April | 1,420 | 1,797 | 1,483 | 3,958 | 1,506 | 15,472 | 2,234 | 11,081 | 1,059 | 32,990 |
| May | 1,528 | 1,652 | 1,534 | 3,718 | 1,431 | 15,504 | 2,281 | 10,678 | 1,004 | 32,432 |
| June | 1,374 | 1,555 | 1,467 | 3,698 | 1,385 | 15,483 | 2,353 | 10,565 | 965 | 32,086 |
| July | 1,501 | 1,704 | 1,623 | 4,000 | 1,445 | 15,434 | 2,626 | 11,405 | 1,003 | 33,343 |
| August | 1,559 | 1,531 | 1,277 | 4,106 | 1,425 | 16,060 | 2,705 | 11,042 | 927 | 33,693 |
| September | 1,515 | 1,777 | 1,729 | 3,999 | 1,486 | 15,099 | 2,257 | 11,447 | 983 | 33,043 |
| October | 1,572 | 1,865 | 1,719 | 4,004 | 1,502 | 15,944 | 2,496 | 11,987 | 914 | 34,422 |
| November | 1,529 | 1,848 | 1,625 | 4,483 | 1,595 | 15,503 | 2,242 | 11,637 | 1,037 | 34,189 |
| December | 1,649 | 1,773 | 1,947 | 5,256 | 1,421 | 16,611 | 2,174 | 11,653 | 1,023 | 36,191 |
| **Average** | **1,517** | **1,799** | **1,666** | **4,333** | **1,607** | **15,726** | **2,347** | **11,613** | **995** | **34,183** |
| **1986** January | 1,557 | 2,017 | 1,858 | 4,959 | 1,467 | 16,088 | 2,505 | 12,337 | 879 | 35,820 |
| February | 1,572 | 2,335 | 1,844 | 5,211 | 1,771 | 16,186 | 2,743 | 13,339 | 949 | 37,257 |
| March | 1,338 | 1,833 | 1,600 | 4,744 | 1,550 | 16,276 | 2,416 | 11,677 | 925 | 34,960 |
| April | 1,405 | 2,059 | 1,476 | 4,057 | 1,676 | 15,945 | 2,972 | R 12,662 | 930 | R 35,000 |
| May | 1,458 | 1,547 | 1,361 | 3,718 | 1,461 | 15,993 | 2,712 | R 11,190 | 1,009 | R 33,368 |
| June | 1,537 | 1,581 | 1,415 | 3,709 | 1,531 | 16,049 | 2,860 | R 11,555 | 931 | R 33,781 |
| July | 1,531 | 1,776 | 1,632 | 3,778 | 1,473 | 16,307 | 2,735 | 11,976 | 933 | 34,525 |
| August | 1,505 | 1,748 | 1,318 | 3,978 | 1,531 | 16,618 | 2,245 | 11,332 | 975 | 34,407 |
| September | 1,520 | 1,711 | 1,699 | 4,062 | 1,741 | 15,909 | 2,165 | 12,007 | 1,028 | 34,526 |
| October | 1,618 | 1,720 | 1,902 | 4,272 | 1,570 | 16,602 | 2,199 | R 11,880 | 1,017 | R 35,389 |
| November | 1,523 | 1,803 | 1,925 | 4,738 | 1,639 | 16,221 | 2,142 | R 11,733 | 843 | R 35,058 |
| December | 1,654 | 1,892 | 1,998 | 5,416 | 1,592 | 17,131 | 2,267 | R 12,497 | 1,066 | R 37,763 |
| **Average** | **1,518** | **1,832** | **1,668** | **4,383** | **1,581** | **16,281** | **2,494** | **R 12,005** | **958** | **R 35,144** |
| **1987** January | R 1,399 | 2,177 | 1,981 | 4,818 | 1,582 | 16,382 | 2,193 | R 12,554 | 911 | R 36,063 |
| February | R 1,643 | 2,073 | 1,747 | 5,075 | 1,568 | 16,721 | 2,456 | R 12,633 | 824 | R 36,896 |
| March | R 1,509 | 1,929 | 1,951 | 4,700 | 1,594 | 15,965 | 2,448 | R 12,462 | 937 | R 35,573 |
| April | R 1,442 | R 1,837 | 1,573 | 4,015 | 1,548 | 16,501 | 2,351 | R 11,625 | 938 | R 34,521 |
| May | R 1,576 | R 1,553 | 1,378 | 3,672 | 1,416 | 15,978 | 2,283 | R 10,626 | 858 | R 32,710 |
| June | R 1,589 | R 1,683 | 1,626 | 3,896 | 1,496 | 16,815 | 2,526 | R 11,765 | 974 | R 35,038 |
| July | R 1,578 | R 1,741 | 1,804 | R 4,069 | R 1,477 | 16,996 | 2,651 | R 12,051 | R 995 | R 35,689 |
| August | R 1,467 | R 1,585 | 1,417 | R 4,153 | R 1,468 | 16,325 | 2,434 | R 11,375 | R 856 | R 34,176 |
| September | 1,550 | 1,824 | 1,786 | 4,220 | 1,623 | 16,533 | 2,494 | 12,341 | 1,052 | 35,696 |
| **9-Mo. Average** | **1,527** | **1,820** | **1,696** | **4,285** | **1,530** | **16,464** | **2,425** | **11,929** | **928** | **35,133** |

[a]The Organization for Economic Cooperation and Development (OECD) consists of Canada, Japan, and the United States, as well as "OECD Europe" and "Other OECD."

[b]"OECD Europe" consists of Austria, Belgium, Denmark, Finland, France, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and West Germany.

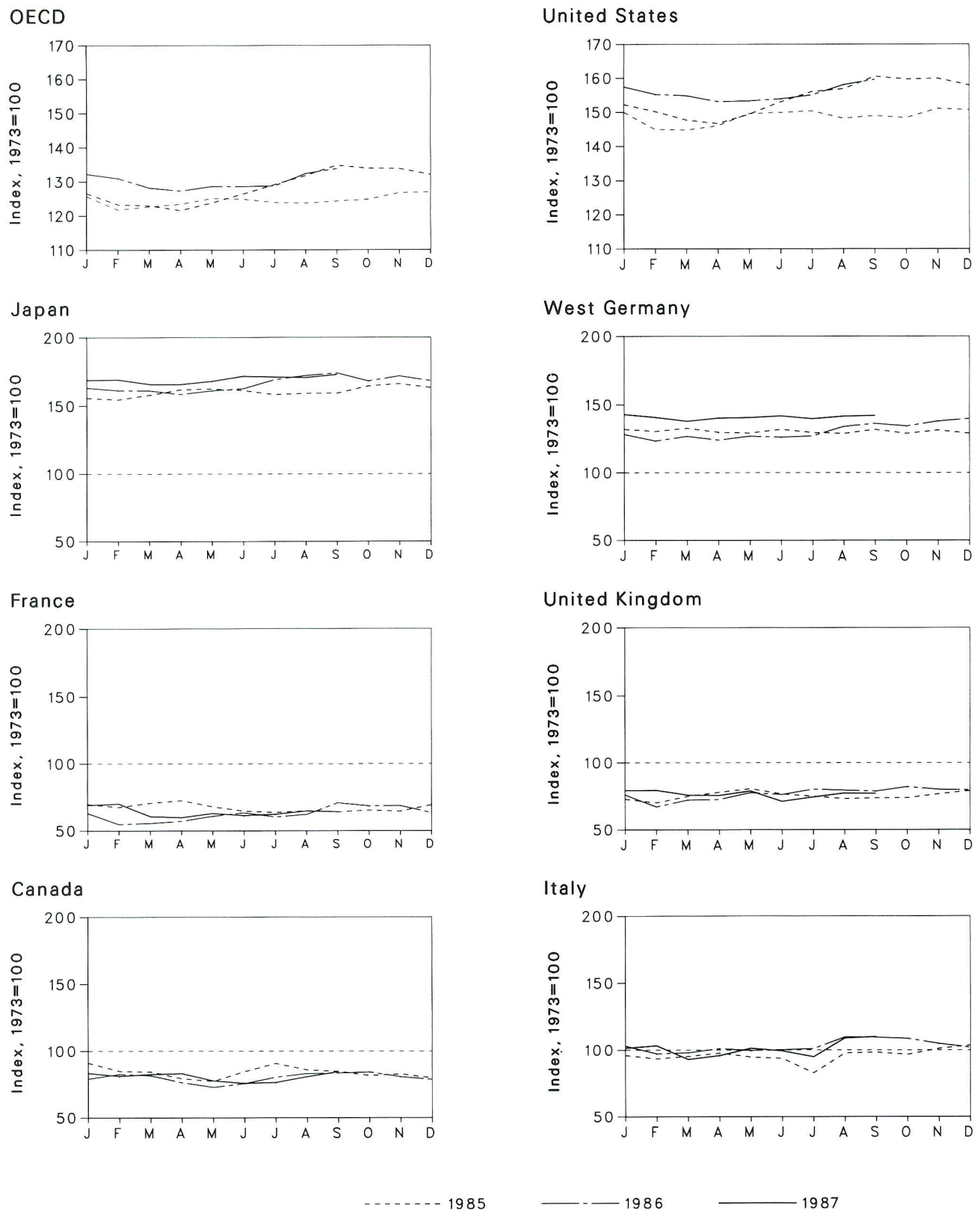
[c]"Other OECD" consists of Australia, New Zealand, and the U.S. Territories.

R = Revised data.

Notes: • U.S. geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Data through 1984 are final. Subsequent data are preliminary.

Sources: • U.S. data: EIA, *Petroleum Supply Monthly.* • OECD data: OECD, *Quarterly Oil Statistics, Monthly Oil Statistics.*

## Figure 10.2 Petroleum Stocks in OECD Countries, End of Period



# Table 10.3 Petroleum Stocks[a] in OECD Countries,[b] End of Period
(Million Barrels)

| | Canada | France | Italy | Japan | United Kingdom | United States | West Germany | OECD Europe[c] | Other OECD[d] | OECD[b] |
|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Year** | **140** | **201** | **152** | **303** | **156** | **1,008** | **181** | **1,070** | **67** | **2,588** |
| **1974 Year** | **145** | **249** | **167** | **370** | **161** | **1,074** | **213** | **1,227** | **64** | **2,880** |
| **1975 Year** | **174** | **225** | **143** | **375** | **165** | **1,133** | **187** | **1,154** | **67** | **2,903** |
| **1976 Year** | **153** | **234** | **143** | **380** | **165** | **1,112** | **208** | **1,205** | **68** | **2,918** |
| **1977 Year** | **167** | **239** | **161** | **409** | **148** | **1,312** | **225** | **1,268** | **68** | **3,224** |
| **1978 Year** | **144** | **201** | **154** | **413** | **157** | **1,278** | **238** | **1,219** | **68** | **3,122** |
| **1979 Year** | **150** | **226** | **163** | **460** | **169** | **1,341** | **272** | **1,353** | **75** | **3,379** |
| **1980 Year** | **164** | **243** | **170** | **495** | **168** | **1,392** | **319** | **1,464** | **72** | **3,587** |
| **1981 Year** | **161** | **214** | **167** | **482** | **143** | **1,484** | **297** | **1,337** | **67** | **3,531** |
| **1982 Year** | **136** | **193** | **179** | **484** | **125** | **1,430** | **272** | **1,258** | **68** | **3,376** |
| **1983 Year** | **120** | **153** | **149** | **471** | **119** | **1,454** | **250** | **1,145** | **68** | **3,258** |
| **1984 Year** | **127** | **153** | **159** | **480** | **113** | **1,556** | **240** | **1,132** | **69** | **3,364** |
| **1985** January | 128 | 140 | 146 | 472 | 114 | 1,512 | 239 | 1,071 | 70 | 3,253 |
| February | 119 | 135 | 142 | 468 | 109 | 1,462 | 236 | 1,032 | 71 | 3,153 |
| March | 118 | 142 | 145 | 479 | 117 | 1,460 | 240 | 1,053 | 65 | 3,175 |
| April | 111 | 146 | 148 | 491 | 121 | 1,473 | 235 | 1,053 | 67 | 3,195 |
| May | 108 | 136 | 144 | 492 | 125 | 1,508 | 234 | 1,063 | 65 | 3,237 |
| June | 119 | 130 | 142 | 489 | 119 | 1,511 | 239 | 1,050 | 64 | 3,233 |
| July | 127 | 128 | 126 | 480 | 117 | 1,516 | 234 | 1,022 | 62 | 3,207 |
| August | 120 | 130 | 149 | 482 | 114 | 1,494 | 233 | 1,042 | 62 | 3,200 |
| September | 119 | 129 | 149 | 483 | 115 | 1,502 | 238 | 1,052 | 62 | 3,218 |
| October | 114 | 131 | 147 | 498 | 115 | 1,496 | 233 | 1,056 | 65 | 3,230 |
| November | 116 | 130 | 154 | 503 | 119 | 1,523 | 237 | 1,072 | 65 | 3,279 |
| December | 112 | 139 | 157 | 495 | 123 | 1,519 | 233 | 1,094 | 67 | 3,286 |
| **1986** January | 111 | 127 | 157 | 495 | 118 | 1,535 | 232 | 1,071 | 66 | 3,277 |
| February | 116 | 110 | 148 | 489 | 104 | 1,514 | 223 | 1,004 | 68 | 3,190 |
| March | 114 | 112 | 149 | 489 | 113 | 1,489 | 229 | 1,023 | 70 | 3,184 |
| April | 107 | 115 | 154 | 480 | 113 | 1,479 | 224 | 1,017 | 65 | 3,148 |
| May | 102 | 122 | 151 | 488 | 121 | 1,506 | 230 | 1,048 | 60 | 3,204 |
| June | 106 | 127 | 152 | 493 | 119 | 1,543 | 228 | R 1,063 | 67 | R 3,271 |
| July | 112 | 121 | 154 | 513 | 125 | 1,573 | 230 | 1,074 | 68 | 3,340 |
| August | 116 | 125 | 167 | 522 | 124 | 1,582 | 242 | 1,123 | 68 | 3,411 |
| September | 117 | 142 | 167 | 527 | 123 | 1,618 | 247 | 1,155 | 72 | 3,489 |
| October | 118 | 137 | 165 | 510 | 128 | 1,610 | 243 | 1,155 | 72 | 3,465 |
| November | 113 | 138 | 159 | 520 | 125 | 1,612 | 250 | 1,146 | 71 | 3,462 |
| December | 110 | 127 | 155 | 510 | 124 | 1,593 | 253 | 1,134 | 71 | 3,418 |
| **1987** January | 117 | 138 | 154 | 512 | 123 | 1,588 | 259 | 1,136 | 71 | 3,424 |
| February | 114 | 140 | 157 | 513 | 124 | 1,565 | 255 | 1,126 | 73 | 3,390 |
| March | 115 | 122 | 141 | 503 | 118 | 1,561 | 250 | 1,068 | 72 | 3,319 |
| April | 116 | 120 | 146 | 502 | 118 | 1,544 | 254 | 1,064 | 68 | 3,294 |
| May | 109 | 126 | 154 | 509 | 123 | 1,546 | 255 | 1,094 | 70 | 3,328 |
| June | 106 | 123 | 151 | 520 | 111 | 1,552 | 257 | R 1,082 | 69 | R 3,329 |
| July | 107 | 125 | 144 | 519 | 116 | 1,563 | 253 | R 1,071 | 72 | R 3,332 |
| August | 113 | 130 | 166 | 517 | 120 | 1,594 | 256 | R 1,130 | 73 | R 3,427 |
| September | 118 | 129 | 167 | 524 | 120 | 1,609 | 257 | 1,139 | 72 | 3,462 |

[a]Petroleum stocks include crude oil (including strategic reserves), unfinished oils, natural gas plant liquids, and refined products. Petroleum stocks include all nonmilitary petroleum held for storage, regardless of ownership, within each country in bulk terminals, refinery tanks, pipeline tankage, intercoastal tankers, tankers in port, and inland ship bunkers. Data exclude oil held in pipelines (except for the United States), rail and truck cars, sea-going ships' bunkers, service stations, retail stores, and tankers at sea.

[b]The Organization for Economic Cooperation and Development (OECD) includes Canada, Japan, and the United States, as well as "OECD Europe" and "Other OECD."

[c]"OECD Europe" consists of Austria, Belgium, Denmark, Finland, France, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and West Germany.

[d]"Other OECD" consists of Australia, New Zealand, and the U.S. Territories.

R=Revised data.

Notes: • U.S. geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • In the United States in January 1975, 1981, and 1983, numerous respondents were added to bulk terminal and pipeline surveys affecting subsequent stocks reported. Using the new basis, the end-of-year U.S. stocks, in million barrels, would have been 1,121 in 1974, 1,420 in 1980, and 1,462 in 1982.

Sources: • U.S. data: EIA, *Petroluem Supply Monthly.* • OECD data: OECD, *Quarterly Oil Statistics, Monthly Oil Statistics.*

# Table 10.4a Nuclear Electricity Generation by Non-Communist Countries[a]
(Billion Gross Kilowatthours)

| | Argentina | Belgium | Brazil | Canada | Finland | France | India | Italy | Japan | Netherlands | Pakistan |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **0** | **0** | **0** | **15.3** | **0** | **14.7** | **2.5** | **3.1** | **9.4** | **1.1** | **0.5** |
| **1974 Total** | **1.0** | **0.1** | **0** | **15.4** | **0** | **14.7** | **1.9** | **3.4** | **18.9** | **3.3** | **.6** |
| **1975 Total** | **2.5** | **6.8** | **0** | **13.2** | **0** | **18.3** | **2.5** | **3.8** | **21.3** | **3.3** | **.5** |
| **1976 Total** | **2.6** | **10.0** | **0** | **18.0** | **0** | **15.8** | **3.2** | **3.8** | **36.6** | **3.9** | **.5** |
| **1977 Total** | **1.6** | **11.9** | **0** | **26.6** | **2.7** | **17.9** | **2.8** | **3.4** | **28.2** | **3.7** | **.3** |
| **1978 Total** | **2.9** | **12.5** | **0** | **33.0** | **3.3** | **30.6** | **2.3** | **4.5** | **53.1** | **4.1** | **.2** |
| **1979 Total** | **2.7** | **11.4** | **0** | **38.4** | **6.7** | **39.9** | **3.2** | **2.6** | **62.0** | **3.5** | **(s)** |
| **1980 Total** | **2.3** | **12.5** | **0** | **40.4** | **7.0** | **61.2** | **2.9** | **2.2** | **82.8** | **4.2** | **.1** |
| **1981 Total** | **2.8** | **12.8** | **0** | **43.3** | **14.5** | **105.2** | **3.1** | **2.7** | **86.0** | **3.7** | **.2** |
| **1982 Total** | **1.9** | **15.6** | **0.1** | **42.6** | **16.5** | **108.9** | **2.2** | **6.8** | **104.5** | **3.9** | **.1** |
| **1983 Total** | **3.4** | **24.1** | **.2** | **53.0** | **17.4** | **144.2** | **2.9** | **5.8** | **109.1** | **3.6** | **.2** |
| **1984 Total** | **4.5** | **27.7** | **2.1** | **53.8** | **18.5** | **191.2** | **4.1** | **6.9** | **127.2** | **3.8** | **.3** |
| **1985** January | .2 | 2.5 | .4 | 5.7 | 1.7 | 21.9 | .2 | .8 | 12.2 | .4 | (s) |
| February | .4 | 1.7 | .3 | 5.0 | 1.6 | 19.2 | .2 | .7 | 10.7 | .3 | (s) |
| March | .5 | 2.0 | .3 | 5.9 | 1.8 | 20.6 | .4 | .8 | 12.0 | .2 | 0 |
| April | .4 | 2.2 | .1 | 5.2 | 1.6 | 17.7 | .6 | .7 | 11.8 | (s) | 0 |
| May | .4 | 2.8 | .2 | 2.4 | 1.2 | 15.9 | .5 | .7 | 13.0 | .2 | 0 |
| June | .4 | 2.8 | .4 | 4.2 | 1.2 | 13.6 | .4 | .6 | 12.6 | .4 | (s) |
| July | .5 | 2.5 | .3 | 5.7 | 1.4 | 16.1 | .4 | .6 | 12.5 | .4 | .1 |
| August | .5 | 3.2 | .1 | 6.0 | 1.5 | 15.4 | .2 | .5 | 12.9 | .4 | (s) |
| September | .5 | 3.3 | .3 | 5.4 | 1.6 | 17.2 | .3 | .3 | 12.8 | .4 | 0 |
| October | .6 | 3.9 | .4 | 5.1 | 1.7 | 20.0 | .4 | .3 | 13.9 | .4 | (s) |
| November | .7 | 3.9 | .3 | 5.8 | 1.7 | 22.1 | .4 | .3 | 13.1 | .4 | .1 |
| December | .7 | 3.8 | .3 | 6.5 | 1.7 | 24.4 | .4 | .6 | 14.7 | .4 | .1 |
| **Total** | **5.8** | **34.5** | **3.4** | **62.9** | **18.8** | **224.0** | **4.5** | **7.0** | **152.0** | **3.9** | **.3** |
| **1986** January | .6 | 3.8 | (s) | 6.5 | 1.8 | 25.6 | .5 | .9 | 15.0 | .4 | (s) |
| February | .6 | 2.8 | 0 | 6.2 | 1.6 | 22.8 | .4 | .5 | 13.5 | .1 | (s) |
| March | .5 | 3.6 | 0 | 7.0 | 1.8 | 23.6 | .5 | .9 | 14.5 | .3 | (s) |
| April | .5 | 3.7 | 0 | 6.0 | 1.7 | 21.0 | .3 | .9 | 12.4 | .4 | (s) |
| May | .7 | 3.2 | 0 | 5.7 | 1.4 | 16.3 | .4 | .7 | 12.8 | .4 | (s) |
| June | .4 | 2.9 | 0 | 5.4 | 1.1 | 16.7 | .4 | .9 | 15.0 | .4 | (s) |
| July | .4 | 3.0 | 0 | 5.3 | 1.3 | 18.8 | .5 | .9 | 15.2 | .4 | (s) |
| August | .6 | 3.1 | 0 | 6.6 | 1.4 | 16.5 | .5 | .9 | 14.8 | .4 | .1 |
| September | .6 | 3.1 | 0 | 6.2 | 1.5 | 19.0 | .4 | .9 | 13.4 | .4 | .1 |
| October | .2 | 3.2 | 0 | 6.6 | 1.8 | 22.4 | .3 | .8 | 12.7 | .4 | (s) |
| November | .2 | 3.0 | (s) | 6.4 | 1.7 | 24.1 | .5 | .3 | 11.7 | .3 | (s) |
| December | .3 | 3.3 | .1 | 6.7 | 1.7 | 27.4 | .5 | .1 | 13.8 | .4 | (s) |
| **Total** | **5.7** | **38.6** | **.1** | **74.6** | **18.8** | **254.3** | **5.1** | **8.7** | **164.8** | **4.2** | **.5** |
| **1987** January | .7 | 4.1 | 0 | 7.2 | 1.8 | 27.3 | .5 | .1 | 14.7 | .2 | .1 |
| February | .5 | 3.6 | 0 | 6.7 | 1.6 | 25.2 | .5 | .1 | 13.0 | (s) | (s) |
| March | .6 | 3.4 | (s) | 7.0 | 1.8 | 25.8 | .4 | (s) | 15.1 | .1 | (s) |
| April | .7 | 3.3 | .3 | 6.7 | 1.7 | 20.6 | .5 | 0 | 14.4 | .4 | (s) |
| May | .6 | 2.9 | .4 | 4.8 | 1.3 | 20.2 | .4 | 0 | 14.2 | .4 | (s) |
| June | .4 | 2.3 | .3 | 6.5 | 1.3 | 19.7 | .5 | 0 | 13.9 | .4 | (s) |
| July | .7 | 3.2 | 0 | 6.8 | 1.4 | 18.3 | .5 | 0 | 15.2 | .4 | (s) |
| August | .1 | 3.6 | 0 | 6.5 | 1.6 | 16.1 | .5 | 0 | 14.9 | .4 | 0 |
| September | .4 | 3.6 | 0 | 6.3 | 1.7 | 20.1 | .5 | 0 | 16.7 | .4 | 0 |
| October | 0 | 3.6 | 0 | 7.4 | 1.8 | 20.6 | .3 | 0 | 17.4 | .2 | 0 |
| November | 0 | 4.0 | 0 | 7.1 | 1.7 | 24.5 | .5 | 0 | 16.9 | .4 | (s) |
| December | .5 | 4.3 | 0 | 7.5 | 1.8 | 27.0 | .4 | 0 | 16.5 | .4 | (s) |
| **Total** | **5.2** | **41.9** | **1.0** | **80.6** | **19.4** | **265.5** | **5.5** | **.2** | **182.8** | **3.6** | **.3** |

[a]Figures are for gross electricity generation, as opposed to net electricity generation. Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves.

[b]Monthly data for the United Kingdom are totals for 4- or 5-week reporting periods, not calendar months.

(s) = Less than 0.05 billion gross kilowatthours.

Footnotes continued on following page.

## Table 10.4b Nuclear Electricity Generation by Non-Communist Countries[a] (continued)

(Billion Gross Kilowatthours)

| | South Africa | South Korea | Spain | Sweden | Switzerland | Taiwan | United Kingdom[b] | West Germany | Non-Communist World Excluding U.S. | United States | Non-Communist World |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **0** | **0** | **6.5** | **2.1** | **6.2** | **0** | **28.2** | **11.9** | **101.4** | **87.8** | **189.3** |
| **1974 Total** | **0** | **0** | **7.2** | **2.3** | **7.0** | **0** | **33.8** | **12.0** | **121.7** | **124.3** | **246.0** |
| **1975 Total** | **0** | **0** | **7.5** | **12.0** | **7.7** | **0** | **30.5** | **21.7** | **151.8** | **182.3** | **334.1** |
| **1976 Total** | **0** | **0** | **7.6** | **16.0** | **7.9** | **0** | **36.8** | **24.5** | **187.1** | **201.8** | **388.9** |
| **1977 Total** | **0** | **0.1** | **6.5** | **19.9** | **8.1** | **0.1** | **38.1** | **36.0** | **207.8** | **264.2** | **472.0** |
| **1978 Total** | **0** | **2.3** | **7.6** | **23.8** | **8.3** | **2.7** | **36.6** | **35.7** | **263.5** | **292.4** | **555.9** |
| **1979 Total** | **0** | **3.2** | **6.7** | **21.0** | **11.8** | **6.3** | **38.5** | **42.2** | **300.1** | **270.6** | **570.7** |
| **1980 Total** | **0** | **3.5** | **5.2** | **26.7** | **14.3** | **8.2** | **37.2** | **43.7** | **354.3** | **265.4** | **619.8** |
| **1981 Total** | **0** | **2.9** | **9.4** | **37.7** | **15.2** | **10.7** | **38.9** | **53.4** | **442.4** | **288.5** | **730.9** |
| **1982 Total** | **0** | **3.8** | **8.8** | **38.8** | **15.0** | **13.1** | **44.1** | **63.4** | **489.9** | **298.6** | **788.5** |
| **1983 Total** | **0** | **9.0** | **10.7** | **40.4** | **15.5** | **18.9** | **49.6** | **65.8** | **573.9** | **313.6** | **887.5** |
| **1984 Total** | **4.2** | **11.8** | **23.1** | **51.3** | **16.3** | **24.3** | **54.1** | **92.6** | **717.7** | **343.8** | **1,061.5** |
| **1985** January | .3 | 1.1 | 2.2 | 5.4 | 2.2 | 2.4 | 5.7 | 10.8 | 76.1 | 38.0 | 114.1 |
| February | 0 | 1.3 | 1.9 | 5.0 | 2.0 | 2.1 | 5.6 | 10.1 | 68.3 | 32.4 | 100.6 |
| March | 0 | 1.5 | 2.8 | 5.6 | 2.2 | 2.5 | 6.6 | 11.7 | 77.4 | 32.5 | 109.9 |
| April | 0 | 1.3 | 2.4 | 4.5 | 2.2 | 2.7 | 5.1 | 10.6 | 69.0 | 28.3 | 97.3 |
| May | 0 | 1.5 | 2.3 | 3.9 | 1.9 | 2.8 | 4.7 | 9.3 | 63.8 | 31.8 | 95.6 |
| June | .1 | 1.2 | 3.1 | 2.6 | 1.2 | 2.6 | 5.1 | 9.6 | 62.0 | 31.0 | 93.0 |
| July | .8 | 1.1 | 2.2 | 3.1 | 1.3 | 2.2 | 4.1 | 8.4 | 63.7 | 36.4 | 100.2 |
| August | .8 | 1.2 | 2.1 | 4.3 | 1.0 | 2.2 | 3.8 | 9.5 | 65.5 | 36.8 | 102.3 |
| September | 1.0 | 1.3 | 2.1 | 4.7 | 1.7 | 2.6 | 4.9 | 10.3 | 70.7 | 35.9 | 106.6 |
| October | 1.1 | 1.4 | 2.2 | 5.4 | 2.2 | 2.6 | 4.3 | 11.3 | 77.2 | 32.1 | 109.3 |
| November | .8 | 1.7 | 2.2 | 7.0 | 2.2 | 1.7 | 3.7 | 11.8 | 79.7 | 31.7 | 111.4 |
| December | .9 | 1.9 | 2.6 | 6.9 | 2.2 | 2.5 | 6.0 | 12.4 | 89.1 | 35.7 | 124.7 |
| **Total** | **5.7** | **16.5** | **28.0** | **58.6** | **22.4** | **28.7** | **59.6** | **125.8** | **862.4** | **402.6** | **1,265.0** |
| **1986** January | 1.0 | 2.0 | 3.1 | 6.8 | 2.3 | 2.9 | 4.8 | 12.1 | 90.0 | 38.1 | 128.1 |
| February | .6 | 1.7 | 2.5 | 6.4 | 2.1 | 2.1 | 5.3 | 10.4 | 79.8 | 34.1 | 113.8 |
| March | .7 | 1.5 | 2.4 | 7.2 | 2.3 | 2.2 | 6.4 | 10.8 | 86.2 | 31.2 | 117.3 |
| April | .7 | 1.6 | 3.0 | 6.7 | 2.2 | 2.0 | 4.2 | 9.8 | 77.0 | 32.2 | 109.2 |
| May | .7 | 2.4 | 3.6 | 4.8 | 2.1 | 2.0 | 4.4 | 9.7 | 71.4 | 33.7 | 105.1 |
| June | .2 | 2.2 | 3.9 | 4.1 | 1.2 | 1.6 | 5.1 | 9.2 | 70.6 | 33.2 | 103.8 |
| July | .6 | 2.0 | 3.1 | 3.8 | .9 | 1.8 | 4.1 | 8.1 | 70.2 | 38.0 | 108.3 |
| August | .7 | 2.4 | 2.9 | 4.3 | 1.0 | 1.9 | 4.2 | 8.2 | 70.5 | 39.2 | 109.7 |
| September | .9 | 2.1 | 2.7 | 5.1 | 1.9 | 2.0 | 4.9 | 9.2 | 74.3 | 37.9 | 112.1 |
| October | 1.0 | 3.0 | 3.4 | 6.5 | 2.3 | 2.4 | 4.1 | 8.9 | 80.0 | 37.9 | 117.9 |
| November | 1.3 | 2.2 | 3.4 | 6.9 | 2.1 | 2.8 | 4.8 | 10.4 | 82.3 | 36.3 | 118.7 |
| December | .9 | 3.1 | 3.2 | 7.3 | 2.2 | 3.1 | 6.1 | 12.1 | 92.5 | 41.2 | 133.6 |
| **Total** | **9.3** | **26.1** | **37.5** | **69.9** | **22.5** | **26.9** | **58.2** | **118.9** | **944.8** | **432.9** | **1,377.8** |
| **1987** January | .7 | 3.2 | 3.4 | 7.2 | 2.3 | 3.2 | 5.0 | 12.2 | 93.9 | 42.0 | 135.9 |
| February | .7 | 3.0 | 3.3 | 6.6 | 2.1 | 3.1 | 5.2 | 11.8 | 86.9 | 38.2 | 125.0 |
| March | .8 | 2.5 | 4.0 | 7.1 | 2.3 | 3.0 | 6.7 | 12.6 | 93.3 | 39.1 | 132.4 |
| April | .5 | 2.4 | 3.7 | 6.1 | 2.2 | 2.6 | 4.6 | 10.7 | 81.4 | 35.0 | 116.4 |
| May | .7 | 3.1 | 2.1 | 4.8 | 1.9 | 3.2 | 4.4 | 8.7 | 74.3 | 36.3 | 110.6 |
| June | .6 | 3.8 | 2.5 | 3.5 | 1.1 | 3.1 | 4.1 | 8.6 | 72.6 | 38.4 | 111.0 |
| July | .4 | 3.3 | 3.3 | 2.7 | 1.3 | 3.0 | 3.4 | 8.6 | 72.5 | 42.7 | 115.2 |
| August | .8 | 3.2 | 3.3 | 4.1 | 1.0 | 2.9 | 4.0 | 9.3 | 72.4 | 43.2 | 115.6 |
| September | .3 | 2.9 | 3.5 | 5.1 | 1.9 | 2.5 | 5.1 | 10.3 | 81.3 | 41.9 | 123.2 |
| October | .4 | 3.2 | 3.9 | 6.0 | 2.3 | 2.4 | 3.9 | 12.0 | 85.3 | 38.1 | 123.4 |
| November | .7 | 3.4 | 3.9 | 6.8 | 2.2 | 2.1 | 3.7 | 12.5 | 90.4 | 39.1 | 129.5 |
| December | 0 | 3.8 | 4.1 | 7.2 | 2.3 | 2.1 | 6.2 | 12.9 | 97.0 | 43.9 | 140.9 |
| **Total** | **6.6** | **37.8** | **41.2** | **67.2** | **23.0** | **33.1** | **56.2** | **130.2** | **1,001.2** | **477.9** | **1,479.1** |

Footnotes continued.

Notes: • U.S. geographic coverage is the 50 States and the District of Columbia. • Monthly data may not sum to annual totals due to independent rounding, revisions in annual data not reflected in the monthly data, or both. Data for countries may not sum to world totals due to independent rounding.

Source: *Nucleonics Week* (New York: McGraw-Hill Publishing Company).

# Conversion Factors

## Units of Measure

| | | |
|---|---|---|
| **Coal** | | |
| 1 metric ton | contains | 1,000 kilograms or 2,204.62 pounds |
| 1 long ton | contains | 2,240 pounds |
| 1 short ton | contains | 2,000 pounds |
| **Crude Oil (Average Gravity)** | | |
| 1 barrel | contains | 42 gallons |
| 1 barrel | contains | 0.136 metric tons (0.150 short tons) |
| 1 metric ton | contains | 7.33 barrels |
| 1 short ton | contains | 6.65 barrels |
| **Uranium** | | |
| 1 short ton ($U_3O_8$) | contains | 0.769 metric tons of uranium |
| 1 short ton ($UF_6$) | contains | 0.613 metric tons of uranium |
| 1 metric ton ($UF_6$) | contains | 0.676 metric tons of uranium |

## Approximate Heat Content of Petroleum Products

| | Million Btu per Barrel |
|---|---|
| Asphalt | 6.636 |
| Aviation gasoline | 5.048 |
| Butane | 4.326 |
| Butane-propane mixture[a] | 4.130 |
| Distillate fuel oil | 5.825 |
| Ethane | 3.082 |
| Ethane-propane mixture[b] | 3.308 |
| Isobutane | 3.974 |
| Jet fuel--kerosene type | 5.670 |
| Jet fuel--naphtha type | 5.355 |
| Kerosene | 5.670 |
| Lubricants | 6.065 |
| Motor gasoline | 5.253 |
| Natural gasoline | 4.620 |
| Pentanes plus | 4.620 |
| Petrochemical feedstocks | |
| Naphtha 400 °F or less | 5.248 |
| Other oils over 400 °F | 5.825 |
| Still gas | |
| Petroleum coke | 6.024 |
| Plant condensate | 5.418 |
| Propane | 3.836 |
| Residual fuel oil | 6.287 |
| Road oil | 6.636 |
| Special naphthas | 5.248 |
| Still gas | 6.000 |
| Unfinished oils | 5.825 |
| Unfractionated stream | 5.418 |
| Waxes | 5.537 |
| Miscellaneous | 5.796 |

[a]60 percent butane and 40 percent propane.
[b]70 percent ethane and 30 percent propane.

# Approximate Heat Content of Fuels, 1973-1980

| | Units | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|---|---|---|---|---|---|---|---|---|---|
| Coal | | | | | | | | | |
| Production | Million Btu/short ton | 23.376 | 23.072 | 22.897 | 22.855 | 22.597 | 22.248 | 22.454 | 22.415 |
| Consumption | Million Btu/short ton | 23.057 | 22.677 | 22.506 | 22.498 | 22.265 | 22.017 | 22.100 | 21.947 |
| Non-electric utility users | Million Btu/short ton | 24.878 | 24.783 | 24.745 | 24.861 | 24.701 | 24.496 | 24.626 | 24.731 |
| Electric utilities | Million Btu/short ton | 22.246 | 21.781 | 21.642 | 21.679 | 21.508 | 21.275 | 21.364 | 21.295 |
| Imports | Million Btu/short ton | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 |
| Exports | Million Btu/short ton | 26.596 | 26.700 | 26.562 | 26.601 | 26.548 | 26.478 | 26.548 | 26.384 |
| Anthracite | | | | | | | | | |
| Production | Million Btu/short ton | 22.132 | 21.711 | 21.582 | 22.045 | 22.661 | 23.079 | 23.170 | 22.869 |
| Consumption | Million Btu/short ton | 21.464 | 20.919 | 20.762 | 21.254 | 22.066 | 22.398 | 22.069 | 21.405 |
| Non-electric utility users | Million Btu/short ton | 22.674 | 22.330 | 22.272 | 22.618 | 24.101 | 24.388 | 24.272 | 22.719 |
| Electric utilities | Million Btu/short ton | 17.920 | 17.200 | 17.064 | 17.526 | 17.244 | 17.104 | 17.454 | 17.652 |
| Imports and exports | Million Btu/short ton | 25.400 | 25.400 | 25.400 | 25.400 | 25.400 | 25.400 | 25.400 | 25.400 |
| Bituminous coal and lignite | | | | | | | | | |
| Production | Million Btu/short ton | 23.391 | 23.087 | 22.910 | 22.863 | 22.597 | 22.242 | 22.449 | 22.411 |
| Consumption | Million Btu/short ton | 23.073 | 22.694 | 22.522 | 22.509 | 22.266 | 22.014 | 22.100 | 21.950 |
| Residential and commercial | Million Btu/short ton | 22.887 | 22.523 | 22.258 | 22.819 | 22.594 | 22.078 | 21.884 | 22.488 |
| Coke plants | Million Btu/short ton | 26.800 | 26.800 | 26.800 | 26.800 | 26.800 | 26.800 | 26.800 | 26.800 |
| Other industrial and transportation | Million Btu/short ton | 22.585 | 22.420 | 22.439 | 22.528 | 22.290 | 22.175 | 22.436 | 22.690 |
| Electric utilities | Million Btu/short ton | 22.262 | 21.799 | 21.659 | 21.692 | 21.521 | 21.284 | 21.372 | 21.301 |
| Imports | Million Btu/short ton | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 |
| Exports | Million Btu/short ton | 26.612 | 26.716 | 26.573 | 26.613 | 26.561 | 26.501 | 26.570 | 26.404 |
| Coal coke, imports and exports | Million Btu/short ton | 24.800 | 24.800 | 24.800 | 24.800 | 24.800 | 24.800 | 24.800 | 24.800 |
| Crude oil[a] | | | | | | | | | |
| Production | Million Btu/barrel | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 |
| Imports | Million Btu/barrel | 5.817 | 5.827 | 5.821 | 5.808 | 5.810 | 5.802 | 5.810 | 5.812 |
| Exports | Million Btu/barrel | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 |
| Crude oil and petroleum products | | | | | | | | | |
| Imports | Million Btu/barrel | 5.897 | 5.884 | 5.858 | 5.856 | 5.834 | 5.839 | 5.810 | 5.796 |
| Exports | Million Btu/barrel | 5.752 | 5.774 | 5.748 | 5.745 | 5.797 | 5.808 | 5.832 | 5.820 |
| Petroleum Products[b] | | | | | | | | | |
| Consumption | Million Btu/barrel | 5.515 | 5.504 | 5.494 | 5.504 | 5.518 | 5.519 | 5.494 | 5.479 |
| Residential and commercial | Million Btu/barrel | 5.387 | 5.377 | 5.358 | 5.383 | 5.389 | 5.382 | 5.471 | 5.468 |
| Industrial | Million Btu/barrel | 5.565 | 5.537 | 5.527 | 5.535 | 5.552 | 5.546 | 5.416 | 5.376 |
| Transportation | Million Btu/barrel | 5.397 | 5.394 | 5.392 | 5.396 | 5.402 | 5.407 | 5.430 | 5.440 |
| Electric utilities | Million Btu/barrel | 6.245 | 6.238 | 6.250 | 6.251 | 6.249 | 6.251 | 6.258 | 6.254 |
| Imports | Million Btu/barrel | 5.983 | 5.959 | 5.935 | 5.980 | 5.908 | 5.955 | 5.811 | 5.748 |
| Exports | Million Btu/barrel | 5.752 | 5.773 | 5.747 | 5.743 | 5.796 | 5.814 | 5.864 | 5.841 |
| LPG consumption | Million Btu/barrel | 3.746 | 3.730 | 3.715 | 3.711 | 3.677 | 3.669 | 3.680 | 3.674 |
| Natural gas plant liquids | | | | | | | | | |
| Production | Million Btu/barrel | 4.049 | 4.011 | 3.984 | 3.964 | 3.941 | 3.925 | 3.955 | 3.914 |
| Natural gas | | | | | | | | | |
| Production, dry | Btu/cubic foot | 1,021 | 1,024 | 1,021 | 1,020 | 1,021 | 1,019 | 1,021 | 1,026 |
| Production, marketed (wet) | Btu/cubic foot | 1,093 | 1,097 | 1,095 | 1,093 | 1,093 | 1,088 | 1,092 | 1,098 |
| Consumption | Btu/cubic foot | 1,021 | 1,024 | 1,021 | 1,020 | 1,021 | 1,019 | 1,021 | 1,026 |
| Non-electric utility users | Btu/cubic foot | 1,020 | 1,024 | 1,020 | 1,019 | 1,019 | 1,016 | 1,018 | 1,024 |
| Electric utilities | Btu/cubic foot | 1,024 | 1,022 | 1,026 | 1,023 | 1,029 | 1,034 | 1,035 | 1,035 |
| Imports | Btu/cubic foot | 1,026 | 1,027 | 1,026 | 1,025 | 1,026 | 1,030 | 1,037 | 1,022 |
| Exports | Btu/cubic foot | 1,023 | 1,016 | 1,014 | 1,013 | 1,013 | 1,013 | 1,013 | 1,013 |

# Approximate Heat Rates for Electricity

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Fossil fuel steam-electric power plant generation[c] | Btu/kilowatthour | 10,389 | 10,442 | 10,406 | 10,373 | 10,435 | 10,361 | 10,353 | 10,388 |
| Nuclear power plant generation | Btu/kilowatthour | 10,903 | 11,161 | 11,013 | 11,047 | 10,769 | 10,941 | 10,879 | 10,908 |
| Geothermal energy power plant generation | Btu/kilowatthour | 21,674 | 21,674 | 21,611 | 21,611 | 21,611 | 21,611 | 21,545 | 21,639 |
| Electricity Consumption | Btu/kilowatthour | 3,412 | 3,412 | 3,412 | 3,412 | 3,412 | 3,412 | 3,412 | 3,412 |

[a]Includes lease condensate.

[b]Weighted averages of the products included in each category are calculated using heat content values shown on the first page of this section.

[c]This thermal conversion factor is used for hydroelectric power generation and for wood and waste, wind, photovoltaic, and solar thermal energy consumed at electric utilities.

Sources: See "Thermal Conversion Factor Source Documentation" on the following pages.

# Approximate Heat Content of Fuels, 1981-1987

| | Units | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987[a] |
|---|---|---|---|---|---|---|---|---|
| Coal | | | | | | | | |
| Production | Million Btu/short ton | R 22.308 | R 22.239 | R 22.052 | R 22.010 | R 21.870 | R 21.913 | R 21.946 |
| Consumption | Million Btu/short ton | R 21.713 | R 21.674 | R 21.576 | R 21.573 | R 21.366 | R 21.462 | R 21.531 |
| Non-electric utility users | Million Btu/short ton | R 24.470 | R 24.187 | R 24.062 | R 24.041 | R 23.639 | R 23.635 | R 23.811 |
| Electric utilities | Million Btu/short ton | 21.085 | 21.194 | 21.133 | 21.101 | 20.959 | 21.084 | R 21.157 |
| Imports | Million Btu/short ton | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 |
| Exports | Million Btu/short ton | 26.160 | 26.223 | 26.291 | 26.402 | 26.307 | 26.292 | R 26.344 |
| Anthracite | | | | | | | | |
| Production | Million Btu/short ton | 23.291 | 23.289 | 22.734 | 23.107 | 22.428 | 23.084 | R 23.085 |
| Consumption | Million Btu/short ton | 22.080 | 22.518 | 21.583 | 22.322 | 20.817 | R 21.512 | R 21.657 |
| Non-electric utility users | Million Btu/short ton | 23.749 | 24.578 | 24.536 | 25.128 | 23.031 | 24.399 | R 25.014 |
| Electric utilities | Million Btu/short ton | 18.168 | 18.160 | 16.516 | 17.018 | 16.784 | 15.578 | R 15.970 |
| Imports and exports | Million Btu/short ton | 25.400 | 25.400 | 25.400 | 25.400 | 25.400 | 25.400 | 25.400 |
| Bituminous coal and lignite | | | | | | | | |
| Production | Million Btu/short ton | R 22.301 | R 22.233 | R 22.048 | R 22.005 | R 21.867 | R 21.908 | R 21.941 |
| Consumption | Million Btu/short ton | R 21.710 | R 21.670 | R 21.576 | R 21.570 | R 21.368 | R 21.462 | R 21.531 |
| Residential and commercial | Million Btu/short ton | R 22.010 | R 22.226 | R 22.438 | R 22.406 | R 22.568 | R 22.669 | R 23.441 |
| Coke plants | Million Btu/short ton | 26.800 | 26.800 | 26.800 | 26.800 | 26.800 | 26.800 | 26.800 |
| Other industrial and transportation | Million Btu/short ton | 22.572 | R 22.695 | R 22.680 | R 22.525 | R 22.013 | R 22.185 | R 22.345 |
| Electric utilities | Million Btu/short ton | 21.091 | 21.200 | 21.141 | 21.108 | 20.965 | 21.091 | R 21.164 |
| Imports | Million Btu/short ton | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 | 25.000 |
| Exports | Million Btu/short ton | 26.176 | 26.231 | 26.300 | 26.410 | 26.320 | 26.308 | R 26.358 |
| Coal coke, imports and exports | Million Btu/short ton | 24.800 | 24.800 | 24.800 | 24.800 | 24.800 | 24.800 | 24.800 |
| Crude oil[b] | | | | | | | | |
| Production | Million Btu/barrel | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 |
| Imports | Million Btu/barrel | 5.818 | 5.826 | 5.825 | 5.823 | 5.832 | 5.903 | R 5.902 |
| Exports | Million Btu/barrel | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 |
| Crude oil and petroleum products | | | | | | | | |
| Imports | Million Btu/barrel | 5.775 | 5.775 | 5.774 | 5.745 | 5.736 | 5.808 | R 5.823 |
| Exports | Million Btu/barrel | 5.821 | 5.820 | 5.800 | 5.850 | 5.814 | 5.832 | R 5.868 |
| Petroleum products[c] | | | | | | | | |
| Consumption | Million Btu/barrel | 5.448 | 5.415 | 5.406 | 5.395 | 5.387 | R 5.418 | R 5.399 |
| Residential and commercial | Million Btu/barrel | 5.409 | 5.392 | 5.286 | 5.261 | 5.203 | R 5.238 | R 5.208 |
| Industrial | Million Btu/barrel | 5.310 | 5.262 | 5.273 | 5.256 | 5.265 | R 5.336 | R 5.298 |
| Transportation | Million Btu/barrel | 5.434 | 5.423 | 5.416 | 5.423 | 5.421 | R 5.423 | R 5.420 |
| Electric utilities | Million Btu/barrel | 6.258 | 6.258 | 6.255 | 6.251 | 6.247 | 6.257 | R 6.249 |
| Imports | Million Btu/barrel | 5.659 | 5.664 | 5.677 | 5.613 | 5.572 | 5.624 | R 5.599 |
| Exports | Million Btu/barrel | 5.837 | 5.829 | 5.800 | 5.867 | 5.819 | 5.839 | R 5.885 |
| LPG consumption | Million Btu/barrel | 3.643 | 3.615 | 3.614 | 3.599 | 3.603 | 3.640 | R 3.661 |
| Natural gas plant liquids | | | | | | | | |
| Production | Million Btu/barrel | 3.930 | 3.872 | 3.839 | 3.812 | 3.815 | 3.797 | R 3.805 |
| Natural gas | | | | | | | | |
| Production, dry | Btu/cubic foot | 1,027 | 1,028 | 1,031 | 1,031 | 1,032 | 1,030 | 1,030 |
| Production, marketed (wet) | Btu/cubic foot | 1,103 | 1,107 | 1,115 | 1,109 | 1,112 | 1,110 | 1,110 |
| Consumption | Btu/cubic foot | 1,027 | 1,028 | 1,031 | 1,031 | 1,032 | 1,030 | 1,030 |
| Non-electric utility users | Btu/cubic foot | 1,025 | 1,026 | 1,031 | 1,030 | 1,031 | 1,029 | 1,029 |
| Electric utilities | Btu/cubic foot | 1,035 | 1,036 | 1,030 | 1,035 | 1,038 | 1,034 | 1,034 |
| Imports | Btu/cubic foot | 1,014 | 1,018 | 1,024 | 1,005 | 1,002 | 997 | 997 |
| Exports | Btu/cubic foot | 1,011 | 1,011 | 1,010 | 1,010 | 1,011 | 1,008 | 1,008 |

# Approximate Heat Rates for Electricity

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Fossil fuel steam-electric power plant generation[d] | Btu/kilowatthour | 10,453 | 10,423 | 10,445 | 10,211 | 10,339 | 10,320 | 10,320 |
| Nuclear power plant generation | Btu/kilowatthour | 11,030 | 11,073 | 10,905 | 10,843 | 10,809 | 10,807 | 10,807 |
| Geothermal energy power plant generation | Btu/kilowatthour | 21,639 | 21,629 | 21,290 | 21,303 | 21,263 | 21,263 | 21,263 |
| Electricity Consumption | Btu/kilowatthour | 3,412 | 3,412 | 3,412 | 3,412 | 3,412 | 3,412 | 3,412 |

[a]Preliminary data.
[b]Includes lease condensate.
[c]Weighted averages of the products included in each category are calculated using heat content values shown on the first page of this section.
[d]This thermal conversion factor is used for hydroelectric power generation and for wood and waste, wind, photovoltaic, and solar thermal energy consumed at electric utilities.
R=Revised data.
Sources: See "Thermal Conversion Factor Source Documentation" on the following pages.

# Thermal Conversion Factor Source Documentation

## Approximate Heat Content of Petroleum Products

**Asphalt.** 1973 forward: The Energy Information Administration (EIA) adopted the thermal conversion factor of 6.636 million British thermal units (Btu) per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

**Aviation Gasoline.** 1973 forward: EIA adopted the thermal conversion factor of 5.048 million Btu per barrel as adopted by the Bureau of Mines from the Texas Eastern Transmission Corporation publication *Competition and Growth in American Energy Markets 1947-1985,* 1968.

**Butane.** 1973 forward: EIA adopted the Bureau of Mines thermal conversion factor of 4.326 million Btu per barrel as published in the *California Oil World and Petroleum Industry,* First Issue, April 1942.

**Butane-Propane Mixture.** 1973 forward: EIA adopted the Bureau of Mines calculation of 4.130 million Btu per barrel based on an assumed mixture of 60 percent butane and 40 percent propane. See "Butane" and "Propane."

**Distillate Fuel Oil.** 1973 forward: EIA adopted the Bureau of Mines thermal conversion factor of 5.825 million Btu per barrel as reported in a Bureau of Mines internal memorandum, *Bureau of Mines Standard Average Heating Value of Various Fuels, adopted January 3, 1950.*

**Ethane.** 1973 forward: EIA adopted the Bureau of Mines thermal conversion factor of 3.082 million Btu per barrel as published in the *California Oil World and Petroleum Industry,* First Issue, April 1942.

**Ethane-Propane Mixture.** 1979 forward: EIA calculated 3.308 million Btu per barrel based on an assumed mixture of 70 percent ethane and 30 percent propane. See "Ethane" and "Propane."

**Isobutane.** 1973 forward: EIA adopted the Bureau of Mines thermal conversion factor of 3.974 million Btu per barrel as published in the *California Oil World and Petroleum Industry,* First Issue, April 1942.

**Jet Fuel, Kerosene Type.** 1973 forward: EIA adopted the Bureau of Mines thermal conversion factor of 5.670 million Btu per barrel as published for "Jet Fuel, Commercial" by the Texas Eastern Transmission Corporation in the report *Competition and Growth in American Energy Markets 1947-1985,* 1968.

**Jet Fuel, Naphtha Type.** 1973 forward: EIA adopted the Bureau of Mines thermal conversion factor of 5.355 million Btu per barrel as published for "Jet Fuel, Military" by the Texas Eastern Transmission Corporation in the report *Competition and Growth in American Energy Markets 1947-1985,* 1968.

**Kerosene.** 1973 forward: EIA adopted the Bureau of Mines thermal conversion factor of 5.670 million Btu per barrel as reported in a Bureau of Mines internal memorandum, *Bureau of Mines Standard Average Heating Values of Various Fuels, adopted January 3, 1950.*

**Lubricants.** 1973 forward: EIA adopted the thermal conversion factor of 6.065 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

**Miscellaneous Products.** 1973 forward: EIA adopted the thermal conversion factor of 5.796 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

**Motor Gasoline.** 1973 forward: EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel as published for "Gasoline, Motor Fuel" by the Texas Eastern Transmission Corporation in the report *Competition and Growth in American Energy Markets 1947-1985,* 1968.

**Natural Gasoline.** 1973 forward: EIA adopted the thermal conversion factor of 4.620 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

**Pentanes Plus.** 1984 forward: EIA assumed the thermal conversion factor to be 4.620 million Btu per barrel or equal to that for natural gasoline. See "Natural Gasoline".

**Petrochemical Feedstocks, Naphtha 400 Degrees Fahrenheit or Less.** 1973 forward: Assumed by EIA to be 5.248 million Btu per barrel, equal to the thermal conversion factor for special naphtha. See "Special Naphtha."

**Petrochemical Feedstock, Oils Over 400 Degrees Fahrenheit.** 1973 forward: Assumed by EIA to be 5.825 million Btu per barrel, equal to the thermal conversion factor for distillate fuel oil. See "Distillate Fuel Oil."

**Petrochemical Feedstock, Still Gas.** 1973 forward: Assumed by EIA to be 6.000 million Btu per barrel, equal to the thermal conversion factor for still gas. See "Still Gas."

**Petroleum Coke.** 1973 forward: EIA adopted the thermal conversion factor of 6.024 million Btu per barrel as reported in Btu per short ton in the Bureau of Mines

internal memorandum *Bureau of Mines Standard Average Heating Value of Various Fuels, adopted January 3, 1950.* The Bureau of Mines calculated this factor by dividing the 30,120,000 Btu per short ton as given in the referenced Bureau of Mines internal memorandum by 5.0 barrels per short ton as given in the Bureau of Mines Form 6-1300-M and successor EIA forms.

**Plant Condensate.** 1973 forward: Estimated to be 5.418 million Btu per barrel by EIA from data provided by McClanahan Consultants, Inc., Houston, Texas.

**Propane.** 1973 forward: EIA adopted the Bureau of Mines thermal conversion factor of 3.836 million Btu per barrel as published in the *California Oil World and Petroleum Industry,* First Issue, April 1942.

**Residual Fuel Oil.** 1973 forward: EIA adopted the thermal conversion factor of 6.287 million Btu per barrel as reported in the Bureau of Mines internal memorandum *Bureau of Mines Standard Average Heating Values of Various Fuels, adopted January 3, 1950.*

**Road Oil.** 1973 forward: EIA adopted the Bureau of Mines thermal conversion factor of 6.636 million Btu per barrel which was assumed to be equal to that of asphalt (see "Asphalt") and was first published by the Bureau of Mines in the *Petroleum Statement, Annual, 1970.*

**Special Naphtha.** 1973 forward: EIA adopted the Bureau of Mines thermal conversion factor of 5.248 million Btu per barrel which was assumed to be equal to that of total gasoline (aviation and motor) factor and was first published in the *Petroleum Statement, Annual, 1970.*

**Still Gas.** 1973 forward: EIA adopted the Bureau of Mines estimated thermal conversion factor of 6.000 million Btu per barrel and first published in the *Petroleum Statement, Annual, 1970.*

**Unfinished Oil.** 1973 forward: EIA assumed the thermal conversion factor to be 5.825 million Btu per barrel or equal to that for distillate fuel oil (see "Distillate Fuel Oil") and first published in the *Annual Report to Congress, Volume 3, 1977.*

**Unfractionated Stream.** 1979 forward: EIA assumed the thermal conversion factor to be 5.418 million Btu per barrel or equal to that for plant condensate (see "Plant Condensate") and first published in the *Annual Report to Congress, Volume 2, 1981.*

**Wax.** 1973 forward: EIA adopted the thermal conversion factor of 5.537 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

# Approximate Heat Content of Fuels

## *Petroleum*

**Crude Oil, Exports.** 1973 forward: Assumed by EIA to be 5.800 million Btu per barrel or equal to the thermal conversion factor for crude oil produced in the United States. See "Crude Oil and Lease Condensate, Production."

**Crude Oil, Imports.** 1973 forward: Calculated annually by EIA by weighting the thermal conversion factor of each type of crude oil imported by the quantity imported. Thermal conversion factors for each type were calculated on a foreign country basis, by determining the average American Petroleum Institute (API) gravity of crude imported from each foreign country from Form ERA-60 in 1977 and converting average API gravity to average Btu content using National Bureau of Standards, Miscellaneous Publication No. 97, *Thermal Properties of Petroleum Products,* 1933.

**Crude Oil and Lease Condensate, Production.** 1973 forward: EIA adopted the thermal conversion factor of 5.800 million Btu per barrel as reported in a Bureau of Mines internal memorandum *Bureau of Mines Standard Average Heating Values of Various Fuels adopted January 3, 1950.*

**Crude Oil and Petroleum Products, Exports.** 1973 forward: Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product exported and crude oil exported weighted by the quantity of each petroleum product and crude oil exported. See "Petroleum Products, Exports" and "Crude Oil, Exports."

**Crude Oil and Petroleum Products, Imports.** 1973 forward: Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product and each type of crude oil imported weighted by the quantity of each petroleum product and each type of crude oil imported. See "Crude Oil, Imports" and "Petroleum Products, Imports."

**Natural Gas Plant Liquids, Production.** 1973 forward: Calculated annually by EIA as the average of the thermal conversion factors of each natural gas plant liquid produced weighted by the quantity of each natural gas plant liquid produced.

**Petroleum Products, Consumption.** 1973 forward: Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed, weighted by the quantity of each petroleum product consumed.

**Petroleum Products, Consumption by Electric Utilities.** 1973-1986: Calculated annually by EIA as the average

of the thermal conversion factors for all petroleum products consumed at electric utilities, weighted by the quantity of each petroleum product consumed at electric utilities. The quantity of petroleum consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report.* 1987 forward: Estimated by EIA.

**Petroleum Products, Consumption by Industrial Users.** 1973-1986: Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed in the industrial sector, weighted by the estimated quantity of each petroleum product consumed in the industrial sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report.* 1987 forward: Estimated by EIA.

**Petroleum Products, Consumption by Residential and Commercial Users.** 1973-1986: Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed by the residential and commercial sector, weighted by the estimated quantity of each petroleum product consumed in the residential and commercial sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report.* 1987 forward: Estimated by EIA.

**Petroleum Products, Consumption by Transportation Users.** 1973-1986: Calculated annually by EIA as the average of the thermal conversion factor for all petroleum products consumed in the transportation sector, weighted by the estimated quantity of each petroleum product consumed in the transportation sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report.* 1987 forward: Estimated by EIA.

**Petroleum Products, Exports.** 1973 forward: Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product weighted by the quantity of each petroleum product exported.

**Petroleum Products, Imports.** 1973 forward: Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product imported weighted by the quantity of each petroleum product imported.

**Petroleum Products, Liquefied Petroleum Gases (LPG) Consumption.** 1973 forward: Calculated annually by EIA as the average of the thermal conversion factors of each liquefied petroleum gas consumed weighted by the quantity of each liquefied petroleum gas consumed.

## Natural Gas

**Natural Gas, Consumption.** 1973-1979: EIA adopted the thermal conversion factor calculated annually by the American Gas Association (AGA) and published in *Gas Facts,* an AGA annual.
1980 forward: Calculated annually by EIA by dividing the total heat content of natural gas consumed by the total quantity of natural gas consumed. Heat content and quantity consumed are from Form EIA-176.

**Natural Gas, Consumption by Electric Utilities.** 1973 forward: Calculated annually by EIA by dividing the total heat content of natural gas received at electric utilities by the total quantity received at electric utilities. The heat contents and receipts are from FERC Form 423 and predecessor forms.

**Natural Gas, Consumption by Non-Electric Utility Users.** 1973 forward: Calculated annually by EIA by dividing the heat content of natural gas consumed by non-electric utility consumers by the quantity of non-electric utility natural gas consumed. Data are from Forms EIA-176, FERC Form 423, EIA-759, and predecessor forms.

**Natural Gas, Exports.** 1973 forward: Calculated annually by EIA by dividing the heat content of exported natural gas by the quantity of natural gas exported, both reported on Form FPC-14.

**Natural Gas, Imports.** 1973 forward: Calculated annually by EIA by dividing the heat content of imported natural gas by the quantity of natural gas imported, both reported on Form FPC-14.

**Natural Gas Production, Dry.** 1973 forward: Assumed by EIA to be equal to the thermal conversion factor for the consumption of dry natural gas. See "Natural Gas, Consumption."

**Natural Gas Production, Marketed (Wet).** 1973 forward: Calculated annually by EIA by adding the heat content of dry natural gas production and the total heat content of natural gas plant liquids production and dividing this sum by the total quantity of marketed (wet) natural gas production.

## Coal and Coal Coke

**Anthracite, Consumption.** 1973 forward: Calculated annually by EIA by dividing the sum of the heat content of anthracite consumed by electric utilities and non-electric utilities by the total quantity of anthracite consumed.

**Anthracite, Consumption by Electric Utilities.** 1973 forward: Calculated annually by EIA by dividing the heat content of anthracite receipts at electric utilities by the quantity of anthracite received at electric util-

ities. Heat contents and receipts are from FERC Form 423 and predecessor forms.

**Anthracite, Consumption by Non-Electric Utility Users.** 1973 forward: Calculated annually by EIA by dividing the heat content of anthracite production less the heat content of the anthracite consumed at electric utilities, net exports, and shipments to U.S. Armed Forces overseas by the quantity of non-electric utility anthracite consumption less the quantity of anthracite stock changes, losses, and unaccounted for.

**Anthracite, Imports and Exports.** 1973 forward: EIA assumed the anthracite imports and exports to be freshly mined anthracite having an estimated heat content of 25.40 million Btu per short ton.

**Anthracite, Production.** 1973 forward: Calculated annually by EIA by dividing the sum of the heat content of freshly mined anthracite (estimated to have an average heat content of 25.400 million Btu per short ton) and the heat content of anthracite recovered from culm banks and river dredging (estimated to have a heat content of 17.500 million Btu per short ton) by the total quantity of anthracite production.

**Bituminous Coal and Lignite, Consumption.** 1973 forward: Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite consumed by electric utilities, coal coke plants, other industrial plants, the residential and commercial sector, and the transportation sector by the sum of their respective tonnages.

**Bituminous Coal and Lignite, Consumption by Coke Plants.** 1973 forward: Estimated by EIA to be 26.800 million Btu per short ton based on an input/output analysis of coal carbonization.

**Bituminous Coal and Lignite, Consumption by Electric Utilities.** 1973 forward: Calculated annually by EIA by dividing the total heat content of bituminous coal and lignite received at electric utilities by the total quantity received at electric utilities. Heat contents and receipts are from FERC Form 423 and predecessor forms.

**Bituminous Coal and Lignite, Consumption by Other Industrial and Transportation Users.** 1973: Calculated by EIA through regression analysis measuring the difference between the average Btu value of coal consumed by other industrial users and that of coal consumed at electric utilities in the 1974-1982 period.
1974 forward: Calculated annually by EIA assuming that the bituminous coal and lignite delivered to other industrial users from each coal-producing district (reported on EIA Form 6 and predecessor Bureau of Mines Form 6-1419-Q) contained a heat value equal to bituminous coal and lignite received at electric utilities from each of the same coal-producing districts (reported on FERC Form 423). The average Btu value of coal by coal-producing district was applied to the volume of deliveries to other industrial users from each coal-producing district, and the sum total of the heat content was divided by the total volume of deliveries.

**Bituminous Coal and Lignite, Consumption by Residential and Commercial Users.** 1973: Calculated by EIA through regression analysis measuring the difference between the average Btu value of coal consumed by residential and commercial users and that of coal consumed by electric utilities in the 1974-1982 period.
1974 forward: Calculated annually by EIA by assuming that the bituminous coal and lignite delivered to residential and commercial users from each coal-producing district (reported on EIA Form 6 and predecessor Bureau of Mines Form 6-1419-Q) contained a heat value equal to bituminous coal and lignite received at electric utilities from each of the same coal-producing districts (reported on FERC Form 423). The average Btu value of coal by coal-producing district was applied to the volume of deliveries to residential and commercial users from each coal-producing district, and the total of the heat value was divided by the total volume of deliveries.

**Bituminous Coal and Lignite, Exports.** 1973 forward: Calculated annually by EIA by dividing the sum of the heat content of exported metallurgical coal (estimated to average 27.000 million Btu per short ton) and the heat content of exported steam coal (estimated to have an average thermal content of 25.000 million Btu per short ton) by the total quantity of bituminous coal and lignite exported.

**Bituminous Coal and Lignite, Imports.** 1973 forward: EIA estimated the average thermal conversion factor to be 25.000 million Btu per short ton.

**Bituminous Coal and Lignite, Production.** 1973 forward: Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite consumption, net exports, stock changes, and unaccounted for by the sum of their respective tonnages. Consumers' stock changes by sectors were assumed to have the same conversion factor as the consumption sector. Producers' stock changes and unaccounted for were assumed to have the same conversion factor as consumption by all users.

**Coal, Consumption.** 1973 forward: Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite consumption by the sum of their respective tonnages.

**Coal, Consumption by Electric Utilities.** 1973 forward: Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite received at electric utilities by the sum of their respective tonnages received.

**Coal, Consumption by Non-Electric Utility Users.** 1973 forward: Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite

and anthracite consumed by non-electric utility users by the sum of their respective tonnages.

**Coal, Exports.** 1973 forward: Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite exported by the sum of their respective tonnages.

**Coal, Imports.** 1973 forward: Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite imported by the sum of their respective tonnages.

**Coal, Production.** 1973 forward: Calculated annually by EIA by dividing the sum of the total heat content of bituminous coal and lignite and anthracite production by the sum of their respective tonnages.

**Coal Coke, Imports and Exports.** 1973 forward: EIA adopted the Bureau of Mines estimate of 24.800 million Btu per short ton.

## Approximate Heat Rates for Electricity

**Fossil Fuel Steam-Electric Power Plant Generation.** There is no generally accepted practice for measuring the thermal conversion rates for power plants that generate electricity from hydroelectric, wood and waste, wind photovoltaic, or solar thermal electric energy sources. EIA has selected a rate that is equal to the prevailing annual average heat rate factor for fossil-fueled steam-electric power plants. By using this factor, it is possible to evaluate fossil fuel requirements for replacing these sources during periods of interruption such as drought. The heat content of a kilowatthour of electricity produced, regardless of the generation process, is 3,412 Btu per kilowatthour. 1973 forward: The weighted annual average heat rate for fossil-fueled steam-electric power plants in the United States as published by EIA in *Historical Plant Cost and Annual Production Expenses for Selected Electric Plants.*

**Geothermal Energy Power Plant Generation.** 1973 forward: Calculated annually by EIA by weighting the average annual heat rates of operating geothermal units by the installed nameplate capacities as reported on Form FPC-12. 1982 forward: Estimated annually by EIA based on an informal survey of relevant plants.

**Nuclear Power Plant Generation.** 1973 forward: Calculated annually by EIA by dividing the total heat content consumed in reactors at nuclear plants by the total (net) electricity generated by nuclear plants as reported on Form FERC-1, EIA-412 and predecessor forms.

# Glossary

**Anthracite:** A hard, black, lustrous coal containing a high percentage of fixed carbon and a low percentage of volatile matter. It is often referred to as hard coal. It includes meta-anthracite and semianthracite and conforms to ASTM Specification D388 for anthracite.

**ASTM:** The acronym for the American Society for Testing and Materials.

**Base Gas:** The volume of gas needed as a permanent inventory to maintain adequate underground storage reservoir pressures and deliverability rates throughout the withdrawal season. All native gas is included in the base gas volume.

**Bituminous Coal:** A coal that is high in carbonaceous matter having a volatility greater than anthracite and a calorific value greater than lignite. In the United States, it is often referred to as soft coal. In this report, "bituminous coal" conforms to ASTM Specification D388 for bituminous and subbituminous coal. It is used primarily for electricity generation, coke production, and space heating.

**British Thermal Unit (Btu):** The amount of energy required to raise the temperature of 1 pound of water 1 °F at or near 39.2 °F. One Btu is equivalent to about 252 International Steam Table calories. An average Btu content of fuel is a heat value per unit quantity of fuel as determined from tests of fuel samples.

**Butane:** A normally gaseous, paraffinic hydrocarbon ($C_4H_{10}$) extracted from natural gas or refinery gas streams. It includes isobutane (branch-chain) and normal butane (straight-chain) and is covered by ASTM Specification 1835 and Natural Gas Processors Specifications for commercial butane. It is used primarily for blending into high-octane gasoline, for residential and commercial heating, and for industrial purposes, especially the manufacture of chemicals and synthetic rubber.

**Butylene:** A normally gaseous, olefinic hydrocarbon ($C_4H_8$) recovered from refinery processes. Quantities are included with "normal butane" data.

**City Gate Price of Natural Gas:** Price of natural gas at the point it is transferred from a pipeline company to a local distribution company.

**Coal:** Includes all ranks of coal--anthracite, bituminous coal, subbituminous coal, and lignite--conforming to ASTM Specification D388.

**Coal Coke:** The strong, porous residue, consisting of carbon and mineral ash, that is formed when the volatile constituents of bituminous coal are driven off by heat in the absence of or in a limited supply of air. It is used primarily in blast furnaces for smelting ores, especially iron ore.

**Commercial Sector:** Nonmanufacturing business establishments, including hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included. (For allocation of individual fuels to end-use sectors, see the Notes and Sources for Section 2.)

**Crude Oil Average Domestic First Purchase Price:** The average price at which all domestic crude oil is purchased. Prior to February 1976, the price represented an estimate of the average of posted prices; after February 1976, the price represents an average of actual first purchase prices. This price is frequently called the wellhead price.

**Crude Oil (including lease condensate):** A mixture of hydrocarbons that exists in liquid phase in underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Included are lease condensate and liquid hydrocarbons produced from tar sands, gilsonite, and oil shale. Drip gases are also included, but topped crude oil (residual oil) and other unfinished oils are excluded. Liquids produced at natural gas processing plants and mixed with crude oil are excluded where identifiable.

**Crude Oil Refinery Input:** Total crude oil (including lease condensate) input to crude oil distillation units and other processing units.

**Crude Oil Stocks:** Stocks of crude oil and lease condensate held at refineries, in pipelines, at pipeline terminals, and on leases.

**Degree-Day Normals:** Simple arithmetic averages of monthly or annual degree-days over a long period of time (usually the 30-year period 1951-1980). These may

be simple degree-day normals or population-weighted degree-day normals.

**Degree-Days, Cooling:** The number of degrees per day that the daily average temperature is above 65 °F. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period.

**Degree-Days, Heating:** The number of degrees per day that the daily average temperature is below 65 °F. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period.

**Degree-Days, Population-Weighted:** Heating or cooling degree-days weighted by the population of the area in which the degree-days are recorded. To compute State population-weighted degree-days, each State is divided into from one to nine climatically homogeneous divisions which are assigned weights based on the ratio of the population of the division to the total population of the State. Degree-day readings for each division are multiplied by the corresponding population weight for each division and these products are then summed to arrive at the State population-weighted degree-day figure.

To compute national population-weighted degree-days, the Nation is divided into nine Census regions, each composed of from three to eight States. The regions are assigned weights based on the ratio of the population of the region to the total population of the Nation. Degree-day readings for each region are multiplied by the corresponding population weight for each region and these products are then summed to arrive at the national population-weighted degree-day figure.

**Development Well:** A well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive.

**Distillate Fuel Oil:** Light fuel oils distilled during the refining process and used primarily for space heating, on- and off-highway diesel engine fuel (including railroad engine fuel and fuel for agricultural machinery), and electric power generation. Included are products known as No. 1, No. 2, and No. 4 fuel oils, and No. 1, No. 2, and No. 4 diesel fuels, conforming to ASTM Specifications D396 or D975, respectively. No. 1 fuel oil is a light distillate fuel oil used in vaporizing pot-type burners. No. 2 fuel oil is used in atomizing-type burners for domestic heating or for moderate capacity commercial-industrial burner units. No. 4 fuel oil is a blend of distillate fuel oil and residual fuel oil that is used in commercial burner installations not equipped with preheating facilities; it is used extensively in industrial plants. Diesel fuel oils are used in compression-ignition engines.

**Dry Hole:** An exploratory or development well found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well.

**Electrical System Energy Losses:** The amount of energy lost during generation, transmission, and distribution of electricity, including plant use and unaccounted for electrical energy.

**Electricity Generation:** Net electricity (gross electricity output measured at the generator terminals, minus power plant use) generated at electric utilities. Excludes industrial electricity generation. International data are gross electricity output.

**Electricity Sales:** The gross electricity output measured at the generator terminals, minus power plant use and transmission and distribution losses. Included in each end-use sector are the following: commercial sales of electricity to businesses that generally require less than 1,000 kilowatts of service; industrial sales of electricity to businesses that generally require more than 1,000 kilowatts of service; residential sales of electricity to residences for household purposes; "other" sales of electricity to government, railways, street lighting authorities, and sales not elsewhere included.

**Electric Utility:** A corporation, person, agency, authority, or other entity that owns or operates facilities for the generation, transmission, distribution, or sale of electricity, primarily for use by the public.

**Electric Utility Sector:** Privately and publicly owned establishments that generate electricity primarily for use by the public.

**Ethane:** A normally gaseous, paraffinic hydrocarbon ($C_2H_6$) extracted from natural gas or refinery gas streams. It is used primarily as petrochemical feedstock for production of chemicals and plastic materials.

**Ethylene:** A normally gaseous, olefinic hydrocarbon ($C_2H_4$) recovered from refinery processes. Quantities are included with "ethane" data.

**Exploratory Well:** A well drilled to find and produce oil or gas in an unproved area; to find a new reservoir in a field previously found to be productive of oil or gas in another reservoir; or to extend the limit of a known oil or gas reservoir.

**Exports:** Shipments of goods from the 50 States and the District of Columbia to foreign countries, Puerto Rico, the Virgin Islands, and other U.S. possessions and territories.

**F.o.b. (free on board) Price of Imported Crude Oil:** The f.o.b. price is the price actually charged at the producing country's port of loading. The reported price includes deductions for any rebates and discounts and additions of premiums where applicable; it should be the actual price paid with no adjustments for credit terms.

**Fossil Fuel Steam-Electric Power Plant:** An electricity generation plant in which the prime mover is a turbine rotated by high-pressure steam produced in a boiler by heat from burning fossil fuels.

**Gas Well:** A well completed for the production of natural gas from one or more gas zones or reservoirs. (Wells producing both crude oil and natural gas are classified as oil wells.)

**Geothermal Energy (as used at electric utilities):** Hot water or steam, extracted from geothermal reservoirs in the earth's crust, which is supplied to steam turbines at electric utilities that drive generators to produce electricity.

**Gross Energy Consumption:** Total energy use including electrical system energy losses.

**Gross National Product (GNP):** The total value of goods and services produced by the Nation's economy, before deduction of depreciation charges and other allowances for capital consumption. It includes the total purchases of goods and services by private consumers and government, gross private domestic capital investment, and net foreign trade.

**Hydroelectric Power:** Electricity generated by an electric power plant whose turbines are driven by falling water.

**Imports:** Receipts of goods into the 50 States and the District of Columbia from foreign countries, Puerto Rico, the Virgin Islands, and other U.S. possessions and territories. (See **Petroleum Imports.**)

**Industrial Sector:** Manufacturing, construction, mining, agriculture, fishing, and forestry establishments. (For allocation of individual fuels to end-use sectors, see the Notes and Sources for Section 2.)

**Isobutane:** See **Butane.**

**Landed Cost of Crude Oil Imports:** The price of imported crude oil at the port of discharge. It includes the purchase price at the foreign port plus charges for transporting and insuring the crude oil from the purchase point to the port of discharge. It does not include import tariffs or fees, wharfage charges, or demurrage costs. Coverage includes the United States and its territories.

**Lease and Plant Fuel:** Natural gas used in lease operations, as gas processing plant fuel, and as net used for gas lift.

**Lease Condensate:** A natural gas liquid recovered from gas-well gas (associated and nonassociated) in lease separators or natural gas field facilities. Lease condensate consists primarily of pentanes and heavier hydrocarbons. Generally, it is blended with crude oil for refining.

**Lignite:** A brownish-black coal of low rank with high inherent moisture and volatile matter. It is also referred to as brown coal. It conforms to ASTM Specification D388 for lignite and is used almost exclusively for electric power generation.

**Liquefied Petroleum Gases (LPG):** Ethane, propane, normal butane, ethane-propane mixtures, propane-butane mixtures, and isobutane produced at natural gas processing plants, including plants that fractionate raw natural gas plant liquids. LPG also includes liquefied refinery gases (ethylene, propylene, butylene, and isobutylene produced from crude oil at refineries).

**Motor Gasoline, Finished:** A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, that have been blended to form a fuel suitable for use in spark-ignition engines and conforming to ASTM Specification D439. Included are finished leaded gasoline, finished unleaded gasoline, and gasohol. Excluded are blendstock that has not been blended into finished motor gasoline and alcohol that has not been blended into gasohol.

**Motor Gasoline, Leaded Premium:** A gasoline having an antiknock index of 93 with the use of lead additives or which contains more than 0.05 grams of lead per gallon or more than 0.005 grams of phosphorus per gallon. Includes gasohol.

**Motor Gasoline, Leaded Regular:** A gasoline having an antiknock index of 89 with the use of lead additives or which contains more than 0.05 grams of lead per gallon or more than 0.005 grams of phosphorus per gallon.

**Motor Gasoline, Total:** Includes finished leaded motor gasoline (premium and regular), finished unleaded motor gasoline (premium and regular), motor gasoline blending components, and gasohol.

**Motor Gasoline, Unleaded Premium:** A gasoline having an antiknock index of 90 containing not more than 0.05 grams of lead per gallon and not more than 0.005 grams of phosphorus per gallon. Includes gasohol.

**Motor Gasoline, Unleaded Regular:** A gasoline having an antiknock index of 87 containing not more than 0.05 grams of lead per gallon and not more than 0.005 grams of phosphorus per gallon.

**Natural Gas:** A mixture of hydrocarbons and small quantities of various nonhydrocarbons existing in the gaseous phase or in solution with crude oil in underground reservoirs.

**Natural Gas Plant Liquids (NGPL):** Those natural gas liquids that are recovered from natural gas processing plants, and in some situations, from natural gas field facilities, as well as those that are extracted by fractionators. Natural gas plant liquids are defined according to the published specifications of the ASTM and

the Gas Processors Association and are classified as follows: ethane, propane, normal butane, isobutane, pentanes plus, and other products from natural gas processing plants (i.e., products meeting the standards for finished petroleum products produced at natural gas processing plants, such as finished motor gasoline, finished aviation gasoline, special naphthas, kerosene, distillate fuel oil, and miscellaneous products).

**Natural Gas Wellhead Price:** The wellhead price of natural gas is calculated by dividing the total reported value at the wellhead by the total quantity produced as reported by the appropriate agencies of individual producing States and the U.S. Geological Survey. The price includes all costs prior to shipment from the lease including gathering and compression costs in addition to State production, severance, and similar charges.

**Net Electricity Generation:** Gross generation less electricity consumed at the generating plant for station use. Electricity required for pumping at pumped-storage plants is regarded as plant use and is deducted from gross generation.

**Net Energy Consumption:** Total energy use excluding electrical system energy losses.

**Normal Butane:** See **Butane.**

**Nuclear Energy:** Electricity generated by an electric power plant whose turbines are driven by steam generated in a reactor by heat from the fissioning of nuclear fuel.

**Oil Well:** A well completed for the production of crude oil from one or more oil zones or reservoirs. Wells producing both crude oil and natural gas are classified as oil wells.

**Organization for Economic Cooperation and Development (OECD):** Current members: Australia, Austria, Belgium, Canada, Denmark, Finland, France, West Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States and its territories (Guam, Puerto Rico, and the Virgin Islands).

**Organization of the Petroleum Exporting Countries (OPEC):** Current members: Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela. Data for Saudi Arabia and Kuwait include their shares from the Partitioned Zone (formerly Neutral Zone).

**Pentanes Plus:** A mixture of hydrocarbons, mostly pentanes and heavier, extracted from natural gas. This product includes isopentane, natural gasoline, and plant condensate.

**Petroleum:** A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oils, petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products.

**Petroleum Coke:** A solid residue that is the final product of the condensation process in cracking. It consists of aromatic hydrocarbons very poor in hydrogen. Calcination of petroleum coke can yield almost pure carbon or artificial graphite suitable for production of carbon or graphite electrodes, structural graphite, motor brushes, dry cells, and similar products. This product is reported as marketable or catalyst coke.

**Petroleum Imports:** Imports of petroleum into the 50 States and the District of Columbia from foreign countries, Puerto Rico, the Virgin Islands, and other U.S. territories and possessions. Included are imports for the Strategic Petroleum Reserve and withdrawals from bonded warehouses for onshore consumption, offshore bunker use, and military use. Excluded are receipts of foreign petroleum into bonded warehouses and into U.S. territories and U.S. Foreign Trade Zones.

**Petroleum Products:** Petroleum products are obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds. Petroleum products include unfinished oils, liquefied petroleum gases, pentanes plus, aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, naphtha less than 400 °F end-point, other oils over 400 °F end-point, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

**Petroleum Products Supplied:** Total petroleum products supplied is the sum of all petroleum products supplied. For each product, the amount supplied is calculated by summing production, crude oil burned directly, imports, and net withdrawals from primary stocks and subtracting exports.

**Petroleum Stocks, Primary:** Stocks of crude oil or petroleum products held in storage at (or in) leases, refineries, natural gas processing plants, pipelines, tankfarms, and bulk terminals that can store at least 50,000 barrels of petroleum products or that can receive petroleum products by tanker, barge, or pipeline. Crude oil that is in transit from Alaska, or that is stored on Federal leases or in the Strategic Petroleum Reserve, is included. Excluded are stocks of foreign origin that are held in bonded warehouse storage.

**Photovoltaic and Solar Thermal Energy (as used at electric utilities):** Energy radiated by the sun as electromagnetic waves (electromagnetic radiation) that is converted at electric utilities into electricity by means of solar (photovoltaic) cells or concentrating (focusing) collectors.

**Propane:** A normally gaseous, paraffinic hydrocarbon ($C_3H_8$). It is extracted from natural gas or refinery gas

streams, and includes all products covered by Gas Processors Association Specifications for commercial propane and HD-5 propane and ASTM Specification D1835. Propane is used primarily for residential and commercial heating and cooling, and also as a fuel for transportation. Industrial uses of propane include use as a petrochemical feedstock.

**Propylene:** A normally gaseous, olefinic hydrocarbon ($C_3H_6$) recovered from refinery processes. Quantities are included with "propane" data.

**Refiner Acquisition Cost:** The cost of crude oil to the refiner, including transportation and fees. The composite cost is the weighted average of domestic and imported crude oil costs.

**Renewable Energy:** Energy obtained from sources that are essentially inexhaustible (unlike, for example, the fossil fuels, of which there is a finite supply). Renewable sources of energy include wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

**Reservoir Repressuring:** The injection of natural gas into oil and gas reservoir formations for pressure maintenance and cycling.

**Residential Sector:** Private household establishments, which consume energy primarily for space heating, water heating, air conditioning, lighting, refrigeration, cooking, and clothes drying. (For allocation of individual fuels to end-use sectors, see the Notes and Sources for Section 2.)

**Residual Fuel Oil:** The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are distilled away in refinery operations and that conform to ASTM Specifications D396 and 975. Included are No. 5, a residual fuel oil of medium viscosity; Navy Special, for use in steam-powered vessels in government service and in shore power plants; and No. 6, which includes Bunker C fuel oil, and is used for commercial and industrial heating and electricity generation. Imports of residual fuel oil include imported crude oil burned as fuel.

**Rotary Rig:** A machine, used for drilling wells, that employs a rotating tube attached to a bit for boring holes through rock.

**Strategic Petroleum Reserve (SPR):** Petroleum stocks maintained by the Federal Government for use during periods of major supply interruption.

**Subbituminous Coal:** A dull black coal of rank intermediate between lignite and bituminous coal. It conforms to ASTM Specification D388 for subbituminous coal, and is used almost exclusively for electric power generation. In this report, quantities are included with "bituminous coal" data.

**Supplemental Gaseous Fuels:** Consist primarily of synthetic natural gas, propane-air, and refinery (still) gas. May also include coke oven gas, biomass gas, manufactured gas, and air injected for Btu stabilization.

**Synthetic Natural Gas (SNG):** A product resulting from the manufacture, conversion, or reforming of hydrocarbons that may be easily substituted for, or interchanged with, pipeline-quality natural gas.

**Transportation Sector:** Private and public vehicles that move people and commodities. Included are automobiles, trucks, buses, motorcycles, railroads and railways (including streetcars), aircraft, ships, barges, and natural gas pipelines.

**Unaccounted for Crude Oil:** Represents the arithmetic difference between the indicated demand for crude oil and the total disposition of crude oil. Indicated demand is the sum of crude oil production and imports less changes in crude oil stocks. Total disposition of crude oil is the sum of crude oil input to refineries, crude oil exports, crude oil burned as fuel, and crude oil losses.

**United States:** Unless otherwise noted, "United States" in this publication means the 50 States and the District of Columbia. U.S. exports include shipments to U.S. Territories, and imports include receipts from U.S. Territories.

**Wind Energy (as used at electric utilities):** The kinetic energy of wind converted at electric utilities into mechanical energy by wind turbines (i.e., blades rotating from a hub) that drive generators to produce electricity for distribution.

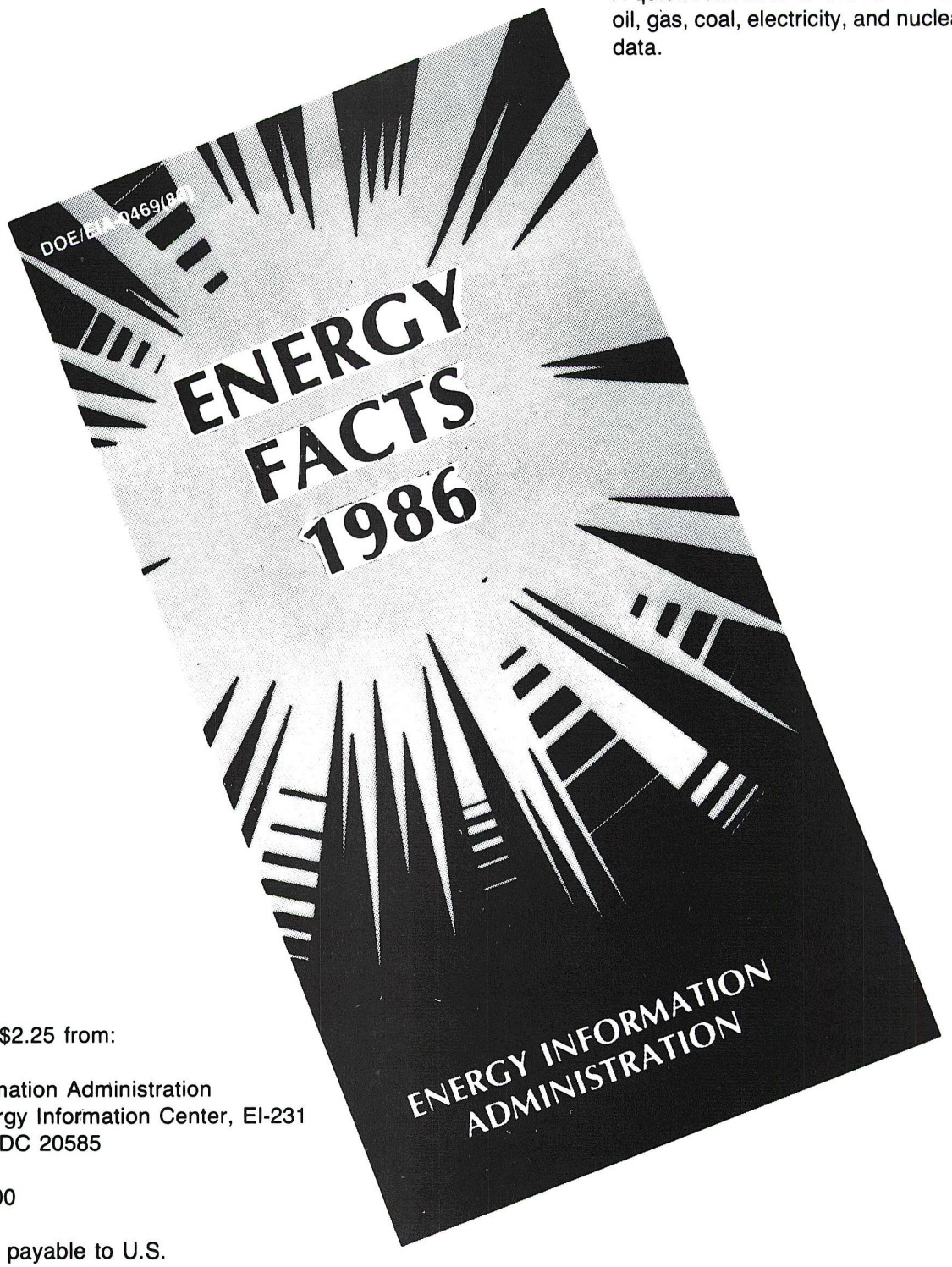
**Wood and Waste (as used at electric utilities):** Wood energy (see **Wood Energy**), garbage, bagasse, sewerage gas and other industrial, agricultural, and urban refuse used to generate electricity for distribution.

**Wood Energy:** Wood and wood products used as fuel. Included are round wood (cord wood), limb wood, wood chips, bark, sawdust, forest residues, charcoal, pulp waste, and spent pulping liquor.

**Working Gas:** The volume of gas in an underground storage reservoir above the designed level of the base. It may or may not be completely withdrawn during any particular withdrawal season. Conditions permitting, the total working capacity could be used more than once during any season.

# GET THE FACTS!

A quick reference to U.S. and international oil, gas, coal, electricity, and nuclear energy data.

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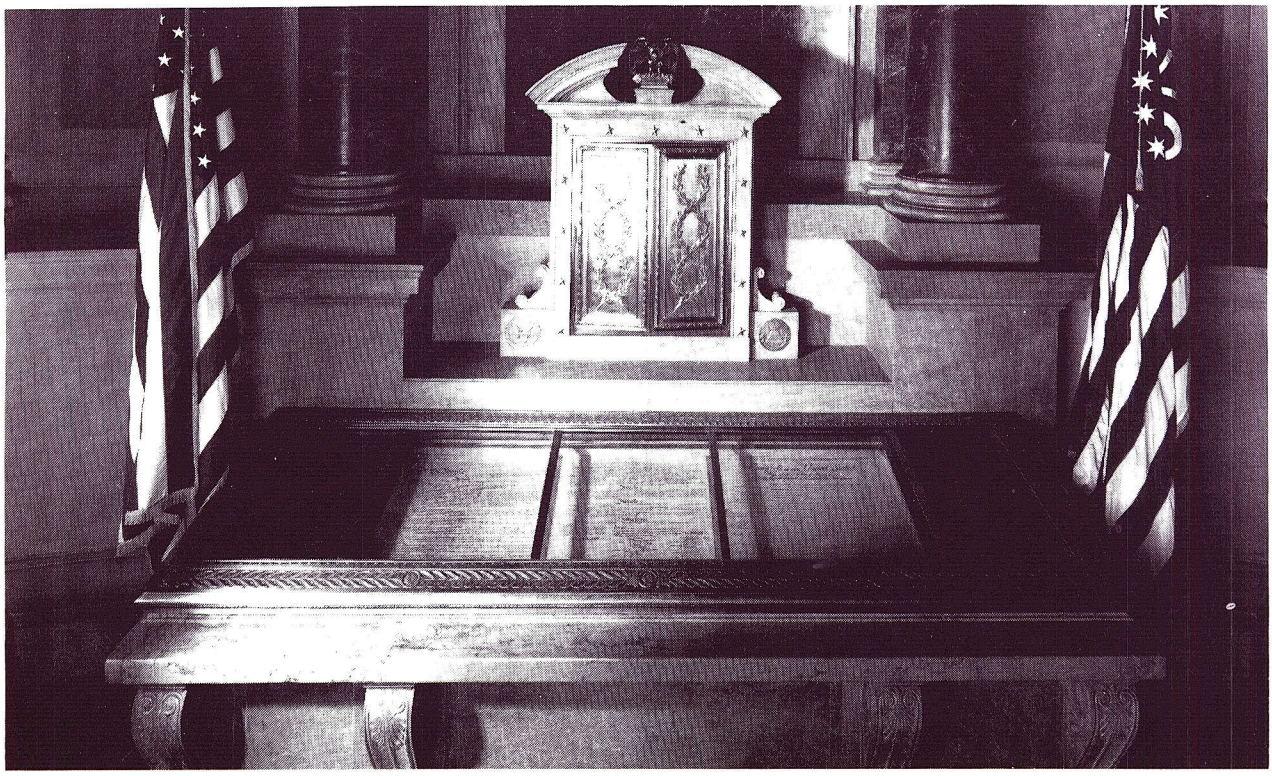

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As we commemorate the Bicentennial of the Constitution, there is no better way for you as an American to reaffirm the principles for which our country stands than to learn more about the Constitution.

The words we live by.

## THE CONSTITUTION

The words we live by

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